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Energy Security of Nigeria

Dissertation thesis

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V regionu subsaharské Afriky patří Nigérie mezi státy s největšími zásobami nerostných surovin (ropa, zemní plyn) a zároveň jejich největší kontinentální exportéry. Federální vláda proto považuje energetiku za sektor s velmi významným potenciálem k podpoře ekonomického rozvoje země. Těžba nerostných surovin však současně přispívá k extrémní degradaci životního prostředí v zemi a ohrožuje životní místních komunit. Úroveň příjmů z vývozu nerostných surovin je navíc závislá na externích faktorech (cena surovin na zahraničních trzích, globální politiky na ochranu klimatu, proces dekarbonizace). Energetické otázky tak mohou být vnímány jak v pozitivním, tak negativním kontextu, a mohou jim být na různých úrovních přisuzovány různé významy. Předkládaná práce tudíž prostřednictvím analýzy mediálních výstupů objasní, v jakých formách a kontextech je ve veřejném diskurzu přítomna otázka energetiky, respektive energetické bezpečnosti, a která témata v něm dominují.

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Declaration

I declare that I have carried out the dissertation thesis on my own under the supervision of Mgr. et Mgr. Lukáš Tichý, Ph.D. and have presented all the sources and literature utilized.

In Prague, October 14, 2022

Vojtěch Šmolík

Annotation

ŠMOLÍK, VOJTĚCH. *Energy Security of Nigeria.* Hradec Králové : Philosophical Faculty, University of Hradec Králové, 2022, 169 pp. Doctoral Degree Thesis.

In Sub-Saharan Africa, Nigeria possesses one of the largest reserves of natural resources (oil, natural gas) and is one of the biggest continental exporters. Federal government thus perceives energy to play a key role in fostering economic development. At the same time, exploitation of natural resources causes massive environmental degradation and threatens local livelihoods. Moreover, Furthermore, the amount of national income from exporting natural resources is dependent on external factors such as the price on global markets, global climate protection policies or the concept of decarbonisation, promoted by the European Union in the recent. As a result, energy issues can be considered both positive and negative and they can be associated with different meanings. Through an analysis of media outputs, this thesis uncovers forms and contexts of energy and energy security within public discourse, and what themes dominate it.

Keywords: energy, energy security, Nigeria, oil, natural gas, tar sands, coal, nuclear, hydropower, fuelwood, solar, biomass, wind, hydrogen, renewable energy

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List of abbreviations

BDA Bitumen Development Agency

BEECON Bitumen Exploration and Exploitation Company Nigeria Limited

DDDR Disarmament, demobilization, reorientation, and reintegration process

DISCOs Power Distribution Companies of Nigeria

DPR Department of Petroleum Resources

ECN Energy Commission of Nigeria

EPSRA Electric Power Sector Reform Act

FME Federal Ministry of Environment

FMITI Federal Ministry of Industry, Trade and Investment

FMLHUD Federal Ministry of Lands, Housing, and Urban Development

FMP Federal Ministry of Power

FMST Federal Ministry of Science and Technology

FMW Federal Ministry of Water Resources

GACN Gas Aggregation Company of Nigeria

GENCOs Generation companies of Nigeria

IAEA International Atomic Energy Agency

LNG Liquified natural gas

MDGs Millennium Development Goals

MEND Movement for the Emancipation of the Niger Delta

MYTO Multi-Year Tariff Order

NAEC Nigeria Atomic Energy Commission

NBET Nigerian Bulk Electricity Tracing Plc.

NBPI Nigerian Biofuel Policy and Incentives

NEEDS National Economic Empowerment and Development Strategy

NEMSA Nigerian Electricity Management Services Agency

NEP National Energy Policy of Nigeria

NEPA National Electric Power Authority

NEPP National Electric Power Policy

NERC Nigerian Electricity Regulatory Commission

NESREA National Environmental Standards Regulation Agency

NGC Nigerian Gas Company

NGMP Nigerian Gas Master Plan

NIPC Nigerian Investment Promotion Commission

NNPC Nigerian National Petroleum Corporation

NOAA National Oceanic and Atmospheric Administration of Nigeria

NOSDRA Nigerian Oil Spills Data Reporting Agency

NPDC Nigerian Petroleum Development Company

NREA Nigerian Rural Electrification Agency

NREEEP National Renewable Energy and Energy Efficiency Policy

ONEM Operators of the Nigerian Electricity Market

PENGASSAN Petroleum and Natural Gas Senior Staff Association of Nigeria

PHCN Power Holding Company of Nigeria

PTFP Presidential Task Force on Power

REAN Renewable Energy Association of Nigeria

REF Rural Electrification Fund

REMP Renewable Energy Master Plan

REPG Renewable Energy Policy Guidelines

RESIP Rural Electrification Strategy and Implementation Plan

SAP Structural Adjustment Program

SDGs Sustainable Development Goals

SEPAN Sustainable Energy Practitioners Association of Nigeria

SMEs Small and Medium Enterprises

TCN Transmission Company of Nigeria

UNDP United Nations Development Programme

VIIRS Visible Infrared Imaging Radiometer Suite

1. Introduction

1.1. Why study energy security in Nigeria?

In Sub-Saharan Africa, Nigeria belongs to the group of countries endowed with the largest reserves of natural resources such as oil or natural gas and is one of their biggest exporters on the continent. Oil makes up to 80% of all Nigerian exports and accounts for more than a half of the national income (Maren, Agontu and Mangai 2013: 1, Cohen 2019, OEC 2020, The World Bank 2020). Nigerian federal governments have always perceived energy to be a socio-economic development driver in the first place. However, it has not been until 2003 when environmental, social or technical aspects of energy security got a significant attention too under the new National Energy Policy (NEP) (Borok, Agandu and Morgan 2013: 1-2) that has remained in place until today. Formulation of energy policies and regulations have remained in the hands of the government and its central energy institution – National Electric Power Authority (NEPA) – until 2005, when the Electricity Power Sector Reform Act (EPSRA) was introduced. At the same time, privatization process began to allow private companies enter the sector and increase the competitiveness (Emodi 2016: 9-11). Availability of energy remains a fundamental problem in Nigeria, though, resulting in large-scale *energy poverty* and leaving the rural areas behind (Oyedepo 2012: 13, Emodi and Boo 2015: 581). Despite the immense amounts of resources, only half of Nigerian population has access to electric energy (The World Bank 2019). Apart from negative effects that households across the country face every day due to lack of electricity and numerous blackouts, several important services including healthcare suffer from the same. Moreover, these problems are considered one of the most significant challenges to business and economy in general (Šmolík 2019: 4-5). At the same time, economic development together with rapid population growth and high urbanisation rate do further increase energy demand (Emodi 2016: 13).

Apart from the economic role of energy and its social effects, energy is strongly linked to the environment and environmental protection, respectively. Extraction of natural resources contributes to environmental degradation, affecting local ecosystems and livelihoods by the damage caused to land, air, and water resources.

In a country where fishing and agriculture make up one quarter of the national economy (Statista 2020), the relation between energy and environment is a significant challenge. Specifically, this is the case of the Niger Delta region in southern Nigeria that has been often hit by oil leaks, for which the multinational company Royal Dutch Shell was sentenced by the Hague International Court in January 2021 and ordered to pay reparations to local farmers (Peltier and Moses 2021). Furthermore, the amount of national income from exporting natural resources is dependent on external factors such as the price on global markets, global climate protection policies or the concept of decarbonisation, promoted by the European Union in the recent years (European Commission 2020). At the same time, however, the EU is recipient of almost half of Nigerian exports (Workman 2019). Environmental issues in Nigeria are also closely related to the current processes of climate change. Desertification hits two thirds of arable land and the annual loss of land in Nigeria is at the rate of 1% (Olagunju 2015: 196-197). Apart from desertification, deforestation is another problem: on the micro-level, burning wood for cooking on traditional stoves causes hundreds of thousands of deaths per year across the whole region of Sub-Saharan Africa, on the macro-level the commercial lodging contributes to the loss of wooded land (Agyei 1998, Palo and Lehto 2003, Oyedepo 2012, Ladan 2013, Shittu, Musibau and Ogunlana 2020).

In 2015, Nigeria has adopted the National Renewable Energy and Energy Efficiency Policy (NREEEP) as a major strategic instrument to develop renewable resources in the country and reduce the emission of greenhouse gases (Renewable Energy World 2018). The role of adaptation mechanisms in Nigeria is, however, twofold: first, their implementation aims to reduce the environmental risks. Second, they should prevent local conflicts where agriculture intensification and huge deforestation are the triggers, affecting negatively national security and economic development. In the last decade, conflicts for the increasingly scarce land between herdsmen and farmers in the north and the Middle Belt have caused more than ten thousand fatalities. Climate-related conflicts are thus more lethal than terrorist attacks that torment Nigerian communities (International Crisis Group 2018, Ilo, Jonathan-Ichaver and Adamolekun 2019). It is, however, the role of natural resources in general that have been driving conflicts in Sub-Saharan Africa for decades, including Nigeria as a striking example (see for example Blench 2004,

Alao 2007, Oyefusi 2007, Jaja 2008, Alves 2009, Bathily 2009, Aghedo and Osumah 2015).

1.2. The aims and research question

The overall objective of the thesis is to analyze the concept of energy security of Nigeria through the energy discourse presented in selected Nigerian media and its implications in time. Specifically, by sorting the context of energy discourse into four particular sub-discourses, namely economic, social, environmental, and political, it aims to explore its content in a comprehensive manner. By doing that, it spans the empirical gap with a bridge since the existing research may fall short of such complexity while only focusing on particular areas of the concept (see Chapter 1.3 below). Before the results of the analysis are presented and interpreted, an overview of the economic, social, environmental, and political dimension of energy security in Nigeria is provided in Chapter 2.4. Without such overview, the analysis would be incomplete. Therefore, it is essential to delve into the actual realities of energy security in Nigeria as a prerequisite for the analysis itself. This process allows to discover to what extent do media outputs reflect the reality in the field of energy security and through which sub-discourses. To achieve the objective the thesis will answer the following research question:

> *How is the energy security of Nigeria presented in Nigerian media outputs, what energy security sub-discourse is dominant, and what major themes emerge from each sub-discourse?*

Structuring the energy discourse in Nigeria into four particular sub-discourses allows to analyze a broad range of aspects related to the country´s energy security and understand its complexity from different perspectives that are shaping it. By not limiting itself to the dominant definition of the concept of energy security built around the relation between energy and economic growth through sufficient energy production and supply, this analysis aims to shed light on three other energy relations specific to Nigeria. By doing so, it seeks to contribute beyond the common understanding of Nigeria´s energy as equal to oil through uncovering the role played by other natural resources the country is endowed with. Moreover, it does systematically reveal their either positive or negative nature in relation to the

country´s energy security and its economic, social, environmental, and political dimensions (for the categorization, see Chapter 1.4). The following hypotheses help to achieve this goal:

Hypothesis 1: If a positive economic representation of energy occurs in a media output, it is represented by oil.

Hypothesis 2: If a negative social representation of energy occurs in a media output, it is represented through a social deprivation of individuals.

Hypothesis 3: If a positive environmental representation of energy occurs in a media output, it is represented by an effect of a renewable resource utilization.

Hypothesis 4: If a negative political representation of energy occurs in a media output, it is linked to the conflict in the Niger Delta.

As indicated above, the first hypothesis is drawn on the role oil plays in Nigeria, which is essential to the country´s economy. As such, it can be assumed that the economic role of oil will be highly represented in the discourse and assigned a positive role, considering that without oil revenues, the national budget would dry up. The second hypothesis considers the low level of development in Nigeria despite its vast natural resources that are not effectively used to generate social well-being and flourishing of Nigerians. The third hypothesis is based on the growing role renewable resources tend to play in the country and the fact that Nigeria has a long history of environmental degradation caused by the extraction of fossil fuels. And four, the last hypothesis draws on the long-term instability and insecurity in the Niger Delta region, where the energy-related insurgencies had come to life historically and have persisted until today. Through the content analysis, this thesis will provide a detailed answer to each of the hypotheses by exploring the scope of each particular topic as presented in the media. It will also help to uncover any unexpected form of either validation or disproval of the hypotheses through the subsequent reflexive thematic analysis, although other authors usually remain with some general question that outlines their research on energy or energy security where media serve as the principal means of data.

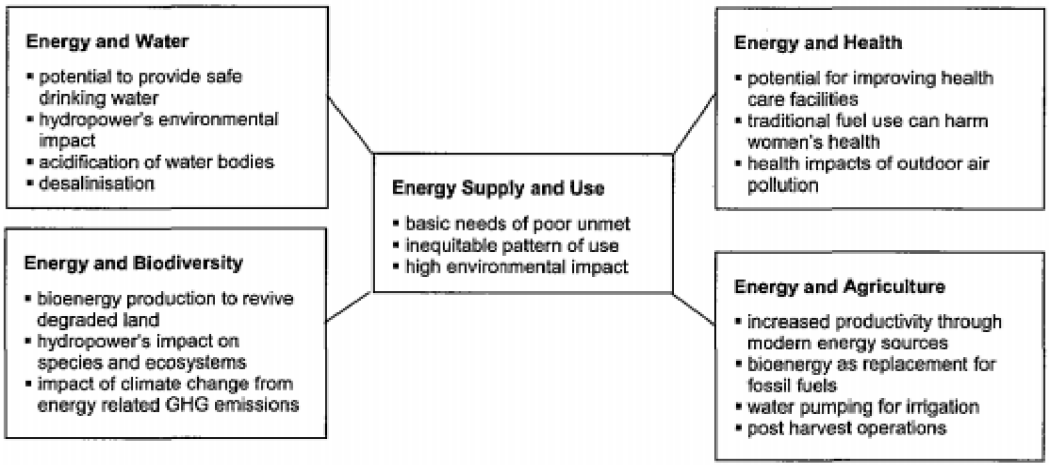
By analyzing the discourse on energy through media outputs, this thesis effectively overcomes the common problem with lack of data from African environment. This applies especially to public statements of African officials that are largely unavailable on the websites of ministries, governmental bodies etc., though these are often assumed to be used for discourse analysis. Within the selected period, the thesis will provide the most actual insight into the Nigerian discourse on energy before the arrival of the global pandemic of Covid-19. Numerous important energy policies were put in place in the country within this period, such as the NREEEP, or adoption of the Sustainable Development Goals (SDGs) on the global level that affects the economies of national states in Africa and elsewhere. Also, by its range of data this thesis exceeds the contemporary research on energy security in Nigeria where analysis of media outputs was employed, where usually articles from only one or two years were analyzed so far (see Batta, Ashong and Bashir (2013), Batta, Ashong and Adousoro (2015) or Mbamalu (2020). With a five-years period, more reliable foundation for the analysis is built in this thesis.

1.3. State of art & theoretical framework

Apparently, energy security is a multifaceted concept and can be approached from various perspectives that evolved over time. Ensuring uninterrupted supply of energy for reasonable prices is often promoted as an umbrella definition (Energy Charter Secretariat 2015: 10, IEA 2019), although it is not the only one. Benjamin K. Sovacool, one of the leading authors in this field, argues that almost 50 different definitions exist in the literature, acknowledging the wide extent to which the concept may be stretched (Sovacool 2011: 3-6). To begin with, the economic dimension of energy security with supply and demand at the core is stressed out by both scholars and institutions (see Schurr 1984, Bohi and Toman 1996, Bielecki 2002, Bazilian et al. 2006, Asia Pacific Energy Research Centre 2007 or USAID 2008). Environmental dimension is important for Konoplyanik (2004), Kemmler and Spreng (2007) or Jacobson (2009), while Axworthy (2001), Diesendorf (2012), Sovacool, Sidortsov and Jones (2014) or Lloyd (2017) see the importance in social issues related to energy security. Least but not last, Kalicky and Goldwyn (2005), Scheepers et al. (2006), Deutch (2007) or the International Atomic Energy Agency (IAEA) (2007) underline the political dimension of energy security.

The conceptual diversity led several authors to promote a comprehensive approach that would combine the different dimensions of energy security in a systematic way (see Vaňous 2005, Alhajji 2007, von Hippel et al. 2011 or Sudhakara Reddy 2015). In developing countries such as Nigeria, this approach is particularly apposite. Compared to industrialized countries in the global North where clear strategies have been formulated to ensure energy security, developing states usually lack such strategies (Wolgemuth 2006: 86). In the global South, energy has different roles with specific links to poverty and other economic, social, or environmental problems as illustrated in Figure 1. Moreover, developing countries are often dependent on producing non-commercial energy (biomass), their use of natural resources is unsustainable, domestic markets are not advanced enough and access to global markets is limited, and they lack general energy infrastructure. Also, they face specific problems such as widespread corruption or weak institutions and control mechanisms. Under such conditions, insufficient pressure to follow environmental or social standards in the extraction sector is common, and redistribution of resource income from exports is likely to be unequal. Attempts to capture the unique set of challenges for energy security in developing countries were made by several authors and institutions. To mention but a few, Mitchell (2002), Wohlgemuth (2006), UNIDO (2008), GNESD (2010), Vivoda (2010), Kuik, Lima and Gupta (2011), Kaygusuz (2012) or Sudhakara Reddy (2015) provide valuable insight into problems related to energy in South Asia, Pacific region, or Sub-Saharan Africa.

Figure 1: Specific problems related to energy in developing countries



Source: Wohlgemuth 2006: 86.

Unsurprisingly, literature analyzing energy security in Nigeria is also rich, considering the role of energy in the country (see Akinbami 2001, Iwayiemi 2008, Stevens 2011, Oyedepo 2012, Ajayi and Ajayi 2013, Borok, Agandu and Morgan 2013, Kankara 2013, Shaaban and Petinrin 2014, Emodi and Boo 2015 or Olawale et al. 2017 (for a complete overview, see chapter 2.4). Similarly, discourse is often analyzed in various fields within Nigerian context, using media outputs or other resources.[1] And despite it is not rare to find discourse studies on energy in Nigeria, they do usually focus on a particular aspect of the concept. Batta, Ashong and Udousoro (2013) examine environmental discourse on energy in the media, Naibbi (2015) use discourse to analyze urban fuelwood sourcing in Northern Nigeria through discourse, Ogwumike and Ozughalu (2016) look into the relation of energy poverty and sustainable development, Elum and Momodu (2017) employ discourse analysis to unveil implications of climate change mitigation and renewable energy for sustainable development, Elum, Modies and Nhamo (2017) analyze the potential of agriculture as a renewable energy source in climate change mitigation in discourse, Listo (2018) provides an insight into gender myths in energy poverty literature, newspaper coverage of actorness of the EU in Nigerian energy sector can be found in Tichý and Prouza (2018), Mbamalu (2020) studies renewable energy in Nigeria. Also, energy security can be analyzed through an energy actorness perspective (Tichý et al. 2022).[2] Obviously, the field of energy is attractive for numerous scholars. Until now, however, energy security has not been mapped with its wide implications through a comprehensive discourse, content, and thematic analysis, respectively, either in media or elsewhere.

This thesis is an attempt to bridge this gap. The variety of aspects of energy security is categorized into four major groups, namely economic, environmental, social, and

[1] Examples of studies on Nigeria where discourse analysis is employed include healthcare (Oyebode and Unuabonah 2013, de Kok et al. 2017, Amodu, Salami and Richter 2018), entrepreneurship (Raimi, Shokunbi and Peluola 2017, Smart Oruh et al. 2020), religion (Ibenwa, Uroko and Favour 2020), language (Dalamu 2017) or politics (Ademilokun and Olateju 2016, Ajiboje 2016, Adewumi and Keyser 2020).

[2] Co-authored by the author of this thesis as part of the research on energy and energy security in Nigeria.

political. Within the energy discourse, each group thus represents a particular sub-discourse where attention is paid to different factors affecting energy security in Nigeria. This allows two important things: first, the chance to neglect any significant element of energy security is effectively limited by accommodating both traditional developed-countries-centered theories on energy security and those built upon the perspective of developing countries. Second, to take a step towards discourse analysis, qualitative content analysis and reflexive thematic analysis, respectively, through which the energy discourse in Nigeria is then examined.

The concept of energy security is, however, only one of the three theoretical pillars of the thesis. Social constructivism and theory of discourse are used as the other two and help to establish a broader theoretical framework where construction of discourse in specific contexts is explained. According to Stefano Guzzini (2000, compare with Onuf 1989, Adler 1997, Ruggie 1998, Finnemore and Sikkink 2001, Reus-Smit, or Peltonen 2017), social constructivism may be perceived an epistemological approach explaining social construction of meaning and knowledge, and, at the same time an ontological stance based on the construction of social reality. Similarly, Alexander Wendt assumes that interests of states or any individual actors are constructed by the social structures. Constructivism thus does not treat actors and the environment separately. Rather, they see them interacting with each other. The environment is formed through ideas, concepts, language, and its communication, and is then interpreted by the actors. Actors´ interests can thus change in time (Wendt 1999, Karacasulu and Uzgören 2007). More specifically, critical constructivism (see Hopf 1998, Finnemore and Sikkink 2001, Karacasulu and Uzgören 2007, Devine 2008, or Jung 2019) suggests that social reality is formed through discourse (public and/or political). Moreover, actors aim to control the discourse and effectively promote their interpretation of particular issues that happen to be included in the discourse. Critical constructivism can also accommodate other concepts such as security and how they are established through discourse. Therefore, it allows to interpret discourses and topics communicated through discourses (compare Ashley and Walker 1990, Hollis and Smith 1990, Campbell 1998, Milliken 1999, Hansen 2006, Sorensen a Jackson 2006, Pedersen 2009: 1, Morales-López 2012, Holzscheiter 2013, Tichý 2018, or Morales-López 2019). What is understood here by discourse is, however, not only construction of

meaning through communication, but the ideas, concepts or categories that reflect actors´ attitudes to particular issues and who create the reality around them through the communication (Hajer 1993, Simmerl 2011). Energy security is then the key concept analyzed through the constructivist-discourse framework.

1.4. Methodology & data

Methodologically, this thesis works with qualitative content analysis followed by a reflexive thematic analysis. Qualitative content analysis is understood as a specific research tool within broader methodological framework of discourse analysis. Importantly, discourse analysis is strongly intertwined with its theoretical background (Jorgensen and Philips 2002), justifying its use both as part of the theoretical framework and the methodology, allowing to effectively incorporate the constructivist view of the social world. The researcher is then able to illuminate particular problems and interpret their relation to particular social context (Fairclough 1989, Gee 2010). Yet, there is no clear definition of discourse analysis nor an agreement on a single research method that should be used while examining various discourses (Fairclough 1992, Philips and Hardy 2002, Vašát 2008, Aydin-Düzgit and Rumelili 2019). According to Gee (2014), discourse analysis is a study of language in talk and writing. More narrowly, Potter (1997) argues that discourse analysis needs to be critical since construction of social world is historically and culturally determined and reflects the importance of social interaction for knowledge production, that further motivates social acts. In accord with such delineation, Hansen (2006) further explains that in constructivist discourse analysis, researchers do not seek any universal truth. Rather, they search for what the language of texts represents since language is a constitutive element of social reality which is understood as contextual and interactive by constructivists (Prasad 2019).

As a result, discourse analysis helps to assess what is beyond text and how does it construct meanings in the social environment (Hajer 2006). Furthermore, the idea behind discourse analysis is that social phenomena are never finished or total. (Jorgensen and Philips 2002: 24) This means that the concept of discourse and discourse analysis, respectively, straddles between theory and methodology since it can be perceived both theoretical approach and a research method, or, rather on

overarching methodology, while the latter is the case of this thesis. Qualitative content analysis is then employed as the specific research instrument (compare Berger 1991, GAO 1996, Jorgensen and Philips 2002, Neuendorf 2002, or Krippendorf 2004). In general terms, content analysis is a specific tool used to analyze communications or texts in order to understand their meaning (Miovský 2006, Dvořáková 2010). This makes it suitable to analyze medial outputs as it allows to find particular ideas and concepts communicated in them and interpret them in a systematic manner. Although it is a time-consuming method, limited by its subjectivity and problems related to the media trustworthiness in case media outputs are the primary resource for the analysis (McKee 2001, Tichý and Prouza 2018, Prasad 2019) qualitative content analysis has several significant advantages. Despite the absence of standardized analytical procedures, these is some general guidance, the method is replicable and targets a dynamic area of studies where media, science and policy intersect in a critical manner (Boykoff and Rajan 2007). It is thus suitable for both case studies and comparisons (Denzin and Lincoln 1994, Hijams 1996, Mayring 2000 or Patton 2002). In case of the former, it offers a unique space for an in-depth study of a single case, overcoming the problem with interpretativeness. Moreover, when media outputs are studied, the problem with lack of recorded official speeches of political representatives or policies is surmounted, allowing to uncover what issues dominate the discourse (Stemler 2000: 1, Macnamara 2005: 6, Tichý and Prouza 2018: 13).

In addition, reflexive thematic analysis is employed to discover themes emerging from the energy discourse through the media. Whereas the qualitative content analysis allows to effectively sort the data and provide the researcher with a detailed overview of how the reality under study is constructed, reflexive thematic analysis allows "further familiarity with the data, which may in turn result in the interpretation of new patterns of meaning." (Byrne 2021: 3) By employing this additional method, *latent themes* and patterns that may occur during the analysis can be discovered beyond the surface. This will further help to identify and interpret the data categorized through the content analysis (Braun and Clarke 2006, 2013, 2020, Gough and Madill 2012, Campbell et al. 2021, Thelwall 2021).

Finally, a small-scale quantitative query using AntConc, a digital program used for corpus analysis, will be undertaken. Although it is not the core of the research, it provides a valuable insight into the energy discourse by showing what words appear most often around each energy resource in the media. Results from the AntConc analysis then support findings from the qualitative content analysis.

Newspapers are a veritable and relevant platform where ideas and policies are presented and discussed daily, constituting a discourse *per se.* They do also play an important role in communication and navigate through the plethora of information in the society. In Nigeria in particular, newspapers are a vehicle that carries regular and specific information on energy (Tichý and Prouza 2018, Mbamalu 2020, Tichý et al. 2022)[3]. Therefore, analyzing energy discourse through media outputs seems to be a reasonable methodological choice. The data sample constituting a basis for the qualitative content analysis contains a corpus of articles from selected Nigerian dailies. For a newspaper to be considered relevant for the analysis, a set of conditions must be fulfilled, including national circulation, on-line content and available on-line archive (detailed list of conditions in Chapter 3.3). *This Day*, *Nigerian Tribune* and *Daily Post* are all widely read, nationally circulated and daily printed newspapers available on-line, with articles published in English and an on-line archive. Considering the characteristics of Nigerian media landscape where some outlets incline towards governmental interpretation of the reality while some others report more independently, *This Day, Nigerian Tribune* and *Daily Post* represent both streams. Another set of criteria is established for an article to be classified as relevant: the article must include at least one of the keywords referring to energy and specific energy resources as defined by the Nigeria National Energy Policy (Federal Republic of Nigeria 2003), respectively. Namely, these keywords are: *oil, natural gas, tar sands, coal, nuclear, hydropower, fuelwood, solar, biomass, wind, hydrogen, renewable*.

If such article relates to Nigeria, it is included in the corpus. Other articles are excluded as irrelevant. Selected period for retrieving the articles is from 2015 to 2019 as relevant energy-related regulations and policies were adopted during this

[3] Co-authored by the author of this thesis as part of the research on energy and energy security in Nigeria.

timeframe, and the effects of the global Covid-19 pandemic are eliminated at the same time. The analysis of the data corpus is then complemented by an examination of official documents and policies declaring energy goals and priorities for Nigeria and an insight into the energy realities of the country reflecting the four dimensions of energy security.

1.5. Structure of the thesis

The thesis is composed of six main chapters. The introduction provides a general overview of the topic and its importance, together with the existing literature, the aim of the research and research questions, then presents the theoretical pillars the thesis is based upon, the methodological framework, and eventually the structure of the thesis. In Chapter 2, theoretical framework is introduced. While the ground is set by the theory of social constructivism and critical constructivism, respectively, the concept of energy security and discourse are the superstructure. The latter is meant to be a donkey bridge to the methodology as discourse and discourse analysis are two sides of the same coin. Chapter 3 explains what methodology and research tools are used to analyze energy security in Nigeria. Discourse analysis is employed as an overarching methodological framework, followed by qualitative content analysis through which media outputs from selected Nigerian dailies will be examined, and reflexive thematic analysis to discover themes and patterns emerging from the data. It also mentions what data are selected and what criteria does the selection process follow in order to establish a corpus of articles that will be subject to the content analysis and the subsequent reflexive thematic analysis. Chapter 4 summarizes the evolution of energy security in Nigeria. It briefly looks on the colonial resource politics, the early pre-independence discovery of the very first oil reservoirs in Nigeria, moves on to the era of independent Nigeria when its first energy-related bodies were established and first energy policies adopted, to the modern-day Nigeria where global policies on energy are reflected besides the national energy strategies. In Chapter 5, the media landscape in Nigeria with its implications for the research is examined. Therefore, the chapter provides an overview of how media work in the country, what problems do they face and how this affects analysis of media outputs. Chapter 6 presents the data retrieved from the Nigerian media, their categorization within the energy

discourse, reveals themes and patterns that emerge from the data and provides an interpretation to answer the research question and the four hypotheses posed in the introduction of the thesis. Chapter 7 is a summary of the main findings from an overall perspective and per discourse. Chapter 8 is then dedicated to further discussion on possible implications of the research and conclusions.

2. Theoretical framework

2.1. Social constructivism

Among theories of international relations, social constructivism gained prominence in the 1990s along other critical approaches to this domain. Several authors adopted constructivism arguing that apart from materialism, there is another view on the international relations within the broader field of social reality. The most significant contributions to this debate have been articulated by Emmanuel Adler (1997), Alexander Wendt (1999, 2010), Stefano Guzzini (2000) and Nicholas Onuf (1989) with the latter establishing the term firmly (Peltonen 2017: 3). According to Adler, constructivism can be seen "the manner in which the material world shapes and is shaped by human action and interaction depends on dynamic normative and epistemic interpretations of the material world." (Adler 1997: 322) Similarly, Guzzini claims that "in a nutshell, constructivism (...) is epistemologically about the social construction of knowledge, and ontologically about the construction of social reality." (Guzzini 2000: 160) Wendt then adds that the social structures depend more on an intersubjective stance instead of being material in nature. Therefore, the interests and identities of social actors are constructed by these structures "rather than being given by human nature." (Wendt 1999: 1) From this traditional perspective, social constructivism can be seen a "middle ground" or *via media* to overcome the abyss between rational and reflective (epistemological) positions." (Peltonen 2017: 3)

Social constructivism is, however, not a unitary theory, and different authors put an emphasis on different aspects of this approach. In John Gerard Ruggie´s perspective, constructivism should be understood as "human consciousness and its role in international life." (Ruggie 1998: 856) Martha Finnemore and Kathryn Sikkink (2001) or Christian Reus-Smit (2005) stress out the role of ideas and beliefs in shaping the human interaction, and, consequently, in constructing the interests and identities of actors within social reality (Finnemore and Sikkink 2001: 393, Reus-Smit 2005: 196). Nilüfer Karacasulu and Elif Uzgören (2007: 32-33) believe that the interaction between actors and social environment surrounding them is crucial for shaping the world, that is determined by these relations. Despite this

theoretical fragmentation, however, the core principle for majority of constructivists is the belief that actors do not exist without inter-relation to their social environment that constitutes their interests and identities, and, in reverse the environment is constructed by these actors.[4] As Onuf put it, "we are always within our constructions, even as we choose to stand apart from them." (Onuf 1989: 43)

These disparities suggest that within constructivism, more than one universal stream have appeared.[5] In an attempt to compare these streams, Ted Hopf (1998) coined two basic terms: *conventional* and *critical* constructivism.[6] *Conventional* constructivism is what Adler calls the "middle ground" (see above) where premises from rationalism, positivism and critical social theory are combined. Essentially, norms and institutions (or culture, in other words) are considered the crucial factors, influencing the identity, interests, and actions of social actors. Causal relationships and structures thus remain of high importance for *conventional* constructivists

[4] To compare, see Kratochwil 1991, Checkel 1998, Kratochwil 2008 or Michel 2009.

[5] Despite Hop´f classification is the most common, other approaches have appeared. Ruggie talks about *neo-classical, postmodernist*, and *naturalist* constructivism, while the first is represented by authors like Kratochwil, Onuf, Adler, Finnemore or Katzenstein, emphasizing its roots in pragmatism and the role of communication, in the second Ashley, Campbell, Derian or Walker draw on the Foucault and Derrida´s work, denying causation and stressing out the role of discourse, by which they represent a paralel stream to Hopf´s critical constructivism, and the latter combines the first two building on scientific realism (Ruggie 1998: 881-882). Reus-Smit distinguishes between *systemic, unit-level,* and *holistic* constructivism. Systemic considers normative structures to be determining identity and following actions of social actors; unit-level branch goes further claiming norms and institutions are crucial, corresponding with Hopf´s conventional constructivism; and holistic branch is then similar to critical constructivism since it focuses on the mutual relations between actors and social environment, considering them mutually constitutive (Reus-Smit 2005: 199-201). It should be noted, however, that despite Reus-Smit eventually makes distinctions among various types of constructivism, he denied to do so in his previous work and suggested it is not necessary (Price and Reus-Smit 1998). Fearon and Wendt then differ *positivist, interpretivist* and *postmodern* constructivism based on their dissimilarities in approaching epistemological questions on power of knowledge and discourse, and possibility of causation, respectively (Fearon and Wendt 2005).

[6] Other authors like Maysam Behravesh assign regional preference to conventional and critical constructivism. While conventional constructivism is preferred in the United States, critical constructivism gained prominence in Europe (Behravesh 2011: 3).

instead of mutually constitutive relation between agents and structures (Hopf 1998: 181-185). As Cho puts it, "conventional constructivism (...) is more concerned with causation than constitution." (Cho 2009: 83) For this reason, paradoxically, "conventional constructivists themselves take their own core concepts for granted" (ibid) which are substantially more static instead of asking questions about the processes that form them. Making such distance between itself and critical social theory, *conventional* constructivism remains more conservative by accepting that some sort of universalism may be possible (Jung 2019: 2-3).

2.2. Critical constructivism

Similar to *conventional* constructivism, *critical* constructivists build on the fundamental constructivist argument that social reality is not fixed nor defined by human nature, but rather constructed by social structures surrounding it (Wendt 1999: 1, Karkalanov 2016: 6, Tichý 2018: 48). They draw, however, notably more on the critical social theory and its epistemology. Unmasking naturalized order while denying universalism means that *critical* constructivism seeks rather uniqueness than causation (Hopf 1998: 182-185, Finnemore and Sikkink 2001: 398, Devine 2008: 465, Jung 2019: 3). [7] Central claim of *critical* constructivism is that actors are not pulled out of their social environment that constitutes their interests. At the same time, the social environment is defined by the actors´ ideas rather than being material and given (Wendt 1999: 1-2, Lezaun 2002: 230-231). Karacasulu and Uzgören (2007: 32) argue that "state interests emerge from an environment in which states operate and are endogenous to states´ interaction with their environment." From this perspective, social world is mutually constituted by the actors and social structures, and it is human agents who is constitutive for the social reality and its reproduction a vice-versa.[8] The identity of all actors is then derived

[7] For more on the relation between social constructivism and critical theory, see Hynek a Teti 2010.

[8] Important contribution to this theoretical relation between actors, their interests and social reality (structures) is the structural duality theory developed by Anthony Giddens. Giddens (1981: 27) overcomes the theoretical rivalry among authors who disagree on an essential question whether to put more emphasis on the role of actors or the environment (structure) and explains that their relation is mutually constitutive. In this sense, the structure is, at the same time, means and result of the

from the social environment, and it cannot be given by any means. The importance of contextualizing is thus paramount for *critical* constructivists who, consequently, perceive concepts of power and discourse central factors to their analysis rather than norms and institutions (Hopf 1998: 181-185, Wendt 1999: 1-2, Tichý 2018: 52).

Distinctions in definitions of *conventional* and *critical* constructivism suggest that they look at the construction of social reality from different perspectives. Where *conventional* constructivists tend to ask "why" assuming some sort of causation, proponents of *critical* branch rather ask "how".[9] On the one hand, asking the latter makes *critical* constructivism dependent on interpretative methodology and post-positivistic epistemology and ontology. On the other, however, it allows an open-minded, yet quite straightforward approach to the analysis of social structures and power relations. With the purpose of understanding instead of simply explaining, relying on concepts of power and discourse is then perfectly reasonable (Karacasulu a Uzgören 2007: 31, Tichý 2018: 50-51). Actually, such approach is supported even by the conventional constructivism. As Hynek and Teti point out, "the existence of both physical and social objects depends on thoughts and linguistic structures [and we] cannot construct knowledge about these outside their own ontological representations." (Hynek a Teti 2010: 175) Consequently, this stance confirms the role of ideas which give meaning to the material resources and have an essential impact on interests of actors, since the social environment is not simply material (ibid, Guzzini 2000: 148, Fearon and Wendt 2002: 57).[10]

By this logic, *critical* constructivism seems to be more suitable for research aiming at deep understanding of social reality for two reasons. First, its stronger bond with

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process of creating the social systems. On the mutual constitutiveness of actors and structures see also Adler 1997 or Wendt 1999.

[9] Disagreement over the possibility of drawing causal relations within the constructivist perspective is present not only between conventional and critical constructivism. Among others, David Campbell, representing what Ruggie calls the *postmodernist constructivism* (Ruggie 1998: 881), considers causality chimerical and tries to avoid „cataloguing, calculating, and specifying the real causes." (Campbell 1998: 350)

[10] For more on the distinctions between *conventional* and *critical* constructivism, see Cho 2009 or Theys 2018.

the fundamental constructivist premise that social world needs to be denaturalized (Hopf 1998: 173, Nugroho 2008: 88-89) suggest that "our understandings of people and their action can make a real difference to the latter." (Guzzini 2000: 149) Furthermore, actors themselves "can become (...) aware of [it] and influence their action." (ibid) Second, *critical* constructivists point out more strongly that research of social reality and its production and reproduction, respectively, cannot be separated. As Thomas Risse argue, "if we want to understand and explain social behavior, we need to take words, language, and communicative utterances seriously. It is through discursive practices that agents make sense of the world and attribute meaning to their activities." (Risse 2004: 7) In this sense, "material world offers possible meanings and people, in order to define the reality, abduct some meanings, relate them with other meanings, [and] construct new meanings through dialectic discourses." (Nugroho 2008: 89)

From this perspective, critical constructivists establish an important argument. By stating that "even our most enduring institutions (...) are abstract structures that were once upon a time conceived by human consciousness," (Karkalanov 2016: 8) they surpass the boundaries set by conventional constructivism and make another step beyond their ontological logic, in which "norms can be treated as facts (…), and more importantly as social facts." (Weber 2014: 526, see also Hoffmann 2010: 1-3) To be more specific, Nair (2013) provides an example of this in her study on international aid. Talking about the construction of power relations between recipients and donors of international aid, Nair concludes that these relations are constantly redefined through discourse. Social facts could thus be perceived facts only through agreement of human agents within a specific social context (Adler 1997: 322-323).

As a result, only constitutive and performative relations are relevant and, such approach underlines why discourse is crucial for *critical* constructivism (Hollis and Smith 1990, Hansen 2006: 2-5, Sorensen a Jackson 2006: 165-166). As Dias put it, "it is important for this construction of identity (…) to take place in the framework of discourse, which enables the (re)production, transformation, and constitution of the interests and power of the actor." (Dias 2013: 258) More specifically, Weldes argues, "interests emerge out of the representations that define for actors the

situations and events they face (...) Meanings are [then] produced in representations made possible by particular discourses (...) that provide the categories which we represent and understand the world." (Weldes 1998: 218-219) Furthermore, Weldes continues, "these representations and the meanings they generate are always more or less provisional and so subject to change. Dominant representations must actively be reproduced in response to actual or anticipated." (ibid) In this sense, role of language and communication, respectively, is a key factor in construction of social reality and "has the ability to change [it]." (Theys 2018: 2) It is symptomatic that this relation between social reality and the process of understanding it was already delineated by critical social theory, according to which the "basic concepts of social action and the methodology of understanding social action are fundamentally connected." (Habermas 1985 in Guzzini 2000: 162)

2.3. Critical constructivism and discourse

In social sciences, it would be difficult to find a mainstream definition of discourse. This is because discourse itself can be approached from various perspectives, and, moreover, from various social disciplines. Apart from specific fields like language or communication theory, discourse substantially influenced various streams within international relations including constructivism and critical constructivism, respectively.[11] In one of the most significant contributions on discourse, Jennifer Milliken (1999: 227) explains that, at the beginning discourse scholars faced contempt. Challenging mainstream theoretical approaches, their work has been labelled deviant and dangerous due to lack of empiricism and relying on interpretation.[12] As a result, these scholars identified themselves with post-positivism and its critical stance on research and its limitations. Milliken, together with other authors including Ashley and Walker (1990) or Campbell (1998) belongs to this camp, arguing that "discursivists" also "build their research upon a set of theoretical commitments that organize discourse studies and implicitly restrict appropriate contexts of justification/discovery (for example, some claims may be

[11] For the interdisciplinarity of discourse, see Beaugrande 1996, Milliken 1999, Palan 2000, Scollon and Wong Scollon 2001 or Holzcheiter 2013.

[12] See Keohane 1988, Walt 1991 or Mearsheimer 1994.

grounded on empirical facts determined through study of data of some sort, others may be grounded on reason and reflection alone." (Milliken 1999: 228) Such claims strongly relate discourse to critical social theory, post-structuralism and more recently, to constructivism in the way that reality is subject to interpretation since it is established through meanings attached to material things by human beings. Discourse can be thus understood as a means of exploring various social, political, or other issues including international relations, national and international policies and political agendas or specific fields like terrorism, security or energy relations and many others (Pedersen 2009: 1, Morales-López 2012, Holzscheiter 2013: 2, Morales-López 2019: 7).

To establish the framework in which discourse will be understood in this thesis – that is in relation to critical constructivism – the above outlined theoretical background needs to be further complemented. In his study of critical constructivist perspective on global political discourse, Simmerl (2011: 5) offers an interpretation that summarizes the main argument as following: the theoretical concept of discourse is, first and foremost, a construction and understanding of social reality and its meanings through different types of communication.[13] Jorgensen and Phillips (2002: 1) add that for discourse, role of speech is an important aspect. Homoláč (2006: 329) stresses out the need to understand discourse as a process of using language to communicate particular issues in the society. From these perspectives, discourse may be well framed as a "semantic representation of the world that is negotiated through social interaction and follows its own specific rules." (Vašát 2008: 102) This follows the logic of critical theory that perceives discourse as a set of meanings we impose on material things. Knowledge is then produced through discourse and by this logic, social reality must be understood as a construction (Pedersen 2009: 1). Critical theory, however, offers another important view on the discourse relating it to the concept of power. In this sense, power is not the relation in which one actor pushes through his will. Rather, power means that actors impose particular meaning on material things and define "how certain problems are to be viewed and which questions are to be asked." [14] (Risse

[13] Compare with Hajer 1993 or Phillips and Hardy 2002.

[14] For more on critical theory and discourse see Foucault´s works from 1966 or 1981.

2004: 14, see also Pedersen 2009: 1) In this sense, Ruggie (1998: 881) talks about "hegemonic discourse" that does, through its power, impose the "regime of truth". To put it simply, the power of discourse lays in its ability to enforce particular interpretation of social reality.

The relation of discourse and power is central to critical constructivism. Karacasulu and Uzgören (2007: 31) demonstrate that discourse and use of language play an important role in critical constructivism, and that "constructivist understanding of power involves hard power (...) and productive power generated and transformed through discourse." (ibid.: 37) One of the most prominent discourse theoretics, Norman Fairclough, offers more structured view on discourse that provides support to this argument. Considering discourse as a form or aspect of social reality, Fairclough divides the concept into three dimensions represented by text, discursive practice, and social practice. In this sense, text is a product of discourse and can be both written and spoken, or we can understand text as a transcribed speech. The language is thus central to this dimension since it is a tool to express different thoughts through text and speech, and, at the same time, it is an integral part of society that conditions it. Furthermore, social phenomena should be understood as linguistic. On the one hand, language and its outcomes reflect social processes. On the other, it is part of such processes. Language thus inter-links all three Fairclough´s dimensions of discourse (Fairclough 1989: 17-24). Phillips and Jorgensen further elaborate on this approach and offer their own modification of the three dimensions. In their point of view, discourse is an aspect of social practice, form of a language and manner of speech in a particular perspective (Phillips and Jorgensen 2002: 66).

Reasonably, discourse can be considered an important part of constructivist and particularly critical constructivist approach to study social phenomena (see Godinho 2016: 6). Milliken underlines three pillars of this relation: first, social reality consists of things with meanings that are given to them by people. What further expands this basic argument, however, is the way in which we can understand those meanings. That is in relationships, or in opposition to each other, where one is usually privileged over the other. Based on Derrida´s work, Milliken calls them relations of power. Second, discourse has a productive character. Giving

a language for speaking about particular phenomena is one aspect of this productivity. More importantly, however, it is the operationalization of so-called "regimes of truth" or a common sense that discourse can create. In other words, discourse defines subjects authorized to speak and act and their publics or audiences, promoting certain definition of particular phenomena and/or excluding or silencing others. Third, this commitment of discourse productivity navigates us to dominant discourses, even though they still require some level of articulation and re-articulation of their knowledge and the regimes of truth since discourses are variable and historically conditioned, actually (Milliken 1999: 228-229, Milliken 2015: 138-139).

2.4. Discourse and energy security

The first discourse analyzed in this thesis is energy discourse. Most often, energy discourse is understood through the concept of energy security (Rafey and Sovacool 2011: 1142-1145, Tichý 2018: 55, Tichý and Dubský 2020: 2). Under the broadest definition, energy security is framed as a continuous supply of energy in different forms with sufficient quantity and for reasonable prices (Khatib 2000: 113, UNESCAP 2008, von Hippel et al. 2011: 74, Energy Charter Secretariat 2015: 10, IEA 2019). This is, however, not the only working definition. One of the leading scholars in this field Benjamin K. Sovacool (2011: 3-6) acknowledges the concept incoherency and enumerates up to 45 definitions that vary, more or less, in what their authors consider to be the most important aspect of energy security.[15] For example, Bazilian et al. (2006), Bielecki (2002) or Bohi and Toman (1996) look at energy security from the traditional economic perspective, stressing out supply and price. For the latter, however, avoiding loss of welfare is the general aim, bringing them close to authors highlighting social aspects of energy security. Jacobson (2009), Kemmler and Spreng (2007) or Konoplyanik (2004) focus on the environmental dimension of energy security, meaning that is should not harm the ecosystems, land, water, or climate in general. Technical feasibility is crucial for CNA (2009). Barton et al. (2004) or Brown and Sovacool (2007) mention that social aspect should not be overlooked, and energy must enhance universal social well-

[15] Compare with Mitchell 2002, Checchi, Behrens and Egenhofer 2009, Kruyt et al. 2009.

being. Least but not last, Deutch (2007), International Atomic Energy Agency (IAEA) (2007), Kalicky and Goldwyn (2005), or Scheepers et al. (2006) talk about the political dimension of energy security, connection to international markets and avoiding energy dependence. In this labyrinth of definitions, I found it symptomatic that even Sovacool himself offers at least two different definitions in his publications (compare Brown and Sovacool 2007 and Sovacool, Sidortsov and Jones 2014).

Clearly, the concept of energy security has evolved into a complex phenomenon. The process of its theoretical conceptualization has reflected on how energy was perceived over time and what other fields or disciplines it has become linked to. To demonstrate this long-term dynamic, it is vital at this point to look at the crucial historical moments that have shaped energy security. Referring to the problem, several authors agree that energy security can be traced back to World War I, when control of resources and its supply became crucial for the armies in conflict (Yergin 1991, Sovacool and Brown 2010: 81, Energy Charter Secretariat 2015: 6). The milestone is, however, found later in the second half of twentieth century. With global economic reconstruction after World War II, there was some significant growth in energy and electricity demand in the developed world. As a result, energy became a serious geopolitical and security issue apart from its originally economic dimension. On the brink of decolonization, Organisation of Petroleum Exporting Countries (OPEC) was formed in 1960 to bring together major oil exporters in the Middle East and Africa, respectively[16] (Cherp and Jewell 2011: 202-203, Energy Charter Secretariat 2015: 6). At that period, air pollution caused by energy production and consumption appeared as another aspect related to energy. The importance of energy for economic development of both developed and developing countries became striking even more when two oil crises in 1973 and 1979, respectively, hit the world energy relations (Belyi 2003: 353, Sovacool and Brown 2010: 80). In the late 70s and during the 80s, especially, two other major points emerged. First, it became clear that developing countries make almost no progress

[16] African producers joined OPEC in the 60s and 70s. OPEC member countries include (as of 2020): Algeria, Angola, Equatorial Guinea, Gabon, Iraq, Iran, Kongo-Brazzaville, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates and Venezuela.

in securing access to energy, no matter how resource-rich they were (amongst them, to mention but a few, Nigeria, or Angola). Issues of energy poverty and equity were now related to energy that was considered a crucial driver of development until then. Second, the International Panel on Climate Change (IPCC) was established to draw the world´s attention to the global warming and promote the relation between energy and climate (Cherp and Jewell 2011: 204, Sovacool 2011: 2, Energy Charter Secretariat 2015: 6). With the end of the Cold War, a process of liberalization and privatization of energy markets took place globally, opening new space for expansion of private energy companies. Also, the international debate on the role of energy on the environment resulted in signature of the Kyoto Protocol in 1997 (Belyi 2003: 354, Chester 2009: 889, Energy Charter Secretariat 2015: 7). After 2000, energy (in)security remained of major concern for two reasons. First, we have seen a re-shaping of the global geopolitical landscape through the war against terrorism, followed by invasions to Afghanistan, Iraq or Libya, and Russian annexation of Crimea, respectively. Second, new powers led by China have entered the international geopolitical arena, raising demand for resources to spur their economic growth (Sovacool and Brown 2009: 6-7, Sovacool, Sidortsov and Jones 2014: 1-2). Concurrently, development of new technologies has opened the energy arena for renewables, that have gained some serious attention.

This historical digression shows that at first, energy security had been of concern for industrialized countries. With the emergence of newly independent states at the brink of decolonization, energy security has entered the political debate in developing countries as well, either they were importers or exporters of natural resources and energy products. And similar to the variety of issues linked to energy security that have evolved throughout the years, understanding of the concept became diversified in developed and developing countries. On the one hand, major focus of developed countries is usually on securing cheap and reliable supplies of energy, while they become increasingly dependent on imports of oil, gas, and other resources. Recently, this has translated into searching means of diversification of these supplies, bringing in the renewables that also have the potential to reduce the environmental impact of energy production. On the other hand, developing countries consider energy security in terms of “meeting basic human needs at the household level, where per-capita consumption levels and the quality of energy

supplies are often far lower than in OECD countries," (GNESD 2011: 4) ensuring food security and alleviating poverty (UNIDO 2008: 4). This is an important feature since energy infrastructure does not reach rural areas, and supplies are often scarce, forcing households to use traditional biomass (UNIDO 2008: 4). It also means that the poorest households spend up to four times higher portions of their income on energy than middle-class households (GNESD 2011: 4) From the national perspective, reliance on a single resource and import dependency are another issue, respectively. This means that in several countries in Sub-Saharan Africa, for example, half of export earnings is used on importing energy (GNESD 2011: 4-5) Apart from the supply-demand and the broader socio-economic point of view, respectively, it is important to note that power generation across Africa is still based on burning fossil fuels from up to 80% (Global Wind Energy Council 2019: 1). And yet, the continent is responsible for less than 5% of global emissions, though the climate change affects it the most (Gewirtzmann and Roberts 2018, Šmolík 2020: 1).

As Alemzero et al. (2020: 2158-2159) explain, there are still many obstacles in delivering energy security in Sub-Saharan Africa. Rapid population growth together with improving economies translates into increased energy demand. Governments are, however, more unable to meet the energy needs of their populations as the imports are becoming more costly. Infrastructure is weak, and the institutions do not play in favor of free and fair market competition, that is further crippled by subsidies. There are several authors that conceptualize energy security with respect to its importance for Sub-Saharan Africa and other developing regions. Although they do often work with traditional theoretical frameworks, their focus on specific aspects of energy in the global South enriches the debate that has been so far dominated by the developed-countries-centered perspective (compare Löschel, Moslener and Rübbelke 2010, Umbach 2010, Lefévre 2010, Kuik, Lima and Gupta 2011, Alemzero et al. 2021). On a similar note, authors dealing with energy security in general do not completely omit the fact that the concept has different connotations in the developed and developing countries, although they clearly build on the experience of developed countries. Notwithstanding, this complexity allows to comprise their work within this thesis (see sub-chapters below). On the other hand, it should be noted that conditions in African countries

are specific even in the developing world as such and using the general theory only may lead to some misinterpretations. In the first group of authors, Mitchell (2002), Wohlgemuth (2006), UNIDO (2008), GNESD (2010) Vivoda (2010), Kuik, Lima and Gupta (2011), Kaygusuz (2012) or Sudhakara Reddy (2015) deal with energy in South Asia, Pacific region, and Sub-Saharan Africa, while the latter is analyzed more deeply in publications by Lacher and Kumetat 2011, Meierding 2011, Owen, van der Plas and Sepp 2013, UNECA 2014, Bellos 2018 or Anser et al. 2020. Dozens of scholars then focus on the Nigerian case in particular, for example Akinbami 2001, Iwayiemi 2008, Stevens 2011, Oyedepo 2012, Ajayi and Ajayi 2013, Borok et al. 2015, Kankara 2013, Shaaban and Petinrin 2014, Emodi and Boo 2015 or Olawale et al. 2017.

Apparently, energy security has been approached from various angles, reflecting thematic and geographic differences. This is due to the fact that energy is "a politicized and multifaceted concept," Sovacool (2011: 6) points out. Helm (2002: 175) does even talk about "one of the most overused and misunderstood concepts in the energy debate", making it "fuzzy" (Kuik, Lima and Gupta 2011: 629). Nonetheless, this has led to an emergence of numerous theoretical streams that can be grouped in some major sub-discourses, namely economic, environmental, social, and political. For the purpose of this thesis, the vast array of different aspects shaping the concept of energy security is categorized[17] in these sub-discourses, allowing two important things: first, to avoid neglecting any significant element of energy security, and second, to set the ground for a qualitative content analysis of the media outputs in Nigeria, that constitutes the core of the analytical part of the thesis. Moreover, the systematic approach helps to connect the general theoretical knowledge on energy security with the growing literature focusing on aspects of energy security in developing countries including Sub-Saharan Africa and Nigeria in particular (Alemzero et al. 2020: 2159).

[17] This thesis does not represent the first attempt to categorize the variety of aspects related to energy security. Vaňous (2005), Alhajji (2007), or von Hippel et al. 2011 are among the authors treating the concept in a similar manner.

2.4.1. Economic sub-discourse

Seen through the economic lens, energy is one of the key prospects for growth. In 1984, Schurr´s research proved the positive synergy between energy and economic development in industrial societies (Schurr 1984). Barnes and Floor (1996), Toman and Jemelkova (2003) or Carley et al. (2011) argue in a similar manner, but also point out that the literature is rather focused on how economic development drives energy demand. Concurrently, Ebohon (1996), Kabede, Kagochi and Jolly (2010) or Ozturk, Aslan and Kalyoncu (2010) draw the attention to the relation between energy and economy in developing countries. Undoubtedly, majority of economic activities in public and private sector depend on energy in both developed and developing countries. From industries, services, transportation, agriculture, or job creation to housing and daily activities like cooking, heating or air-conditioning, energy is required as an essential input (Adisianya 2010, Okeke, Izueke and Nzekwe 2014: 63-64, Sudhakara Reddy 2015: 10). In this sense, it can be argued that "energy plays the most vital role in the economic growth, progress, and development, as well as poverty eradication (...)." (Oyedepo 2012: 1)[18] It further implies that production and consumption are the two pillars upon which the relation between energy and economy. For this purpose, production is defined by the fundamental law of thermodynamics which states that material transformation (or production, in other words) cannot happen without energy. To put it simply, „a minimum supply of energy is essential for the functionning of economies (and societies)." (Labandeira and Manzano 2012: 2)[19] Consumption is then related to energy use.

Several authors and institutions working with the specific concept of energy security are in line with the general economic argument. Medlock (2004), Grubb, Buttler and Twomey (2006), Asia Pacific Energy Research Centre (2007) or USAID (2008) define energy security in terms of reasonable price of supply, avoiding any harm to the economy.[20] Shrestha and Kumar foresee economic growth

[18] Compare with Yergin 2006, Jones 2014, Stern 2010 or Labandeira and Manzano 2012.

[19] Compare with Stern 2010.

[20] Compare with Verrastro and Ladislaw 2007 or Kruyt et al. 2009.

if energy resources are supplied sufficiently, although their interpretation is not reductive to the economic line only (Shresta and Kumar 2008 in Sovacool 2011: 5). Deutch then puts more emphasis on the role of trade, stressing out the relation between economic activity on energy markets and foreign policies (Deutch 2007). The economic view can be, however, traced back to what Stern and Aronson (1984) identified as economic perception of energy security in 1984. They understand energy as a set of commodities including oil, gas, coal, and electricity traded on markets.

Referring to energy as economically important brings us to what Alhajji (2007) calls the economic dimension of energy security. What Alhajji assumes is, essentially, a strong relation between macroeconomic indicators measured by the GDP, and the consumption of energy. In other words, increase in energy consumption leads to higher level of economic growth (Alhajji 2007, compare with Saunders 1992: 131-133, Popescu 2015: 470, Sudhakara Reddy 2015: 13). Conversely, it can be argued that the economy can be negatively affected by deviating price of resources, changing availability of energy, or lack of access to energy. Subsequently, economic discontinuity, loss of welfare and raising levels of poverty and deprivation occur (Bohi and Toman 1996: 1-2, Winzer 2011: 13, Oyedepo 2012: 1).[21] Obviously, multiple components constitute the economic dimension of energy security. In an attempt to capture the complexity, Sudhakara Reddy (2015: 20) provides a well-arranged summary of the key components. In his view, supply security, diversification of the resources, energy intensity, energy efficiency, energy consumption, and taxes and subsidies together address the main economic themes of energy security mentioned above. These are, namely, production, consumption, and supply.[22]

The economic narrative is then based on the assumption that economic growth and development, respectively, are supported by provision of energy, and is expected to follow this logic within the economic sub-discourse. It applies particularly on developing countries that need energy for manufacturing, growing domestic

[21] Compare with Labandeira and Manzano 2012.

[22] Vosylius, Rakutis and Tvaronavičiené (2013) or Popescu (2015) use similar categorization in their research on the relation between energy security and economy.

consumption of goods and services, and generating income for state´s treasuries in case of resource-rich countries (e.g. Nigeria, Guinea or Angola). According to Philippe Benoit from the Columbia Center on Global Energy Policy, "Energy can help deliver that promise of development in numerous ways. For example, it is energy that helps build and operate the infrastructure that delivers improved health and education services. It is energy that powers the businesses (small and large) that manufacture and deliver food and consumer products, and that generate the higher incomes that allow households to acquire those goods. Unsurprisingly, increased energy consumption per capita has accompanied increased GDP per capita in the developing world (...)." (Benoit 2019)

2.4.2. Social sub-discourse

Social perspective on energy security is based on emphasizing specific social issues related to energy. These are, namely, accessibility of energy to the populace, distribution of energy resources, equity in accessing them, affordability, and reliability of supply. By measuring the impact of energy services on social well-being, individuals are put at the centre of the social dimension of energy security (Axworthy 2001: 19, Alhajji 2007, Sudhakara Reddy 2015: 15). This assumption is based on the fact that on the one hand, energy is not a human right. On the other, however, there are certain basic goods that cannot be reached without energy. In other words, energy is a material prerequisite for securing adequate shelter, accessing clean water, or engaging in human mobility (Sovacool, Sidortsov and Jones 2014: 41-42, Lloyd 2017: 57). In this sense, Sovacool, Sidortsov and Jones talk about energy justice: „A person´s ability to benefit from such diverse goods as education, employment, communication, effective participation in the community, social standing, and health services is affected to varying degrees, depending on circumstances, by her level of direct or indirect access to energy services." (Sovacool, Sidortsov and Jones 2014: 42) As they further point out, „global energy systems today both reflect and perpetuate 'gross inequalities of access and power'." (ibid: 48-49) It is only energy systems that benefit the populations at large can be perceived socially just (Diesendorf 2012: 82). In this sense, cultural factors play their role. The more materialistic culture, the more focus on meeting the energy

demand from industrial consumers. The poor with low demand are then side-lined, hindering the energy security of large part of the society (see Pauchari 2011).

Although energy helps individuals accomplish a wide range of things from securing their basic needs to non-materials goals, there is still a large portion of the world population lacking access to electricity and other energy resources. Moreover, social marginalization grows with energy consumption exaggerating social and other inequalities. As a consequence, social or cultural conflict over energy systems may occur (Costantini et al. 2007: 210, von Hippel et al. 2011: 84). Therefore, energy justice is strongly associated with the fundamental issues of access, distribution, and affordability, that are at the core of social dimension of energy security, especially in developing countries (Sovacool, Sidortsov and Jones 2014: 35-41, Sudhakara Reddy 2015: 15). In this sense, social issues related to energy include poverty alleviation through improving health and increase in productivity by providing universal access to adequate energy services, that subsequently allow to increase income-generating opportunities; acknowledging the role of gender in energy consumption attitudes and increasing opportunities for women through encouraging the use of improved stoves that reduce indoor pollution, providing affordable commercial energy to minimise time-consuming physical labour at home and use of women´s managerial and entrepreneurial skills; acknowledging the role of age in energy consumption attitudes speeding the demographic transition to low mortality and low fertility through the use of clean fuels and cooking devices, use of energy initiatives and influence attitudes about family size and opportunities for women through communications accessible via modern energy means; and mitigating problems associated with rapid urbanisation through reducing rural-urban migration with provision of energy to remote areas, promote modern transportation services and take advantage of new technologies to avoid energy-intensive development and urban plans (UNDP 2000: 9, Knox-Hayes 2013: 7).

In their extensive review of literature conceptualizing energy security, Azzuni and Breyner point out that “social-oriented dimensions (health, culture, literacy, and employment) experienced less coverage by the discussion about energy security (...) although the energy system is nothing without people.” (Azzuni and Breyner 2017: 24) Energy Charter Secretariat (2015: 11) supports this conclusion by

acknowledging that some definitions do not really work with social notions. Alhajji (2007) explains that the problem is in historical ignorance of the widening gap between "energy rich" and "energy poor", implying energy poverty as a consequence. Energy poverty can be defined as "the absence of sufficient choice in accessing adequate, affordable, reliable, high-quality, safe, and environmentally benign energy services (...) [that] can be a severe constraint in development." (Reddy 2000: 44) According to Alhajji, the main reason behind the ignorance of the problem is the simple fact that social issues are not directly linked to availability of energy resources, that are crucial for the economic dimension of energy security which has been implicitly somehow dominant. This is, however, not fully accurate, because majority of basic needs cannot be addressed without energy inputs. It is thus perfectly valid that energy poverty is perceived one of the major global issues that need to be addressed in the upcoming days, according to the IEA (Birol 2007).

It would be, however, incorrect to say that social aspect does not play any role in energy security definitions. Barton et al. (2004) or Jegen (2009) explicitly mention that energy delivery to citizens and businesses is necessary for any country to be energy secure. Brown and Sovacool (2007) stress out, among other aims, the social sustainability of energy security. IIASA puts emphasis on affordability that is essential to ensure human health and well-being (IIASA 2009 in Sovacool 2011: 4). Kemmler and Spreng (2009), though focusing on the linkage between energy and environment in the first place, address the social dimension by stating that distribution of energy helps to improve living standards of those who are in need. White (2009 in Sovacool 2011: 6) refers to equity and access, reliability is important for the World Economic Forum (2009), among other factors. Logan and Venezia (2007) then add social acceptability.

Clearly, the energy-social nexus is quite complex, covering a wide range of aspects of daily life with implications to other sectors of every country´s economy. Activities such as cooking, food storage, lighting, heating, or air-conditioning simply require energy. Similarly, one cannot power their computer or cell phone without access to energy, provision of clean water and sanitation is facilitated by energy as well. This means that households need providers who can deliver energy. Not all citizens, especially in developing countries, can afford it, however, since

energy infrastructure is often inadequate, particularly in rural areas. Apart from households, there are several other areas where energy is a prerequisite for their functioning. These include transportation, access to information, public services such as education or health care, or agriculture (Reddy 2000: 41, Sudhakara Redy 2015: 15-16, Benoit 2019). As a result, the widely shared agreement on energy being an important factor for social development and quality of life (see Reddy 2000, Bergasse 2013, Vosylius, Rakutis and Tvaronavičienė 2013 or Lloyd 2017) is central to the social sub-discourse on energy security.

2.4.3. Environmental sub-discourse

Apart from its influence on economic and social areas, energy strongly affects the environment. The pressure can be identified on local, national, regional, and global levels, and is related to production and utilisation of energy. First, harvesting non-renewable resources such as oil and gas leads to an environmental degradation. From the very beginning of the process, exploring, drilling, and refining is associated with serious risks to the environment, deforestation, water contamination, air pollution and land degradation, together with waste generation as another externality to consider. Moreover, production of non-renewables will eventually come to a point where they are fully exhausted and become unavailable, making the choice between traditional fossil fuels and renewable resources inevitable (Sovacool, Sidortsov and Jones 2014: 55-65, Sudhakara Reddy 2015: 16-17). In fact, exploitation often harms the land impeding its future utilisation for agriculture and other purposes, oil spills have a devastating effect on fishing etc. (Refaat 2009, Bardi 2014). Second, utilisation of non-renewable resources contributes to climate change, the so-called „mother of all externalities." (Tol 2009 in Sovacool, Sidortsov and Jones 2014: 59) Greenhouse gas emissions, air pollution, acidic rains or indoor suffocation are but a few of the outcomes of the energy usage that have noticeable impact on the climate, biodiversity, or human health. Furthermore, household use of fuel wood in developing countries and in Sub-Saharan Africa in particular contributes to deforestation and land erosion (Brown and Dworkin 2011: 177, von Hippel et al. 2011: 76, Islam et al. 2014, Sudhakara Reddy 2015: 16).

Clearly, environmental concerns have been for a long time related mostly to traditional resources of energy. As an alternative, renewable resources (solar, wind, biomass, hydropower) have emerged out of the environmental debate about energy security. In its paper on contribution of renewables to energy security, the IEA concludes that investments in renewable energy systems will not only benefit the environment, but the socio-economic situation of states and their societies as well. Importantly, renewables have the potential to be the alternative source for electricity generation or heat production, they produce significantly less emissions and help to prevent from different types of pollution (Ölz, Sims and Kirchner 2007: 11, 64, Holley and Lecavalier 2017: 380). Valentine goes even further, calling the relationship between fossil fuels and energy security parasitic. Compared to the destructive effects and ecological perils of fossil fuels on the climate, renewable energy has a minor carbon footprint, and it is often economically superior to traditional resources in the long term. Additionally, oil revenues tend to strengthen the authoritarian leaders of resource-rich developing countries and serve as source of financing for terrorist groups (Valentine 2011: 4574-4577).[23] In a less radical way, Ren and Sovacool (2015: 129-135) promote development of renewables as vital for diversed and secure energy systems, emphasizing their lower price, effect on the environment and human health, or a potential towards creating new and sustainable jobs. Moreover, distribution of renewable resources is much more even compared to fossil fuels (compare with Ölz, Sims and Kirchner 2007, Balat 2010, Yao and Chang 2014, or Azzuni and Breyner 2017: 8).

Surprisingly, environmental sustainability was often missing in the energy security debates, although both themes could be hardly separated. Brown and Dworkin (2011: 176) argue that despite a vast array of environmental concerns related to energy security, it is only a recent trend to treat them in a close manner (compare with Barton et al. 2004: 8, Azzuni and Breyer 2017: 3 or Holley and Lecavalier 2017: 379-380). Moreover, the relation between energy and environment is two-way. While energy production and consumption affect the environment as outlined above, the latter has a significant influence on the premier as well. Azzuni and Breyner (2017: 15) talk about environmental conditions and weather patterns

[23] To compare, see Wantchekon 2002, Hammond 2011 or Ross 2015.

having both direct and indirect effects on energy security. Storms, hurricanes, or floods destroy energy infrastructure, scarcity of freshwater forces people to migrate, causing possible conflicts and higher demand on energy resources. In their view, environmental dimension should be an integral part of the energy security concept, although such stance still has its opponents (see Jewell, Cherp and Riahi 2014).

There are several authors that are in line with the environmental argument. In Jacobson´s view of energy security, global warming, pollution, sustainable use of resources, or biodiversity protection play a pivotal role (Jacobson 2009). Kemmler and Spreng (2007) look at energy security in terms of promoting energy efficiency and reducing energy intensity in order to protect the environment and prevent pollution. Konoplyanik (2004) calls for environmentally friendly energy cycle, that turns around sustainable energy production and consumption. Orr (2009 in Sovacool 2014: 5) stresses out the energy efficiency and shift from traditional resources to renewables. Evidently, environment is a primary concern for these authors when it comes to energy security. For plenty of others, it is simply one of the wide range of aspects related to the concept (compare Omorogbe 2004, Brown and Sovacool 2007, Muller-Kraenner 2007, or Drezel 2009).

2.4.4. Political sub-discourse

In his introduction to politics of energy, Steve Vanderheiden (2011: 609-611) recalls topics often related to energy, such as socio-economic, technical, or technological challenges. Equally important, though sometimes sidelined, is the political dimension of energy and energy security. In fact, politics or political conflict, respectively, are among the main reasons for growing interest in the phenomenon in twenty-first century, even though the most appalling signals came far back as in 1970 with the oil shocks (Jonsson et al. 2015: 50-51). With no doubts, energy is intertwined with politics since achieving energy security is always subject to decision-making processes. Levels of corruption, adherence to rule of law, regulations and legislative frameworks, protection of civil liberties and political rights, transparency, political stability, or the extent to what politics is decentralized are among the key factors considered in the energy-politics nexus

(Khatib 2000: 125, Onamics 2005: 4-5). Eventually, it is whether the system is democratic or not what affects the state´s responsibility towards its citizens and determines levels of general participation and representation, respectively, that should ensure citizens´ will (Azzuni and Breyner 2017: 18-19). Internal political situation is, however, only one part of the political dimension of energy security. Foreign relations of states play equally important role in the relation between politics and energy. As Yergin (2006: 73) put it, political system and the way foreign relations are carried out are interlinked, ranging from partnership to complete dependence that benefits only the elites (compare with Muller-Kraenner 2007 or Dreyer 2013). The international dimension is further important in Sub-Saharan Africa for several reasons: first, African exporters are dependent on commodities´ prices set outside Africa on global markets, being vulnerable to any significant drop. Second, a new scramble for African energy and natural resources is happening among world powers and China in particular, meaning the dependence of many African countries on extractive sectors is further deepening (compare Frynas and Paulo 2007, Okeke 2008, Jiang 2009, Meierding 2011 or Scholvin 2015). Third, multinationals have been for a long time the major players in African energy sector, along with state-owned companies, distorting the sector´s competitiveness and channelling the profits out of Africa to the detriment of the majority of African populace (compare Ikelegbe 2005, Ghazvinian 2008, Oxfam 2015, Transparency International 2019). In Nigeria, all these aspects have for a long time affected the country´s energy security.

There are many authors who put emphasis on the relation between politics and energy security. Deutch (2007) sees a connection between energy markets and trade, respectively, and foreign policies of states involved in such trade. International Atomic Energy Agency (IAEA 2007) calls on states to reduce threats to and from neighboring countries and promotes self-sufficiency. Kalicky and Goldwynn (2005) think of energy security in terms of developing national power for which stable and affordable supply is required. Scheepers et al. (2006) talk about political stability of importing regions, necessary for ensuring energy security. Several others operate with only particular aspects of domestic politics and their relation to energy and energy security (see Berkhout, Muskens and Velthuijsen 2000, Barton et al. 2004, Lesbirel 2004, or Phdungsilp 2015).

Evidently, political sub-discourse may encompass various aspects in which politics is linked to energy security, that are diverse in nature. To overcome this theoretical fragmentation, Sudhakara Reddy offers a summarized view in what he calls institutional and governance dimension of energy security, that includes „legal and institutional framework that supports transparency and accountability, information published about the resource sector, safeguards to promote integrity in its governance and broader institutional environment conductive to accountable resource governance (...) availability of policies, private sector participation." (Sudhakara Reddy 2015: 17-18, compare with Kanchana and Unesaki 2014) Of course, functioning of such system depends on whether states are democratic or authoritarian. While the former respect the open and participatory principles of democracy and understand energy security as the responsibility of the state (Barrett et al. 2017: 10-12), the latter tend to centralize the whole resource machinery in the hands of the few, not considering the society´s needs (Azzuni and Breyner 2017: 19). As a result, resource-rich countries often suffer from what Michael L. Ross (2001) called the *resource curse.* In his study of how possession of natural resources affects political systems, Ross finds four major implications: first, oil hurts democracy.[24] This effect is stronger in poor countries that often rely heavily on exporting primary commodities such as oil, gas, or mineral resources. Second, oil wealth hampers democratization in various regions including Sub-Saharan Africa and Nigeria in particular. Third, nonfuel minerals cause similar damage to democracy as does oil. Last, and probably the most important finding is that, in a causal manner, oil is directly linked to authoritarianism. In a simplified way, governments tend to apply low tax rates and high spendings, invest large sums in security forces and side-line non-extractive sectors of the economy. These three mechanisms – rentier effect, repression effect, and modernization effect – can be often seen in resource-rich countries in the developing world, where emerging democracies and non-democracies are of high frequency. Altogether, they tend to further exacerbate their general economic weakness, divert them from the democratization path or deepen the already established authoritarian rule, contribute to human rights violations, and increase the likelihood of civil wars (Ross

[24] On a similar note, Muller-Kraenner (2007) or Friedman (2009) refer to the relation of oil and democracy as barely possible.

2001: 340-357, Lakic 2013, or Sovacool, Sidortsov and Jones 2014: 115-117). Moreover, depending solely on the resource wealth leaves such countries vulnerable to changing prices of commodities on world markets, that may be translated into decreased investments in public services and development in general.[25]

Reflecting on the fact that the *resource curse* effects are greater in poor, developing countries, other troubling symptoms usually go in hand since their institutional and governance structures tend to be weak and thus allowing a wide range of illegal activities linked to resource extraction and distribution. Lack of transparency and widespread corruption are among the most problematic areas. Transparency International (2006) points out that numerous countries most dependent on oil extraction also rank high on the list of highly indebted poor countries. Diverting resource incomes into the hands of the few and allowing multinational corporation avoid taxes and channelling their revenues into tax heavens is what hold non-democratic leaders at the vessel, leaving their citizens struggle with no word and condemning them to life in poverty (Pronińska 2007: 227-232, Balmaceda 2008 or Armonaite 2018: 11-12). Moreover, corruption helps to bypass environmental regulations, allows the authoritarian governments to purchase arms and expand their military activities often aimed at suppressing different sorts of opposition, and strengthens the social marginalization. Extracting resources in unstable regions can also provoke conflict for control over resources and intensify local tensions and disputes. Local militias often emerge in such situations, further deteriorating the already instable areas (Sovacool, Sidortsov and Jones 2014: 135-136). Altogether, the factors mentioned in this chapter significantly undermine political stability, and consequently, the energy security as well.

[25] Valuable insight in the relation between energy security and politics and public policy, respectively, is presented by Goldthau (2014).

3. Methodological framework

3.1. Discourse analysis

In the theoretical part, concepts of social constructivism and discourse have been introduced, while the latter is understood to be a „theoretical horizon within which the being of objects is constituted." (Howarth et al. 2000: 3). Following the logic of social construction of reality, both concepts are closely linked to each other, forming an overarching theoretical framework that allows to study particular topics in detail. This implies that the role of discourse for answering the research question will be twofold in this thesis. Apart from its theoretical role, analysis of discourse may also serve as a broader methodological approach that can illuminate particular problems, allow the researcher to interpret them and to find and explain their relation to particular social context (Fairclough 1989: 109, Gee 2010: 10). This means that the social-constructivist view of the social world can be well incorporated in the discourse analysis, offering the researcher to apply a wide range of particular research instruments since there is no universal method for doing it (Phillips and Hardy 2002: 3, Vašát 2008: 101, Aydin-Düzgit and Rumelili 2019: 285). As Jorgensen and Phillips put it, discourse analysis cannot be separated from its theoretical background, and should be thus understood a „complete package." (Jorgensen and Phillips 2002: 3-4, Vašát 2008: 102) In particular, this applies to the critical constructivist approach to discourse analysis, for it admits the subjectivity and an ontological foundation drawn exclusively from discursive practices (Cho 2009: 88). Methodologically, while conventional constructivists are keen to obtain evidence that is reliable and relevant, critical constructivists tend to rely on discourse, arguing that the social realities are rather challenged through discourses than hard-set (Jung 2019: 3, see Doty 1993 and Risse 2000). A practical example of this link is Aydin-Düzgit´s research on representations of Europe in Turkey, for which he adopts a critical constructivist approach towards a discourse analysis as it drives the research in explaining *how* this relation is constructed through discourse (Aydin-Düzgit 2016).

As a result, there is no clear definition of discourse analysis. In fact, discourse analysis is often extended to its margins by various researchers claiming they are

using it while they conduct other form of analysis or interpret it in their own unique way (Fairclough 1992, 2003, Aydin-Düzgit and Rumelili 2019: 285-286). Antaki aptly notes that „discourse analysis means many things for many people." (Antaki 2004 in Vašát 2008: 101). In the broadest sense, discourse analysis is „the study of language at use in the world [and] there are many different approaches to discourse analysis [from] the discipline of linguistics [to the] ideas, issues, and themes as they are expressed in talk and writing." (Gee 2014: 1) More narrow definition is provided by Potter (1997: 146), who claims discourse analysis to be a study of texts and talk in social practices, or by Jorgensen and Phillips (2002: 5-6), who stress out four particular aspects of discourse analysis that are fundamental: first, any knowledge should be treated critically, since there is no universal or objective truth. Second, the way in which the world is socially constructed is historically and culturally determined. Third, social interaction is crucial since it is the foundation for knowledge production. And fourth, social acts are always motivated by a particular knowledge. In this sense, Hansen (2006: 18) further explains that in constructivist discourse analysis, researchers do not test the analyzed objects (texts) against any objectively measurable truth. Rather, they search for what the language of texts represents since language is a constitutive element of social reality. This implies that discourse analysis helps to assess what is beyond the text and how does it construct meanings in the social environment (Hajer 2006: 67-70).

3.2. Qualitative content analysis

Phillips and Jorgensen point out that, „the overall idea of discourse theory is that social phenomena are never finished or total. Meaning can never be ultimately fixed and this opens up the way for constant social struggles about definitions of society and identity, with resulting social effects." (Jorgensen and Phillips 2002: 24) This means that the concept of discourse straddles between theory and methodology since it can be perceived both theoretical approach and a research method, or, rather an overarching methodology. The latter will be the case of this thesis, while qualitative content analysis will be used as the research instrument. In order to analyze the energy discourse in Nigeria and answer the research question, content analysis incorporated within a broader discourse framework seems to be a reasonable choice. On the one hand, constructivist discourse analysis is often used

to study discourse in the field of energy (Tichý 2018: 68). On the other, content analysis has been specifically designed to study large sets of text that are represented by media outputs in this thesis, and to draw valid and replicable conclusions from them (Stone et al. 1966: 5, Macnamara 2005: 1-4, Krippendorff 2004: 34). Essentially, content analysis is a „systematic research method for analyzing textual information in a standardized way that allows evaluators to make inferences about that information." (GAO 1996: 6, compare with Carley 1990: 1 or Weber 1990: 9) Such definition draws on the broad understanding of content analysis as a research technique that can be used for identification of specified aspects of text, or „measuring the amount of something" (Berger 1991: 25) in the text, but it is not limited to written communication only (Holsti 1969: 14, compare with Stigler et al. 1999, Wheelock, Bebell and Haney 2000, or Krippendorff 2004). In her content analysis guidebook, Neuendorf (2002: 19) lists a number of inquiries for content analysis, including investigation of naturally occurring language, newspaper coverage of a particular issue, content of letters sent to newspaper editors, gender representation of figures shown on TV, content of schoolbooks, strategic political plans, social networking comments or substance of particular websites. Historically, however, it was text which was the very first subject to content analysis back in the 18th century, despite the method has not gained its prominence until 1930s when the term appears in English for the first time (Krippendorff 2004: 3-6).

Of course, content analysis has its limits. On the one hand, content analysis is a subjective method of research that relies on author´s interpretation of the results of the research, and as such it is often criticized „for being impressionistic (...) lacking transparency in the analytical procedures adopted, and the trustworthiness of findings arrived at based on such procedures." (Prasad 2019) Therefore, it may be perceived less accurate in the manner of an exact science. This is, however, not uncommon in social sciences since it is more difficult to find any objective truth in this field of study.[26] Another objection is based on the fact that the method of

[26] Berger and Luckmann have already pointed out in 1966 in their Social Construction of Reality that social inquiry cannot ever be absolutely objective, no matter how scientific the method of inquiry is. In particular, they mention content analysis of the media outputs that is always subject to interpretation.

content analysis has no strict nor standardized procedures for its use (McKee 2001: 16-18, McKee 2003, Prasad 2019). It is also legitimate to ask whether different types of communication that may be subject to content analysis „should really try to match exact science." (Kracauer 1952-1953: 641) In case of media outputs, content analysis is also limiting in terms of the chosen media trustworthiness, ownership structure, or general media landscape characteristics such as the level of (auto)censorship, that needs to be considered in case of Sub-Saharan Africa, or the fact that Nigeria is a multilingual country where media outputs are published in both local and international languages (i.e., Hausa, Yoruba, Igbo, or English)[27] (Tichý and Prouza 2018: 13, Chaban and Kelly 2017: 691-708). Moreover, it is time-consuming since the sample of texts may be very large.

On the other hand, there are some significant advantages of the content analysis that counterbalance its limits quite fairly. This is true especially if media outputs are the case, as „the intersection of mass media, science and policy [on critical scientific subjects] is a particularly dynamic arena of communication, in which all sides have high stakes." (Boykoff and Rajan 2007: 207) To begin with, any research based on content analysis may employ large samples of data over an extensive period of time, is replicable, and thus suitable for both case studies and comparisons. Second, despite the absence of standardized analytical procedures, there are numerous studies providing some general guidance (Denzin and Lincoln 1994, Hijams 1996, Mayring 2000 or Patton 2002). Third, it can be argued against the objectivity objection that, according to Potter and Levine-Donnerstein (1999: 265), „objectivity is a much tougher criterion to achieve with latent than with manifest variables," that are studied in the media outputs through the method of content analysis. Fourth, it helps to overcome the problem with the lack of recorded official speeches of political representatives, that is significant in Sub-Saharan Africa. Fifth, content analysis can unveil what issues are dominant in the general energy discourse, and to see trends or patterns (Stemler 2000: 1, Macnamara 2005: 6, Tichý

[27] Needless to say, local media broadcast in several local languages that are used in Nigeria, though they are not many in number. Moreover, they often circulate within a particular region of the country, having little impact on broader population of readers (Eberendu and Muma 2015: 40). However, some of the international media reflect the language variedness as well, including BBC which reports in Hausa, Yoruba, or Pidgin apart from English.

and Prouza 2018: 13). For it overcomes the objection raised by Varkočková that instead of being one of the methods for discourse analysis, content analysis is rather a separate method. She does not, however, reject their compatibility as he admits that content analysis inevitably requires decisions of qualitative character, whereas the discourse analysis may a suitable component of the overall analysis (Varkočková 2020: 154). In a similar manner, Hardy, Harley and Phillips (2004) advocate for combining both discourse and content analysis in a single study, if its aspects are addressed by the researcher. Claiming that in interpretive research, discourse can be understood as an overall analytic approach, content analysis examines "how reality is constructed through texts that embody discourses; in this regard, content analysis provides an important way to demonstrate these performative links that lie at the heart of discourse analysis." (Hardy, Harley and Phillips 2004: 21-22) Sixth, content analysis allows the researcher to pay attention to a specific context since articles about oil policy published before a global agenda promoting, among other goals, sustainable energy was adopted will be read differently than after such moment. This is important particularly because while conducting qualitative content analysis, the researcher can recognize multiple meanings of media texts and their impact on the audiences, although such recognition should be cautious (Macnamara 2005: 5-6). Moreover, it aptly reacts to the critique of relying on interpretation of the results of content analysis since reality is understood as contextual and interactive by the constructivists (Prasad 2019).

3.3. Reflexive thematic analysis

Building on the interpretiveness of the qualitative content analysis, it is clear that the researcher plays a crucial role in setting the data within a broader context. For it is inherently reflexive in nature. Number of authors stress out that for analyzing textual resources, the researcher´s subjective stance is for the good as it helps to produce new knowledge (compare Gough and Madill 2012, Byrne 2021, Campbell et al. 2021, Thelwall 2021). Braun and Clarke (2006, 2013) have coined this approach *reflexive thematic analysis*, linking it to qualitative analysis and constructivism in particular (compare with D´Souza et al. 2020). Reflexive thematic analysis is in line with the core principles of content analysis, such as interpretiveness, flexibility, no expectation of a single or one correct answer.

However, whereas the content analysis research design assumes predefined categories to sort the data for interpretation (Schulz et al. 2011: 38, Beneš and Drulák 2019: 155), the reflective thematic analysis acknowledges that themes and patterns may occur throughout the analysis and facilitates "further familiarity with the data, which may in turn result in the interpretation of new patterns of meaning." (Byrne 2021: 3) Unlike thematic analysis which is usually employed as a method *per se,* reflexive thematic analysis can be used as a research component along with other methods. Braun and Clarke further add that, for exploring patterns in textual data, combining research methods is vital. This is true for content and reflexive thematic analysis as the latter involves "later theme development, with themes developed from codes, and conceptualised as patterns of shared meaning underpinned by a central organising concept." (Braun and Clarke 2020: 2-3) For it reflexive thematic analysis fits well the aim of this thesis as it will further enhance to discover what Campbell et al. (2021: 2014) call *latent themes* that go beyond the surface and help to reveal underlying ideas and concepts. In this case, is helps to identify and interpret particular themes emerging within the economic, social, environmental, and political sub-discourses of energy security, to which the data (articles) will be organized.

3.4. AntConc quantitative query

Although qualitative in nature, some sort of quantification helps to expound the idea behind the content analysis further. AntConc digital program is a practical research tool through which a text corpus can be decomposed into single words (for more details on the corpus see Chapter 3.5 below). The researcher simply sees all the words that compose his/her text and how many times do each word appear there. For it a small-scale AntConc data query will precede the content and reflexive thematic analyses as a preliminary insight into the media content on energy and energy security in Nigeria. Through exploring the most frequent words related to economy, social issues, politics or environment, this query will give some first idea about the variety of sub-discourses that may be linked to energy. A corpus of each keyword including texts from all selected journals[28] will be used here for some

[28] Choice of journals and data selection are explained in Chapter 3.5 that follows.

general overview. Obviously, one limit to such analysis has to be considered here; the program lists all words that appear in the selected text or corpus, including prepositions, conjunctions, or articles. For it mainly nouns and adjectives are considered here as relevant as they relate directly to each field. Chapter 3.5 now presents what data will be used, from which specific sources, how I will categorize them, and what conditions apply for their choice.

3.5. Data for the content analysis

In this part, selection of data for the qualitative content analysis is presented. As mentioned in the previous chapter, collecting data for analyzing a discourse in sub-Saharan Africa may be confronted with a lack of relevant resources. Compared to the availability of recorded speeches of political representatives in the European Union or the United States (see Crespy 2015, Tichý 2018), such resources are scarce or completely unavailable in Sub-Saharan Africa, although the official government or presidential websites occasionally publish selected press releases of their representatives (see Windeck 2010). In contrast to the paucity of official statements, media outputs represent a suitable alternative where the communication can be found. As Batta, Ashong and Udousoro (2015: 44-46) point out, newspapers are a veritable and relevant platform where ideas and policies are presented and discussed on a regular basis and may thus contribute to the analysis of a particular discourse. Furthermore, focusing on a discourse through the media in a particular country allows to replicate the research in other countries as well, since the media play a pivotal role as means of communication across the region, navigate through the variety of information and influences, thus shaping various discourses in the first place (Tichý and Prouza 2018: 13, compare with Batta, Ashong and Bashir 2013, Isike and Omotoso 2017). Moreover, „newspapers are the only general interest mass media that carry regular, dedicated/specialized sections on (...) energy in Nigeria." (Mbamalu 2020: 1) It is thus valid not to treat newspapers only as carriers of information, but as „socio-politically embedded institutions and as active participants in social processes." (Hodgetts and Chamberlain 2014: 383)

As a result, media outputs will constitute the primary data sample for the qualitative content analysis. Official documents and policies declaring energy goals and

priorities for Nigeria that were in place in the selected period (see below) will form the secondary sample. The results from both samples can be then confronted to reveal possible similarities or discrepancies between what is declared officially and what is then presented in public discourse as this may be a construction reflecting a political environment at a time, for example. By that, it would be possible to overcome what Phillips and Jorgensen mean by the so-called un-closedness of social phenomena, when they refer to „meaning [that] can never be ultimately fixed and this opens up the way for constant social struggles about definitions (...), with resulting social effects." (Jorgensen and Philips 2002: 24)

Journal selection is the first step. I begin with checking two international databases of newspapers that map relevant sources of information in different regions including sub-Saharan Africa. Both World Newspapers and Magazines Online and ABYZ News Links are useful tools for a researcher to familiarize with the general media landscape in Nigeria and other countries where difficulties are expectable. Because the newspaper selection follows numerous conditions listed below, it is important to choose those being among the most read ones in the country as they are likely to have the largest impact. Based on their circulation rates, the most relevant daily newspapers in Nigeria are the following: Leadership, National Mirror, The Guardian, Sun News, Nigerian Tribune, This Day, The Nation, The Punch, Vanguard and Nigerian Telegraph (Ikenwa 2019, Olaniyan 2019, Chigozie 2021).[29] In fact, authors dealing with media content analysis in Nigeria in the field of energy seem to select newspapers mostly, although not exlusively, from this list (see Batta, Ashong and Bashir 2013, Batta, Ashong and Adousoro 2015, Tichý and Prouza 2018, or Mbamalu 2020). There are, however, numerous other newspapers that are widely read and thus relevant for the analysis as well as there are around 100 outlets circulated nationally. Moreover, Nigerian media landscape is a "changing climate" (Karamojong and Umejei 2022) allowing the researcher to browse this wide space in search of adequate sources for analysis. [30] On the one hand, with African countries generally lacking comprehensive data (see Jerven

[29] For a detailed overview of the Nigerian media landscape, see Chapter 4.

[30] Apart from the field of energy, newspapers from this list are analyzed in other studies as well (see for example Eberendu and Muma 2015).

2013) including data related to media, being the case of Nigeria in particular (see Oxford Business Group 2022), every choice of the most proper resource for data collection in this field may be classified as normative. On the other, media outputs can appropriately substitute public statements of the country´s officials while analyzing public discourse, as these are often uncollectible in African environment. If the conditions below are fulfilled, eventually, the potential bias is effectively reduced to minimum.

Apart from being a relevant source of information, selected newspapers must:
(a) be published daily,
(b) cover both national and international topics since energy security issues vary from generating national income or local pollution to business contracts with multinationals and other global entities (see chapter 2.4),
(c) publish original articles besides adopted ones,
(d) avoid tabloid format,
(e) be published in English, and
(f) provide an archive of published articles accessible online.

Based on the conditions listed above, three Nigerian dailies were selected for the analysis. *This Day*, *Nigerian Tribune* and *Daily Post* all represent a widely read, nationally circulated and daily printed newspapers that are available on-line, are published in English and have their archives available. Objective barriers excluded some other outlets that might have been suitable considering their circulation as the primary precondition. First, some do not have their archives accessible. It is therefore not possible to search articles older than a couple of days or months. As such, these newspapers would not be suitable for the analysis, because articles published before 2020 are not available. Second, some do not have a search engine that would allow to search articles based on a specific keyword. Without such instrument, I would be unable to pick articles according to the described methodology. Third, in some the search engine does not work properly, showing both articles with and without the key word included in the text. The previous limit then applies here too. And fourth, some have such an immense load of content that for each keyword per one year, thousands of articles are found on the newspaper website, making the research work nearly impossible. Compared to content analysis

of media outputs in Europe or the Czech Republic in particular, another set of obstacles had to be overcome. Essentially no Nigerian online daily has a regular archive, nor there is a database of the country´s media such as the Czech Anopress. All articles thus had to be obtained manually through the search engine, an extremely time-consuming practice. In addition, for some keywords the articles found include those where the keyword is present as part of another word. Specifically, *oil* can be found in words such as *soil* etc. This raised the number of articles to be sorted out. Due to these challenges, many of the widely circulated dailies were eliminated, contrary to *This Day*, *Nigerian Tribune* and *Daily Post* where they did not apply, while they still fit in the group defined for selection. Moreover, *This Day* mostly represents the governmental position, *Nigerian Tribune* is the oldest private daily in Nigeria, providing for more independent content, and *Daily Post* oscillates somewhere in between.[31] For it the potential bias described above has been effectively reduced to minimum, allowing for the corpus to be duly established.

Second, an appropriate timeframe for articles selection needs to be set based on the following conditions:

(a) to be wide enough to generate sufficient number of articles and encompass possible changes or turns happening in the energy sector throughout time,
(b) to cover the major moments related to energy sector in Nigeria,
(c) to be up to date to have an overview of the current state of affairs in the country.

Period of 2015-2019 was defined as appropriate, although the analysis is expected to be time-consuming. Nonetheless, it is suitable for creating a sample that is representative in its size since the selected newspapers are dailies, relevant energy-related regulations are in place or actually happened to be within the period (such as adoption of the NREEEP in 2015 on the national level, or adoption of the SDGs on the global level), and allow to draw conclusions that are up-to-date and excluding the influence of the global Covid-19 pandemic that affected most of the sectors of countries´ economies and may thus distort the results of the analysis. Moreover,

[31] The choice of dailies and their alignment was consulted with professor Yahaya Yakubu, public policy analyst from Nile University of Nigeria, Dr. Kingsley E. Ezemenaka, an africanist specialized in West African politics, and Ojo M., an independent Nigerian journalist.

energy-related articles from any year before 2015 are rarely found in the newspapers´ online archives. Previous research on energy in Nigeria using content analysis of media outputs confirms this approach.[32]

Third, a corpus of articles for the content analysis will be created. To be included in the corpus, an article must contain at least one of these keywords: energy or energy security, which are central to the general energy discourse and its defined sub-discourses. The list of keywords is then complemented by the following group of keywords referring to specific energy resources as defined by the NEP (Federal Republic of Nigeria 2003: ii): oil, natural gas, tar sands, coal, nuclear, hydropower, fuelwood, solar, biomass, wind, hydrogen, renewable. Articles including any of the keywords not related to Nigeria (i.e., discussing the role of solar power in Senegal) or articles where any of the keywords is used in another meaning (i.e., energy required by a football team to win a championship) will be excluded and not analyzed based on the author´s preliminary reading done during the process of downloading them from the media.

And fourth, coding frames will be used to categorize the data for interpretation while the coding unit is an article. As a first step, each article will be matched with one of the sub-discourses based on its content embodied in the context of economic, social, environmental, and political sub-discourse of energy security (see Appendix for Figure 2; for full definitions, see Chapters 2.4.1 – 2.4.4). Any article covering multiple topics varying across more than one sub-discourse will be matched with the dominant; detailed reading and interpretation of the author combined with counting keywords will be employed in such cases. This is to avoid an overlap that might distort the results of the analysis. These potential overlaps are not dismissed at all, however. Instead, they are brought to the reader´s attention in the section where findings and conclusions are discussed. Once assigned with a sub-discourse, articles will be classified as positive, neutral, or negative, according to the context

[32] Batta, Ashong and Bashir 2013 and Batta, Ashong and Adousoro both analyzed 3 dailies for one year, Tichý and Prouza 2018 analyzed 3 dailies in a 10-yeras period, but obtained only a limited number of articles, Mbamalu 2020 analyzed 4 dailies for 2 years.

in which the particular resource the article is about, is presented. Finally, this will lead to uncovering themes emerging within each sub-discourse.

4. An overview of Nigerian media landscape

In Nigeria, the first press occurred in 1859. Since then, it has grown into a large media industry covering a wide range of domestic and international events from the continent and abroad. In 2015, the London-based consultancy firm PwC indicated that the media and entertainment industry in Nigeria is the fastest-expanding major market globally. It includes more than 100 public and private outlets in print, numerous digital newspapers, and around 700 TV and radio stations (BBC 2019, Oxford Business Group 2022).

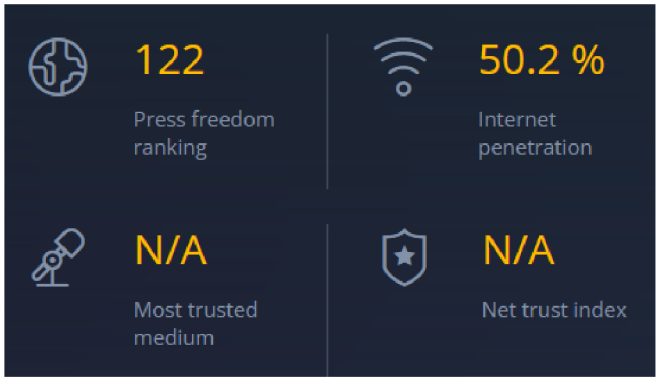
The role of Nigerian newspapers has always been important in public life. Before 1960, many outlets criticized the colonial organization and demanded independence. In the early 1960s, newspapers served as an important medium for informing Nigerians on the first developments in the country. When Nigeria descended into military rule, many national and regional newspapers kept working in spite of the obvious hazardousness. Thus, for a long time there seemed to be quite independent and free press (Kolawole and Umejei 2022, Oxford Business Group 2022). Although democracy was re-introduced to Nigeria in 1999, current situation could be barely described as free. On the one hand, the constitution, and the Freedom of Information Act from 2011 guarantee the public´s free access to information and allows opening and running newspapers with no legal limits. Also, vibrant civil society actively supports independent media (Friedrich-Ebert-Stiftung and Media Institute of Southern Africa 2019: 5, Kolawole and Umejei 2022). On the other, journalists in Nigeria are not rarely exposed to harassment and intimidation and thus forced to work in fear. The Reporters Without Borders actually call Nigeria "one of the West Africa´s most dangerous and difficult countries for journalists, who are often spied on, attacked, arbitrarily arrested or even killed." (RSF, undated) The RSF freedom press ranking lists Nigeria 120th from 180 countries with no significant improvement over the last years. In between 2013 and 2021, Nigeria dropped down in the ranking half the years, while it has not raised over 111th place (see Figure 3, compare with Figure 4).

Figure 3: Media freedom score of Nigeria 2013-2021

Year	Ranking		Year	Ranking	
2021	120 / 180	↓	**2016**	116 / 180	↓
2020	115 / 180	↑	**2015**	111 / 180	↑
2019	120 / 180	↓	**2014**	112 / 180	↑
2018	119 / 180	↑	**2013**	115 / 180	=
2017	122 / 180	↓			

Source: Reporters Without Borders, undated.

Figure 4: Media landscape in Nigeria



Source: Kolawole and Umejei 2022.

Despite the hardships, politics remains a dominant theme to cover in Nigerian news. As Media Landscapes note, however, journalism and politics often tend to overlap, decreasing objectivity. Also, with the media ownership largely opaque, it may be difficult to uncover the structures behind a particular media, which can be driven by political interests. As a result, media narratives may be biased one way or another. Moreover, numerous media remain state-owned, although this is compensated by the many private broadcasters and outlets providing quality public interest content. In the ever-present atmosphere of clientelism and corruption in the country, however, some private media may tend to reproduce the governmental rhetoric, making it hard to distinguish free from tendential. Nonetheless, there is

some general agreement on what newspapers represent independent journalism. Among the largest and most circulated national dailies, various sources cite The Guardian, The Punch, This Day, Premium Times, The Cable, Nigerian Tribune, Daily Independent, Daily Post and dozens of others (compare Ashong and Bashir 2013: 58, Nigerian Infopedia 2019, Nigerian Finder 2022, Oxford Business Group 2022, w3newspapers 2022). The 2014 incident proves the case; ordered by the then-president Goodluck Jonathan, the Nigerian Army seized and destroyed thousands of copies of particular newspapers listed above, saying some of the information published were threating security in the country (Media Landscapes 2022).

5. Energy security in Nigeria

Throughout the six decades of independent Nigeria, oil exploration was at the heart of the country´s development. To understand the concept of energy security in Nigerian context, it is essential to understand the how the oil shaped its economic, social, environmental, and political realities, both positively and negatively. For it the chapter is organized as follows: in the first part, history of oil industry in Nigeria is summarized, followed by an illustration of its role in Nigeria´s development. The second section will provide an overview of the country´s energy institutions and its legal framework. In the third part, the role of various resources on the country´s energy security is discussed. The aim of the last part is then to analyze the economic, social, environmental, and political aspects of the energy security of Nigeria.

5.1. History of oil

Despite a common myth that oil has been discovered in Nigeria in the 1950s, the very first step towards oil exploration had already begun some 50 years earlier. Geological operations of Nigeria Properties and the Nigeria and West African Development Syndicate were first aimed on bitumen and coal, but at the same time, possible existence of petroleum was indicated in Southern Nigeria in 1903. Two years later, the Nigeria Bitumen Corporation was founded in order to obtain exploration concessions on crude oil in Southern and Northern Nigeria, respectively. In 1907, British colonial administration stepped in for the first time and loaned the company that soon opened their first drilling wells and eventually found the first reservoir of crude oil in 1908 (Steyn 2009: 5-8). Any search for hydrocarbons in Nigeria was interrupted by the outbreak of the World War I in 1914, though, and it was not until the late 1930s when the operations restored under a concession granted to Shell D´Arcy. Although the contract covered the whole Nigerian territory, compared to previous concession rights aimed at exploration in particular regions, Shell activities became quickly limited because of the World War II. Commercial production of oil in Nigeria has thus not begun until 1958, two years after some significant reserves were finally discovered in the Niger Delta (Udosen, Etok and George 2009: 37, Emodi 2016: 17). At that time, Nigeria was

still a British colony, although the independence was around the corner, and eventually granted to the country in 1960. Since then, oil has become the largest component of Nigerian economy and development on the one hand, and a cause of future long-term political, social, and environmental problems on the other. With an immense growth in oil production during the first republic (1960-1966) and the first military rule (1967-1979), Nigerian exports became dominated by oil outputs, although they were not perceived crucial to the country´s economy until the late 1970s. As the Second National Development Plan for the period of 1970-1974 indicated, oil revenues only aimed to serve to balance the external trade along with agricultural products that still played the key role (Akindele 1986: 7-8). The numbers, however, quickly adumbrated that oil and Nigeria will soon become almost synonyms. Production of crude oil increased from 16 million barrels in 1961 to 150 million barrels in 1965, and further on to 395 and 660 in 1970 and 1975, respectively. In 1980, Nigerian oil production reached its peak with 760 million barrels, a line that was not crossed for another two decades. At the same time, share of oil in Nigerian exports grew steadily from less than 7% in 1961 to more than 95% in 1980, making the country almost solely dependent on this resource. At the time, oil exports contributed to the country´s GDP by approximately one third at the time. More importantly, share of oil revenues oscillated between 70 and 80% in the long term (Akinlo 2012: 167-168).

With oil quickly becoming the core of Nigerian economy, disputes over the rights and redistribution of oil revenues appeared. Several authors proposed an assumption that existence of natural resources (oil in particular) and dependence on their exports, respectively, is linked to conflicts and destabilization. With revenues allowing weak governments to act with no accountability to their citizens and making them vulnerable to economic deviations and external shocks, the risk of civil conflict is significant (see Ross 2001, Collier and Hoeffler 2005, Fearon and Laitin 2005, Regan and Norton 2005, Abiodun 2007 or Oyefusi 2007). The very first warning sign came with the Isaac Jasper Adaka Boro insurgency in the southern region of Niger Delta in 1966. Although the main reason for the rebellion was political oppression and economic neglect from the federal government of Nigeria, oil-related disputes were part of the motivation since the largest reserves of oil are located in the South and the East, respectively. More importantly, Boro´s

rebellion gave birth to what has later become known as the Niger Delta revolt, that in some form persisted in the region until now (Oyefusi 2007: 2-3, Ikporukpo 2018: 35).

In 1967, much more violent conflict erupted in the Eastern Region of Nigeria, known as the Biafra War. Most of all, the war was an outcome of the "contradictory centripetal and centrifugal forces that were generated by the disintegration of the regional economic base and the centralising tendency provided by the rise of petroleum production." (Watts 1983: 376) This was a long-term process that had been strongly encouraged, if not created, by the British colonial administration, that pursued a political concept of large Nigeria. However, different developments were taking place in the regions: historically, Nigeria was divided into the Northern and Southern regions by the Britons. North was dominated by Fulani and Hausa ethnic groups, organized in strongly centralized political units led by Muslim emirs. British rule over this territory was mostly indirect from the beginning, giving it significant level of autonomy in various areas and unwittingly isolating it from the rest of Nigeria. On the contrary, South was less resistant to colonial presence and thus ruled over directly. As a result, Southerners were fostered to adopt Christianity, and the region benefitted more from European investments than the North in areas such as infrastructure or education. The South was, however, much more heterogenous in terms of ethnicity and political organization. Where Yoruba were establishing chief-led kingdoms west from the river Niger, fragmentation was a major feature on the other bank, dominated by Igbo ethnic group. Eventually, Southern Region was divided into two separate units. Together, Northern, Western and Eastern Regions created the three parts of Nigerian federation, with the federal government seated in Lagos (Arikpo 1967, Klíma 2003, Klíma 2012).

From the beginning, independent Nigeria was a fragile community.[33] Tensions between regions quickly graduated in a series of political and constitutional crises, followed by the 1966 coup, one of the many which became synonymous to the politics of Nigeria for the next three decades. Furthermore, pogroms on Easterners took place in the North, resulting in a mass migration of Igbo back to their home

[33] See e.g. Hill 2012.

region, at the time led by colonel Chukwuemeka Odumegwu Ojukwu. Subsequently, Biafra seceded from Nigeria in 1967, marking the beginning of the Biafra War that lasted three years in which approximately a million lives was lost. According to Ross (2003: 3), "the rebellion was encouraged by the presence of oil, and hence the belief that independence would be economically beneficial for the Igbo people. Similarly, the unrest among the Ogoni and Ijaw peoples in the Niger Delta can in part be traced to their desire to win a larger share of the region´s economic wealth." Ever since that moment, oil has determined Nigerian politics more than anything else, becoming what Clark (2016: 76) calls "a do or die affair" for all governments to come. Moreover, these events together with the ongoing oil boom eventually led to establishing an oil-dependent economy where other sectors were largely ignored (Omeje 2007: 45).

It would be incorrect to assume, however, that this was purely a result of the internal dynamics within Nigeria. In 1967, the Six Day War erupted in the Middle East. Blockade of the Suez Canal important for oil transports from the region to, among others, European countries, and the ban on oil sales to the United Kingdom imposed by some of the Arab countries have shuffled the geopolitical cards significantly. In order to maintain the oil supply, the United Kingdom turned its eyes to Nigeria that was at the brink of a civil war at the time. Maintaining one Nigeria was essential for British interests embodied in the British-funded oil installations in the Niger Delta. Not only 40% of the country´s production went to the United Kingdom. The secession of Biafra also threatened with royalties Biafra would require to be paid by Shell-BP to its budget, since majority of its oil operations were located in the East (the production was split between Eastern and Mid-Western Region), and these royalties were assumed to be significantly higher than those already paid by the company to the federal government of Nigeria. Unsurprisingly, the Biafran Revenue Collection Decree of 1967 confirmed the assumption. As a result, the United Kingdom kept supportive of the federal government throughout the war against Biafra, partly because of its oil interests and partly because of the emerging influence of the Soviet Union that provided Biafra with military equipment and France whose (oil) interests in the region were threatened by a strong Nigeria (Uche 2008: 122-128, see also Forsyth 1977).

After the end of the Biafra War, “a golden decade for Nigeria´s oil industry” (Hill 2012: 77) came to life. Nigeria regained control over the oil regions and renewed domestic production. Together with slump in production in the Middle East, OPEC policies and the consequent rise in global oil price (from 3 USD in 1973 to almost 38 USD in 1980), this gave momentum to Nigerian oil industry that grew rapidly over the decade. However, as the global events forced oil price to rise, generating loads of revenue to Nigerian government, global situation once again took this away. Economic recession in Europe and North America resulted in low demand for oil and oil prices dropped down severely. For a country dependent on oil revenue, such dynamics pose a serious threat. Indeed, Nigerian sales of oil constituted 32% of its export income in 1966. In 1969, this number increased to 41%, 73% in 1971 up to 96% in 1980 (ibid: 78-79). Until now, this share has not dropped below 85% (OPEC 2022). Similarly, with global oversupply in the early 1980s, oil price plummetted from 27 USD to half this price in 1985 (Hill 2012: 78), causing a harm to Nigerian economy. Together with these fluctuations, two important events helped to reveal the deprivation, hardship, and impoverishment of the Niger Delta communities, that eventually led to the 1990s Niger Delta crisis which has been symbolic for the oil giant ever since. First, the long-lasting military rule which culminated in the brutal regime of general Sani Abacha in the 1990s normalized political ignorance, social marginalization, and economic plundering of the country´s resources, effectively turning Nigeria into general decline. And second, in an attempt to stabilize the country´s monetary situation, the Structural Adjustment Program (SAP) imposed on Nigeria by the World Bank and the International Monetary Fund further diverted the country´s funds away from purposes they should have served, such as securing basic social service provision, most notably in communities affected by oil extraction (Omeje 2007: 47). As a result, protests of the Ogoni people led by the world-known activist Ken Saro-Wiwa occurred for the first time, demanding their fair share on the “oil cake” and pointing to the environmental devastation caused by Shell Oil. Instead of a dialogue, Abacha´s military regime responded with violence and execution of Saro-Wiwa and several other prominent Niger Delta activists. Although democracy was soon to return to Nigeria, there was no turning back for Ogoni people. As violence begets violence, the Niger Delta crisis quickly escalated into an armed struggle against the federal government, and for power among the growing number of the emerging

militant groups in the region, from which the Movement for the Emancipation of the Niger Delta (MEND) and the Niger Delta Avengers grew the strongest and vociferous after 2000. Although the federal government introduced a number of initiatives attempting to settle the situation, they have proven inadequate. For the injustice persists, the local communities sued the oil multinationals several times at court (Saro-Wiwa 1995, Omeje 2007, The Nordic Africa Institute 2009, The Fund For Peace 2017, SDN 2020). In 2012, Nigerian farmers brought Shell in a Dutch court in a landmark case, demanding the company to clean the environmental damage it had caused. After 9 years, Shell was eventually ordered to compensate the farmers for inappropriate management of oil infrastructure and failure to prevent oil leaks that destroyed local livelihoods (see Kern 2012, BBC 2013, Vidal 2015 or Peltier and Moses 2021). Despite this small victory, however, the Niger Delta remains one of the most polluted, dangerous, and neglected regions in the world, showing off the devastating effects of oil in Nigeria.

5.2. The role of oil in Nigeria´s development

Although a conceptual approach to energy policy where oil clearly played a crucial role was non-existent in the 1960s Nigeria, the Nigerian Petroleum Decree No. 51 was introduced before the end of the Biafra War. The then federal government was aware of two important facts. First, "Nigeria was to be a model of parliamentary democracy at work in Africa. The eyes of the whole continent, even of the world, were on this exemplary and populous state," reads the cover of Arikpo´s (1967) publication called *The Development of Modern Nigeria*. Successful secession of Biafra would rip this story in pieces. Second, the then military federal government was obviously aware of the fact that losing Biafra would mean three quarters of the country´s oil resources were gone, which would be deadly to the national budget. Therefore, the Nigerian Petroleum Decree No. 51 was introduced in 1969, known as the Petroleum Act. The most symptomatic feature of this legislation was that the ownership of Nigerian oil was torn away from the regions and vested with the state. Together with the subsequent division of Northern, Western and Eastern regions into a number of smaller administrative units, that has significantly changed the share of national revenue in favor of the federal government, this is when the rentier state riddled with corruption rooted in Nigeria (Omeje 2006: 217-218, Adeniji and

Fajemirokun 2021). Throughout the 1970s, 1980s and 1990s, seven decrees, constitutional provisions or committees were introduced to revise revenue sharing mechanism. Eventually, the 1999 Constitution applied the so-called 13 derivation formula on the federal budget, requiring at least 13% of the oil revenue to be redistributed to the oil producing states (Ahmad and Singh 2003: 17). Interestingly, despite the dynamic development in Nigerian oil sector and the apparently ambivalent position it had reached, it was not until 1977 when the Nigerian National Petroleum Corporation (NNPC) was established "to have the sole authority over petroleum activities in Nigeria." (Resolution Law Firm 2020).

As Hill (2012: 80-94) explains, total dependence of the Nigerian government on oil revenues from sales abroad has some damaging impacts in four main areas: economic, political, environmental, and social. First, the country has become blind to development of other, non-oil sectors despite the oil industry contributes less than 10% of the country´s GDP (Statista 2021a). Take the share of agriculture on Nigerian GDP, which dropped from 64% in 1960 to 22% in 2021. Yet more than two thirds of Nigerians work in agriculture (Hill 2012: 82, FAO 2022). As a result, importing goods became cheaper than to produce them at home, damaging local agriculture and manufacturing in the long term. This paradox was called *the Dutch Disease* in the 1977 by The Economist and further elaborated by several authors analyzing economic struggle of oil-rich countries in the developing world, led by Nigeria (The Economist 1977, Karl 1997, Collier 2007, Anjande and Raymond 2017). Second, oil dependence has navigated Nigeria into what Ross (2001) coined *the rentier state* in his influential work on the impact of oil on democracy. While Nigerian government relies solely on oil revenues, it does not depend on collecting taxes from its populace. For it listens less to the populace demands on the government to provide it with basic social service like education or health care. As a result, "the democratic contract which binds taxation to political representation has been severely damaged." (Hill 2012: 86) Moreover, with the state being the most dominant actor in the oil industry, the way to wealth and power lays in either through entering its structures or keeping the position within them. For it the elections have been no more than a charade in Nigeria, and politics has become

synonymous to corruption.[34] Together with constantly disputed redistribution mechanism of oil revenue, the political ignorance has translated into long-term insurgencies, secessionist tendencies, everyday attacks on oil infrastructure and oil bunkering and illegal trade. Common targets are multinational oil companies operating in Nigeria. Furthermore, Royal Dutch Shell has been dragged to court several times and being eventually ordered to pay compensations for causing widespread pollution.[35] Third, environmental struggle linked to oil industry in Nigeria is extreme, especially in the Niger Delta region where the oil is produced. Mineral Oil Safety Regulations from 1963 call on companies producing oil to adhere to good oil field practice without clearly defining any, however. Environmental standards were further set through a list of legislative acts, most notably the 1988 Federal Environmental Protection Agency Act and the 1992 Environmental Assessment Act. Nonetheless, the long-term inability of Nigerian government to enforce its regulations led to a minimum of charges against those who damage the environment through oil production. The impact is an extreme land and water pollution and serious health problems caused by poisoned water resources. The economic, political, and environmental effects of oil production in Nigeria have eventually transformed into constant social struggle, or, in Hill´s (2012: 88) words, to the failure to promote human flourishing. Although this applies first and most to the affected Niger Delta communities, the rentier state of Nigeria fails to deliver basic social service to majority of its populace. Unsurprisingly, the Human Development Index positions Nigeria 161st out of 189 countries under evaluation (UNDP 2020: 2).

Ever since the oil discovery, Nigeria´s fate has been determined by oil. Although Nigeria is endowed with vast amounts of various energy resources, both non-renewable and renewable (oil, gas, coal, biomass, hydro, wind, solar), oil has dominated the country´s energy security system. Evolution of Nigeria´s energy legislation proves the point. In 1962, Mineral Oils (Safety) Regulations were introduced, followed by the Petroleum Regulations (1967), the Oil in Navigable

[34] For the evaluation of electoral fraud in Nigeria, see for example Bariledum, Abang and Nwigbo 2016. For an overview of corrupt practices in Nigeria, see e.g. Ogbeidi 2012.

[35] See e.g. BBC 2021, Eyo 2021 or Jeremiah 2021.

Waters Act (1968), the Petroleum (Drilling and Production) Regulations (1969) and the Petroleum Refining Regulations (1974), the Oil and Gas Pipeline Regulations (1995), Oil and Gas Free Zone Act (1996), Petroleum Profits Tax Act (2004), The Deep Offshore and Inland Basin Production Sharing Contracts Act (2004), and the Nigerian Oil and Gas Industry Content Development Act (2010). As an overarching legal instrument, the Petroleum Act was produced in 1969 which has been only lately replaced by the Petroleum Industry Act (2021) (CMS 2016, Ekhator 2016, Resolution Law Firm 2020, Adeniji and Fajemirokun 2021, Nwuke 2021).

Despite the numerous regulations in oil and gas industries, no comprehensive national policy on energy was put in place until 2003. Some first attempt was made in 1978 by the then head of state Olusegun Obasanjo in his speech to the Proceedings of the Energy Policy Conference, where he claimed energy as a conscious element needed for Nigeria´s future development. Soon after, Energy Commission of Nigeria was established in 1979 as the first institution to articulate policies and strategies in energy sector (Adeniji and Fajemirokun 2021). It took, however, nearly quarter a century before an overall policy was eventually approved. In 1984, a Draft Energy Policy Guideline was prepared, resulting in a Draft National Energy Policy from 1993. Eventually, the final NEP was approved in 2003 (Federal Republic of Nigeria 2003: 2, Borok et al. 2013: 2). For more than four decades then, Nigeria lacked a coherent legal framework on energy that would imply energy security as a vital aspect of the state development in economic, social, environmental, and political dimension. From energy supply and provision or energy pricing essential for industrialization and business (economic), through equal access and distribution of affordable and reliable energy for the populace allowing provision of social service and individual flourishing (social), considering environmental sustainability of energy production and shift from non-renewable resources to renewables (environmental), up to political setup providing for competitiveness, avoiding negative effects such as resource curse or corruption and providing energy legislation (political), energy security of Nigeria was an incomplete mix of particular ad hoc policies, leading to series of both short-term and long-term challenges that the state was unable to overcome. These challenges include lack of transparency, constant violation of energy regulations, large-scale corruption and illegal flows of revenues, inefficient utilisation of available energy

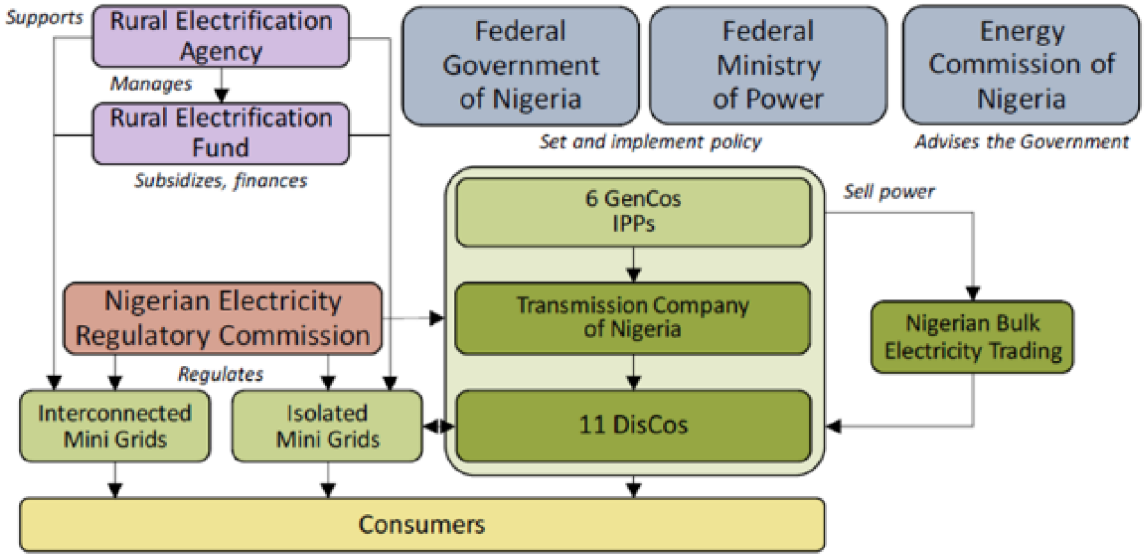
resources, epileptic power supply, dependence on exports of raw materials and the subsequent losses due to importing fuel and other products, low employment capacity, massive environmental pollution, deforestation and land and water degradation, or oil theft and long-term insurgencies in oil-producing regions (Iwayemi 1984, Aina and Odebiyi 1998, Iwayemi 2008, Adeh 2010, Borok et al. 2013, Nwadiaru 2014, Emodi and Boo 2015, Okubanjo et al. 2020).

5.3. Energy sector: institutions and policies

The authors of the NEP from 2003 admit that so far, "existing policies in the energy sector have been those of the separate energy sub-sectors, namely, electricity, oil and gas and solid minerals. There had also been energy related policies developed in sub-sectors whose activities are strongly dependent on those in the energy sector. These include transportation, agriculture, science and technology and environment, among others. The sub-sectoral policies, however, reflect the individual sub-sectoral perspectives. It is necessary to have an integrated energy policy, which will guide future energy related sub-sectoral policy developments, in order to avoid policy conflicts which may, otherwise, arise." (Federal Government of Nigeria 2003: 2). Therefore, the NEP claims that, "in order to ensure optimal, adequate, reliable and secure supply of energy to, and its efficient utilization in the country, it is essential to put in place a coordinated, coherent and comprehensive energy policy." (ibid.: 1) Drawing on the fact that, oil has played a dominant role in Nigeria´s energy despite the abundant resources of natural gas, coal, tar sands, hydro, fuelwood, solar, wind and biomass, Nigeria needs to diversify its energy mix to achieve "greater energy security for the nation." (ibid.: 5) For it the NEP acknowledges the "multi-dimensional nature of energy (...) [and] the optimal utilization of the nation´s energy resources for sustainable development." (ibid.: 8) The multi-dimensional nature of energy is somewhat parallel to the four dimensions of energy security as outlined before: economic, social, environmental, and political. To fully explore its potential in all dimensions, the NEP calls for energy production, supply and reliability with special focus on rural populace, balanced share of public and private investments with respect to deregulation and privatization, adequate maintenance of energy infrastructure, transparency and effective and coherent planning and avoiding environmental degradation (ibid: 4-

8, compare with Borok et al. 2013: 2-3 or GIZ 2015: 67). For it the NEP is accompanied by several policies and strategies that together provide for the country´s energy security legislation (for a comprehensive overview see Figure 5). The core documents were founded after Nigeria´s return to democracy in 1999, after more than a three-decade long period of coups and military rule, that is why most of them is dated after 2000.

Figure 5: Nigeria´s energy sector structure



Source: Saturday 2021: 7.

First came the National Electric Power Policy (NEPP) in 2001. As Emodi points out, it "was the first of its kind in the wake of reforms in the Nigerian power sector." (Emodi 2016: 51) Its major goals were to promote privatization in electricity generation, foster market competition, remove subsidies, and sell excess power to the power distribution companies called DISCOs. This is particularly important for it liberalizes the sector previously defined by the monopoly of the state and its (NEPA) since 1972. The NEPP unbundled it, as it proved ineffective, and the power generation and distribution were sold off to private hands, while the government retained operation of the Transmission Company of Nigeria (TCN). To support implementation of the NEEP, Nigerian Electricity Regulatory Commission (NERC), the Nigerian Bulk Electricity Trading Plc. (NBET) and the Operators of

the Nigerian Electricity Market (ONEM) were established for the government to oversee the sector. In 2004, the National Economic Empowerment and Development Strategy (NEEDS) was adopted to outline national plan on poverty alleviation, jobs creation and value reorientation after the socio-economic and political decline in the 1990s. Among its aims, the NEEDS emphasizes the privatization of government infrastructure to promote stable service delivery, including energy, and encourages adding renewables into the country´s energy mix to foster rural electrification. This goal was further promoted through the EPSRA in 2005 which also gave birth to the Rural Electrification Agency and Fund. Liberalization of the electricity market is further promoted by the Act, which also sets a regulatory framework for consumer rights protection, performance standards or tariffs. "In short, the law restructured the whole energy landscape of the country along the value chain with different players for generation, transmission, distribution and commercialisation." (GIZ 2015: 69) At the same time, it puts renewables put legally equal to oil, gas and coal as Nigeria´s primary energy resources as further evident also from the Renewable Energy Master Plan (REMP) adopted the same year. Milestone for Nigerian energy security, the REMP were developed in cooperation with the United Nations Development Programme (UNDP) as the country´s vision to achieve sustainable development as outlined by its own policies as well as the global development agenda of Millennium Development Goals (MDGs), reduce poverty and join the world in climate change mitigation. For it the Renewable Electricity Policy Guidelines (REPG) from 2006 instruct the government to secure at least 5% of power generation from renewable resources that are now integrated in the country´s energy policies and strategies with special focus on electrification of rural areas, such as the Renewable Electricity Action Programme (2006). In the same year, also the NEP was amended. The Nigerian Biofuel Policy and Incentives (NBPI) came in 2007, following the Automotive Biomass Programme for Nigeria from 2005, promoting development of a biofuel sector to reduce the country´s dependence on gasoline imports and its environmental burden, stimulate economic growth and empower rural communities ang agricultural industry. In 2008, the government adopted Nigerian Gas Master Plan (NGMP) aimed at decentralization and privatization, waste generation reduction and effective gas utilization for economic development. Also, Multi-Year Tariff Order (MYTO) came into effect, setting up a regular plan of domestic energy

market rules including financial incentives, prices, and tariffs. After second amendment to the NEP in 2013, the NREEEP, 2014, enlarged the scope of Nigeria´s energy security concept where renewable resources are of equal value to Nigerian oil and gas. The NREEEP further guides Nigeria towards sustainable power production and supply, development of a brand new and vital green jobs-generating industry, energy efficiency and savings and environmental protection. A year later, the Rural Electrification Strategy and Implementation Plan (RESIP) was introduced to accelerate the process of improving electricity access for affordable prices. The National Gas Policy was then introduced in 2017, replacing the unsuccessful NGMP to attract investment to gas sector, promote creating of separate petroleum industry institutions and establish coherent links between gas and electricity sectors. Along with the abovementioned policies, two visions were introduced in 2010. First, the Presidential Task Force on Power (PTFP) presented its own vision for the country´s power sector – the Roadmap for Power Sector Reform – summarizing the main principles towards improved energy delivery. And second, the Vision 20:2020 which encounters a comprehensive transformation of the country´s economy which will place Nigeria among the leading 20 global economies. For it energy provision improvement through hydropower, coal, nuclear and renewable resources such as wind, solar and biomass is a crucial goal in the document, while it proposes to reduce the share of gas in Nigeria´s energy mix (Federal Republic of Nigeria 2006, GIZ 2015: 67-77, Emodi 2016: 51-61, Occhiali and Falchetta 2018, comapre with Bamgbopa et al. 2021, Edomah 2021, Saturday 2021). Eventually, global development agendas, be it MDGs in 2000 or SDGs in 2015, have been somehow considered in Nigerian energy sector, although they are not directly mentioned in the National Energy Policy from 2003.[36] Energy and environmental protection were, however, included in national needs assessment (Olabode et al. 2014), and individual energy policies do reflect on some of the targets defined by particular SDGs, namely SDG 3 (Good Health and Well Being; replacing kerosene fuel with renewables), SDG 4 (Quality Education; providing households with no access to national power grid with renewable energy that improves studying conditions at home), SDG 5 (Gender Equality; replacing kerosene fuel with renewables to provide households with savings and empower women entrepreneurship), SDG 8

[36] This applies to MDGs only as the SDGs were introduced after the National Energy Policy had been adopted.

(Decent Work and Economic Growth; support local business through improved electricity) and SDG 13 (Climate Action; prevent emissions through providing Nigerians with solar energy and combat desertification) (Power For All 2019).

As the PTFP example shows, there is a wide range of actors linked to energy policy in Nigeria. Along with the Energy Commission of Nigeria (ECN) established in 1979, various ministries, commissions and agencies cover the federal role in energy sector, while state and local governments have a mandate over energy production in their respective areas. It should be noted, however, that there is no clear division of power among this pyramid of actors (GIZ 2015: 56). Essentially, the energy sector structure is divided as follows: an overall authority over the sector is in the hands of the federal government and the Federal Ministry of Power (FMP), respectively. The FMP bears responsibility for energy policy formulation, coordination, and implementation. For it the FMP ensures all resources are utilized to provide Nigerians with stable power supply and spur socio-economic development. Particular attention is paid to renewable resources and facilitation of a vital and competitive private sector engagement. The main regulator is the NERC and the Nigerian Electricity Management Services Agency (NEMSA). Energy itself is then generated by the generation companies called GENCOs, transmitted through the governmental TCN and then distributed via the distribution companies called DISCOs, with the Power Holding Company (PHCN) of Nigeria being the holding company (for Figure 6 see Appendix).

As the main actors, the FMP itself lists Electricity Regulatory Commission, Niger Delta Power Holding Company, Nigerian Bulk Electricity Trading Plc., Presidential Task Force on Power, Electricity Management Services, Nigeria Power Finance, National Power Training Institute, and Transmission Company of Nigeria (Federal Ministry of Power 2021). Others include the Rural Electrification Fund (REF), the Nigerian Investment Promotion Commission (NIPC), the Renewable Energy Association of Nigeria (REAN), the Sustainable Energy Practicioners Association of Nigeria (SEPAN), and the numerous agencies in charge of particular resources, such as the NNPC, the Nigerian Petroleum Development Company (NPDC), the Nigerian Gas Company (NGC), the Gas Aggregation Company of Nigeria (GACN), the National Solar Power Authority (NASPA), the Nigeria

Atomic Energy Commission (NAEC) or the Bitumen Exploration and Exploitation Company Nigeria Limited (BEECON) and Bitumen Development Agency (BDA). Above all, the ECN is the energy sector supervisor (Saturday 2021: 13, NGET.invest 2022).

On the federal level, other ministries also engage with energy. Federal Ministry of Environment (FME) shows for how long the energy-environment nexus was sidelined, as the FME was only established in 1999, some 40 years after Nigeria gained independence. Its role is clear; to protect the country´s environment and natural resources through particular policies and programs it heads over, both domestically and internationally. Federal Ministry of Lands, Housing, and Urban Development (FMLHUD) regulates energy efficiency related to all sorts of building and promotes sustainable housing where power supply is a matter of course. Federal Ministry of Water Resources (FMW) is even younger than FME. Created in 2010, FMW mostly deals with hydropower as means to increase the country´s energy supply. Federal Ministry of Industry, Trade and Investment (FMITI) is responsible for strengthening national economy and as such, it manages various policies for energy industry, including renewable energy, solar energy and biomass. Finally, Federal Ministry of Science and Technology (FMST) addresses negative effects of energy such as pollution or the relation between energy and climate change, and collects energy data (GIZ 2015: 50-54, Emodi 2016: 45-47).

On the state level, state and local governments engage in power generation that is otherwise regulated from the top. This was, however, not the case ever since. After independence, Nigeria was not divided into states but consisted of three decentralized regions with autonomous competencies over the exploration of natural resources. With the military rule in the 1970, the federal government seized the control over resources, though it was not able to manage them properly (Edomah, Foulds and Jones 2016: 9). The centralized approach towards energy sector persisted, though, and led eventually to the public debate on restructuring Nigeria in order to reduce the share of power at the center in favor of the lower federal units (see e.g. Fuad bn Othman, binti Osman and Mohammed 2019, IDEA 2021, Omoniyi 2021). Nonetheless, state and local governments still attain the authority over local power distribution especially to rural areas, and they can

acquire stakes in the DISCOs. Through these processes, some states try to get less dependent on the national grid by their own resource exploration and energy generation and supply, which is the case of Lagos and Rivers (GIZ 2015: 56).

5.4. Nigeria´s energy resources

Importantly, the NEP recognizes the role of other resources in energy security, including renewables. For it the NEP is a landmark as back in 1990, only oil, gas, coal, tar sands, wood and hydro were acknowledged as energy resources in Nigeria while solar, wind, biomass, hydrogen or nuclear were not yet developed for utilization (Ogunsola 1990: 181-182). In fact, *coal* history in Nigeria goes beyond the first oil discovery to the beginning of 20th century. Its production officially begun in 1916 in Enugu which has ever since been called the Coal City and was mostly used for energy production in pre-independent Nigeria. At the time, railway was the largest consumer of local coal, but the discovery of oil reduced the role of coal quickly. From nearly 2% in 1966 to less than 0,1% thirty years later, the National Coal Corporation survived only because it enjoyed a monopoly in the country´s coal market. Main consumer of coal in independent Nigeria was the emerging industries, but the Biafra war interrupted its production which was never fully resumed. With the economy being dominated by oil, coal became an export asset and was later privatized. The remaining state-owned coal mines then stopped working in 2002. What follows ever since is a debate on coal revitalization and introduction of new coal plants that improve the national electricity supply. Other prospects include supporting industrial development, heat source utilization, increased employment and reduced deforestation and desert encroachment in northern Nigeria (Ogunsola 1990, Odesola, Samuel and Olugasa 2013, Baiyewu-Teru 2015). Nonetheless, the role of coal should not be overestimated as there is currently no particular legislation regulating coal use for power generation apart from 1950 Nigerian Coal Corporations Act, although the NEP and the Electric Power Sector Reform Act from 2005 mention it directly or indirectly (Federal Republic of Nigeria 2003: 17-20, Federal Republic of Nigeria 2005).

Fuelwood utilization dates even further back than of coal. Its role has been traditionally related to microeconomic realities in Nigeria, such as cooking. With

large share of Nigerians living in poverty and poor electricity access rate, fuelwood remains the cheapest and thus most available source of energy on household level. This remains true even though the modern energy across Nigeria is now becoming more available; while there was 60% of Nigerians depending on fuelwood in 2003, the number grew to 72% in 2013 (Ogunsola 1990: 182, Muazu and Ogujiuba 2019: 303). Whereas the role of fuelwood is acknowledged by the NEP, it calls for a shift to alternative energy sources as the consumption rate exceeds the replenishing rate, causing desertification and soil degradation (Federal Republic of Nigeria 2003: 25). For it the Federal Ministry of Environment introduced its Forestry Policy in 2006 promoting self-sufficiency in wood production and sustainable management of forests to avoid their constant loss, create employment and engage in efficient use of wood as fuel. Until now, however, the policy has been rather ineffective, and the supply-demand ratio keeps increasing in favor of the latter (Eniola 2021).

In 1990, Ogunsola wrote that "contrary to the high level of oil activities in Nigeria, *natural gas* resources have been relatively neglected. Natural gas exploitation has been completely absent in spite of history of oil exploration." (Ogunsola 1990: 192) Rather than in spite of, it was a direct effect of the oil exploration as it quickly turned to be the major source of income for the government, while gas was perceived to be only a by-product of oil. With nearly non-existent market demand for gas and any gas infrastructure, gas was largely flared as waste. For a long time, the country ignored the potential of gas in driving manufacturing industries, agriculture, transportation, or power generation on both macro and micro level. It is estimated that due to gas flaring, Nigeria loses 2,5 billion USD every year, producing extreme air pollution. Considering natural gas reserves being three times larger than of the country´s oil, and their doubled expected lifespan, sustainable utilization of natural gas can provide for the country´s energy security, foster economic growth and the country´s industries and deliver positive environmental impact (Federal Republic of Nigeria 2003: 13-14, Onolemhemhen and Isehunwa 2017: 2-6).

Tar sands constitute only a small part of Nigerian energy sector, despite the country possesses the second largest reserves of tar sands in the world. At first, it needs to be processed to get bitumen, which can be then used for road construction and few

other industries. Only 8-16% of tar sands do, however, take the form of bitumen, while 80-90% is only a waste. Although tar sands exploitation can be an immense economic driver that can also replace heavy oil Nigeria imports, it comes with enormous demands on technology and environment, and brings the risk of another revenue generating asset prone to the resource curse and rentier state emergence (Ogunsola 1990: 194-195, Federal Republic of Nigeria 2003: 15-16, Nweke 2016: 85-87).

Contrary to tar sands, *hydropower* has always had a strong position in Nigeria´s energy sector. Nearly one third of electricity was produced through hydro already back in the 1980s, and its potential capacity, if properly harnessed, was expected to exceed the power demand twice in 2000. In 2018, however, only 15% of the capacity was developed despite the governmental efforts stemming out of the REMP (2005) and the NREEEP (2015), respectively, and the country´s abundant water resources. Nonetheless, hydro remains the leading commercial renewable energy technology for Nigeria. Not only it is economically viable, hydro can provide Nigerians with stable power supply, including rural areas, assist in poverty alleviation, generate new jobs, reduce rural-urban migration and contribute to achieving sustainable and non-fossil energy, if the related social and environmental costs[37] are properly mitigated (Odukwe and Enibe 1988: 337, Federal Republic of Nigeria 2003: 23, Manohar and Adeyanju 2009, Igweonu and Joshua 2012, Kela, Usman and Tijjani 2012, IHA 2018).

Nuclear energy is a blank page in Nigeria´s energy mix. Although the country established two nuclear energy research centres and the NAEC back in the 1970s, there was no significant advancement of nuclear energy until the NEP was adopted. Until now, no nuclear plant was built in the country, but the government has entered into a joint project with Russia in 2009 and 2021, respectively. So far, the main challenges for Nigeria to actively develop and implement nuclear policy are the lack of domestic capacity, either financial, technical, or personal. For it is not clear if nuclear energy can be an effective solution when the country´s management of hydro and gas-fired plants is at least problematic, not mentioning the risks linked

[37] See McGill University 2021.

to nuclear accidents. Notwithstanding, the government sees nuclear energy as a booster in power generation and a prospect for various industries and services, including petroleum, agriculture, health care, food preservation or water resources management (Federal Republic of Nigeria 2003: 20-21, Lowbeer-Lewis 2010, Ishola et al. 2019, Premium Times Nigeria 2019, Hansen 2021).

Solar represents one of the most perspective forms of energy generation in Nigeria. It is potentially unlimited, and the country is located in a high sunshine belt with good solar radiation. With the average sunshine per day, solar is able to provide Nigeria with nearly 30 times more energy per year than traditional resources and 115.000 times the electricity generated. As Emodi notes, "about 3.7% of the land area in Nigeria could collect an amount of solar energy equivalent to the conventional energy reserves within the country." (Emodi 2016: 33-34, compare with Agbo et al. 2021: 8) As such, solar has the potential to stabilize energy supply, drive business and the country´s economy, create jobs, reduce the country´s ecological footprint and to prevent local conflicts related to oil and gas vandalism. Moreover, it can empower the local communities and spur their sustainable development, which seems to be the case in particular. Advancement of solar in Nigeria dates back to the 2000s when the first renewable policies were introduced to deal with the country´s energy problems. Pilot projects included solar water pumps and electrification, solar cooking stoves, crop drying facilities or incubators. For it is arguably the most vital option for rural areas with no access to other energy resources than fuelwood and kerosene, and it can help the country in poverty eradication. So far, national efforts on solar development translated rather to micro-use of solar energy than a large-scale linked to national grid, which remains one of the biggest challenges for higher share of solar as the transmission equipment is not maintained and thus aged and obsolete. Also, the initial costs for building large-scale solar power plants are relatively high and such plans can collide with local land rights across Nigeria (Bugaje 1999: 497-499, Federal Republic of Nigeria 2003: 27-29, Ohunakin et al. 2014: 298-300, Ozoegwu, Mgbemene and Ozor 2017: 461-469, Agbo et al. 2021: 8, Netherlands Enterprise Agency 2021: 18-26).

Similar to solar, prospects of *wind* have been analyzed way before the first national policies on renewable resources appeared. In 1990, Ojusu and Salawu from the

Department of Electrical Engineering at the University of Lagos concluded that wind is a cheap and cost-effective energy option for Nigeria, compared to other renewables, feasible in most parts of the country, and that it can be used for multiple purposes in the country´s development. Recently, the government introduced some wind farm projects in locations with high wind potential. Though the NEP states that wind can be an interesting economic asset, assisting in various areas, there is currently no clear policy on wind utilization and the NEP does not analyze wind potential in detail (Ojosu and Salawu 1990a, 1990b, Federal Republic of Nigeria 2003: 31-32, GIZ 2015: 87-88).

Unlike wind, *biomass* is widely used in Nigeria, and it has further potential to develop. The NEP calls for biomass utilization as fuel for small-scale industries, energy generation and for individual use at the household level in rural areas, where it can empower the local communities and contribute to improved livelihoods. Also, electricity generated from biomass (biopower) can be used in urban settings for power and heating, and its prospects for transportation are immense. Considering Nigeria´s forestry residue only, the bioenergy potential would be able to cover an annual amount of energy consumed by transport or an annual national electricity consumption. Moreover, with appropriate policies and support that will attract investment to biomass sector, Nigeria can become a leading exporter of biofuels. Its agriculture is a vital prerequisite for agricultural crop residues, with other resources for bio-energy production being forestry residues, municipal solid waste, animal dung and residues from food industry.[38] Despite its potential, policies governing biomass are inefficient. Moreover, the country needs first to address the land competition with agriculture for food purposes and invest more in indigenous research capacities to generate domestic solutions for biomass development (Federal Republic of Nigeria 2003: 30, Agbro and Ogie 2012: 150-154, Diji 2013: 445, Sokan-Adeaga and Ana 2015: 158-159, Ben-Iwo, Manovic and Longhurst 2016: 175-185, Olanrewaju et al. 2019: 65).

Hydrogen is mentioned last in the NEP, and basically undeveloped. Its prospects are mainly limited to mentioning the diversification of the country´s energy mix as

[38] Fuelwood is excluded from the list as the NEP considers it separately.

there is currently no hydrogen plant on the African continent. Hydrogen can be used in transportation and aviation, chemical industry, or agriculture, and can be combined with other resources for energy production. Moreover, it can be generated from natural gas of which Nigeria possesses immense reserves and can thus help Nigeria to move away from dependence on fossil fuels. Developing hydrogen energy in the country would also contribute to its sustainable energy and environmental policies with less emissions produced. So far, however, this area of energy is neglected by the government, not attracting investors[39] (Federal Republic of Nigeria 2003: 33, Amoo and Fagbenle 2014, Ogbonnaya et al. 2019, Adebayo 2021).

5.5. Four dimensions of Nigeria´s energy security

5.5.1. Economic dimension

First and foremost, energy security of Nigeria is constrained by a huge energy deficit resulting from its inability to fully exploit all of its resources and capacities. As Borok et al. (2013: 3) point out, "Nigeria's nominal refinery capacity exceeds domestic consumption; however, the four refineries have been bedeviled by low-capacity utilization leaving the country to import most of its refined products. The refineries have never operated at their nominal capacities. In recent years all capacity utilization has been at 30-40%. This has led to the frequent fuel shortages in Nigeria, culminating in long queues for petroleum at fuel stations and emergence of black markets in refined products with higher prices than the official prices." For a long time, the Federal Government devoted large sums from the country´s budget towards fuel subsidies to allow those without access to energy to benefit from the oil wealth. Real subsidy payments, however, grew unsustainable as they often exceeded not only the expected ones, but also the government spendings on critical sectors of the economy, such as agriculture and social service (health care, education). As such, they contributed to the country´s growing debt, not mentioning

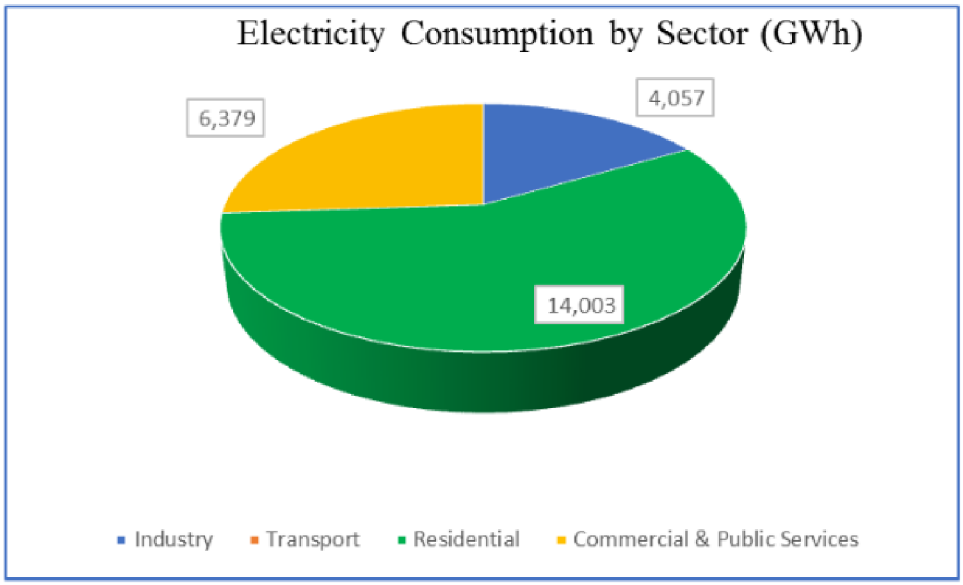
[39] Although Germany recently opened a Hydrogen Office in Nigeria as part of its bilateral activities with the country under the German-Nigerian energy partnership established in 2008 (Federal Foreign Office 2021).

the corruption that surrounds them.[40] Moreover, the national power grid does not extend to most of the rural areas, thus not delivering any benefit through fuel subsidies to the rural populace (Onyekwena et al. 2017: 9-12). What is even more paradoxical is that Nigeria is the largest African producer of oil with nearly 2 million barrels per day and has the largest reserves of natural gas on the continent (World Population Review 2021a, b). Regrettably, Nigeria is the very bright example of a country in which abundant resources and economic growth correlate only negatively (Akuru and Okoro 2014: 68). Indeed, the per capita income in countries lacking significant reserves of natural resources grew 2-3 times more than of those endowed with them, including Nigeria. Instead of fueling economic growth, Akinlo (2012: 165) notes that oil revenues have impeded the country´s macroeconomic performance, making it oil-dependent and vulnerable to external shocks, rising unemployment and suppressing manufacturing production.

Symptomatic to this energy paradox is the constantly erratic electricity supply. In its 2015 edition of Doing Business Report, the World Bank (2014: 208) ranked Nigeria 187 out of 189 countries in the ease of getting electricity. The World Bank further estimates that, Nigerian businesses lose 29 billion USD every year due to unreliable electricity supply (for an overview of the electricity consumption by sector, see Figure 7).

Figure 7: Share of electricity consumption by sector

[40] Subsidy payments cut off up to 3,5% of the country´s GDP during the worst years (2011). On average, they constituted 1,75% of the GDP. In 2013, subsidy payments exceeded by far the government spendings on rural development, health and education combined. In 2011, subsidy payments represented over 39% of all government expenditures. It is also estimated that more than one third of subsidies is lost annually due to corruption (Onyekwena et al. 2017: 9-11).



Source: Falobi 2019: 42.

For it only utilizes 51% of its capacity available for electricity generation. As a result, the persistent energy crisis has long-term negative impact on the country´s industry, undermining its potential for sustainable economic growth (see Iwayemi 2008 or Okubanjo 2020). To draw attention to this problem on a national level, the administration of president Umaru Yar´Adua even declared an emergency in the power sector in 2009 (Sahara Reporters 2009, Aremu 2019: 74). Moreover, with the rapid population growth[41], the energy demand grows significantly (Emodi 2016: 13). As Table 1 and Figure 8 show, the electricity consumption grew for 18% between 2010 and 2015, and the peak energy demand increased for nearly 50% between 2013 and 2018. As a result, the energy deficit grew from 57% to 82% in the same period (Okubanjo 2020: 285-286).

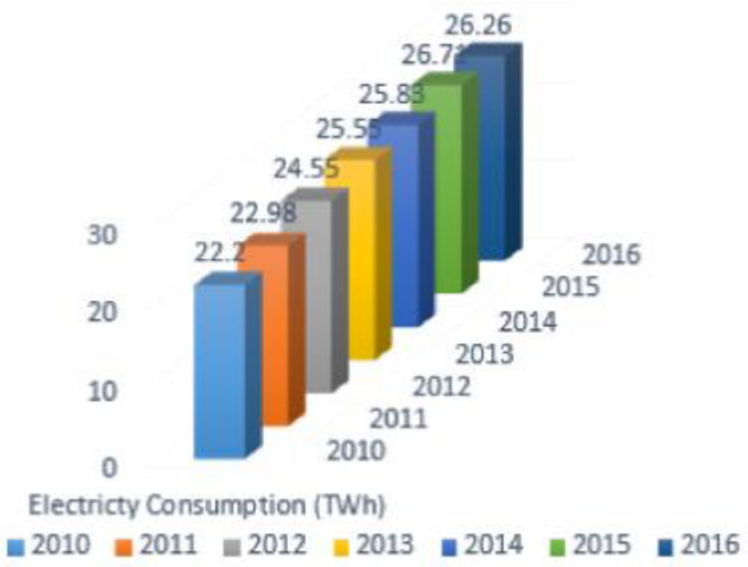
Table 1: Peak energy supply and demand

[41] In 2021, Nigeria had 213 million inhabitants, while it was only 107 million in 1995. Although population growth slightly declines, Nigeria still ranks 26th highest population growth ratio, and it is estimated that it will cross 300 million before 2040 and 400 million in 2050 (Statista 2021b, Statista 2021c, The World Bank 2022a).

Year	2012	2013	2014	2015	2016	2017	2018
Peak Supply (MW)	3481	4362	3342	4362	2687.2	4987	3500
Peak Demand (MW)	9,051	10,144	12800	10,144	12,800	20,000	19,100

Source: Okubanjo 2020: 286.

Figure 8: Electricity consumption growth

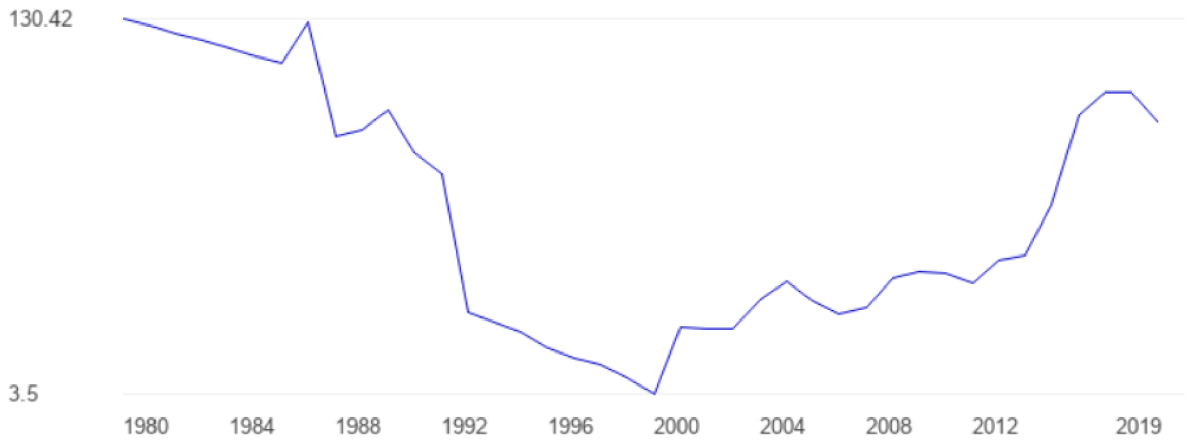


Source: ibid.

Unfortunately, power generation and supply have not significantly improved over the last decades (Aremu 2019: 73). Though not purely economic incentive, the Federal Government embarked in 2005 on the Renewable Energy Master Plan aiming at "a gradual but steady transition from overdependence to less dependence on hydrocarbons as a primary source of energy and income." (Akuru and Okoro 2014: 68) Similarly, the EPSR from 2013 aims to strengthen the role of renewable resources in power generation and reducing dependence on natural gas (Falobi 2019: 43-46). These policies should improve Nigeria´s energy security through the country´s energy mix diversification, providing cost-effective solutions and put Nigeria on the sustainable development track. Interestingly, contradictory to the governmental efforts on fostering clean energy production, coal is also perceived an important driver for the country´s economy. As a matter of fact, exploitation of coal is associated with increased national income from taxes and is also assumed to contribute to reducing deforestation and desertification prevention (International

Centre for Sustainable Carbon 2020). This is in sharp contrast with Inuwa´s study indicating that there is causality between Nigerian economic growth and increase in coal consumption, while growing coal consumption does not generate economic growth at the same time (Inuwa 2012: 148). Nevertheless, consumption of coal in Nigeria has risen rapidly from 2000 (Figure 9). If nothing else, Nigerian attitude towards coal illustrates the country´s schizophrenic energy approach where on the one side, economic orientation casts a shadow upon all other aspects of energy security and pushes the Nigerian government to support fossil fuels, while on the other it considers putting fossil fuels away due to the global sustainable energy trends and their declining economic attractiveness.[42]

Figure 9: Coal consumption in Nigeria (in thousand short tons)



Source: The Global Economy 2022.

5.5.2. Social dimension

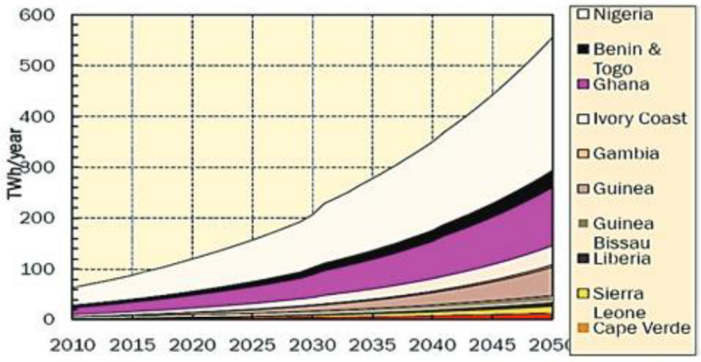
To assess the economic dimension of energy security, macroeconomic indicators such as power production from various resources and power supply are usually

[42] In her brilliant analysis of a post-fossil fuel Nigeria, Okoh replaces the often used *paradox of plenty* by his own metaphor of the *King Midas*, where fossil fuels are a golden goose and an albatross at the same time, forcing Nigeria not to leave fossil fuels exploitation for their revenue potential at the expense of other resources that would make Nigeria less dependent and vulnerable towards external shocks. In her view, fossil fuels rather subvert the country´s economic development instead of fueling it (Okoh 2021).

employed. Therefore, while considering the role of energy in economic growth and development, decisions made by countries and governments, respectively, are object to the analysis. On the contrary, assessing energy security from a micro perspective requires to look for smaller economic units, such as households, families or individuals.[43] For a balanced analysis of the relation between energy and socio-economic development, assessing social dimension of energy security through the accessibility, equity, affordability or reliability of power supply gives another important hint in understanding the concept of energy security as access to energy directly affects quality of life of individuals and social groups.

In today´s Nigeria, access to energy is not equal to all. Globally, the country is home majority of people lacking access to electricity; every one in ten of those living off-grid lives in Nigeria, and the number is 25% higher than in the second most unelectrified country in the world, the Democratic Republic of Congo (Azeez 2021). The energy deficit in Nigeria is by far the largest amongst West African countries on the household level (see Figure 10). As a result, Nigerian households depend largely on fuelwood as their primary energy source (Ndukwu et al. 2020: 443). In a country where households are the primary energy consumers, energy deficit directly contributes to energy poverty and hinders socio-economic development.

Figure 10: Energy deficit in West Africa, household level



Zdroj: Ndukwu et al. 2020: 445.

[43] For macro vs. microeconomics, see e.g. Investopedia 2021.

Energy poverty related to overconsumption of fuelwood instead of clean energy resources further translates into massive indoor pollution, causing long-term health problems. Subsequently, Nigerian families exposed to such pollution have to spend more on healthcare, reducing possible expenditures on other social needs such as education. Moreover, using fuelwood for cooking and heating is time-consuming and ineffective compared to standard stoves, for example (Ogwumike and Ozughalu 2015: 287-288). The energy poor are then significantly less capable of meet their personal needs, especially in rural areas which are by large uncovered by the electricity grid. In their research on spatial differences of energy poverty across Nigerian federal states, Sanusi and Owoyele (2016: 57-58) conclude that, "only Lagos State and the FCT[44] are having a fair energy wellbeing." On the other hand, however, availability of fuelwood combined with lack of other job opportunities helped to form a commercial fuelwood vending market. Despite its side effect is what Naibbi (2015: 198, compare with Taru and Ndaghu 2013) calls *energy trilemma* (effective fuelwood collection by vendors leads maintains households´ supply, but causes environmental degradation), fuelwood business is a profitable business in both rural and urban settings across Nigeria (Taru and Ndaghu 2013, Nelson, Udo and Jacob 2017) which roots from the bottom regardless of the epileptic government policies.

From a gender perspective, energy poverty in affects disproportionately Nigerian women as household and family carers, as Aina and Odebiyi found out already back in 1998 (Aina and Odebiyi 1998: 2-3). Disrupted power supply also constraints delivering of basic social service. "Vital infrastructures such as water supply systems, hospitals, education institutions, and telecommunication systems all require a reliable electricity supply to operate optimally and deliver vital services to people," explains Nduhuura, Garschagen and Zerga (2021: 3) in their study on the impact of electricity outages in urban households in developing countries. Aside from rendering medical devices functioning or water supply which can subsequently lead to higher risk of disease outbreaks, Lipscomb, Mobarak and Barham have also found out a positive correlation between electricity access and literacy and years of schooling (Lipscomb, Mobarak and Barham 2013: 226).

[44] Federal Capital Teritorry (Abuja).

However, with the Nigerian government being unable to provide adequate funding for basic service provision including education in the long-term, the relation between energy and social sphere implies rather energy insecurity than security.

5.5.3. Environmental dimension

As outlined in the previous section, economic and social dimensions of energy security are, to some extent, interlinked. Environmental dimension is no exception, for the effects of energy production and consumption go far beyond the environment. Economic value of renewable resources, rural electrification, production of sustainable jobs or positive impact on human health are on the Nigerian table along with opposing issues such as production of emissions from burning coal, land and water degradation caused by oil extraction, overuse of fuelwood and the subsequent deforestation or an extreme pollution caused by oil leaks in the Niger Delta. In their study on the relation between energy consumption, CO_2 emissions and GDP in Nigeria, Chindo et al. (2015) provide an example of how the economic and environmental perspective go hand in hand regarding energy in the country. In the spirit of Naibbi´s energy trilemma, the authors present a self-contradictory triangle of a positive correlation between CO_2 emissions and GDP growth, negative correlation between energy consumption and the GDP in the short term, and negative effects on the environment caused by consumption of energy produced from non-renewable resources (Chindo et al. 2015: 319-321).

In Nigeria, the most striking example of environmental effects related to energy is the damage caused by oil spillage. It is estimated that between 1957 and 2007, 1,5 million tons of oil has been spilled into the Niger Delta, an equivalent of 13 million barrels of oil spilled in 4 thousand incidents (Kew and Phillips 2007: 159, Hill 2012: 84). From 2006 to 2020, the Nigerian Oil Spills Data Reporting Agency (NOSDRA) further reports over 13 thousand oil spill incidents with nearly 700 thousand barrels spilled to the environment, and 4919 between 2015 and 2021, respectively (Watts and Zalik 2020: 791, Premium Times Nigeria 2021). Majority of these incidents are linked to only 5 oil multinational companies, namely AGIP, Shell, Mobil, Total and Chevron. While there are 47 private and public operators in oil industry in the Niger Delta region, AGIP and Shell account for nearly three

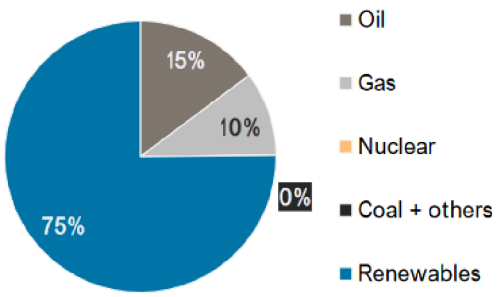
quarters of all oil spills events. Data collection is however, questionable and available estimates differ significantly. Interestingly, we can find differences not only among official data published by NOSDRA and external agencies and researchers (up to 60%), but also 15-20% discrepancy between NOSDRA and another Nigerian agency, the Department of Petroleum Resources (DPR), estimates. Similarly, as Watts and Zalik point out, "there are significant discrepancies over gas flaring venting quantities according to NNPC, company and NOAA[45] (satellite estimations). For example, estimations of emissions (in millions of standard cubic feet Mscf) in 2018 by NNPC (derived from financial reports) and by VIIRS[46] satellite data differed by over 150%." (Watts and Zalik 2020: 791)[47]

Through environmental lens, deforestation, loss of biodiversity, disappearance of wildlife and numerous species (both coastal and aquatic), land degradation, water pollution, destruction of landscape or air pollution are all linked to oil exploration and production. According to Habiba (2018: 64), around 10% of local ecosystem in the Niger Delta has been wiped out irretrievably, including more than 7.000 square kilometres of rainforests that disappeared. However, exploitation of coal and natural gas has similar effects in Nigeria. The latter in particular is another striking example of negative impact an improper and irresponsible use of a natural resource can have, considering the scale of gas flaring happening in the country. In fact, Nigeria is the seventh largest gas flaring nation in the world, causing emissions of dangerous black carbon or methane, forcing the rise of temperature, damage to valuable plants or soil contamination. Aside from environmental effects, such pollution impacts negatively human health of local communities, reducing life expectancy and causing premature death. Moreover, gas flaring is extremely cost-ineffective. These issues combined, Nigeria loses up to 11 billion USD every year (Ladan 2013: 64-66, Huang and Fu 2016: 2, Albert, Amaratung and Haigh 2017, CCAC 2020).

[45] National Oceanic and Atmospheric Administration of Nigeria.
[46] Visible Infrared Imaging Radiometer Suite.
[47] For variations in oil spills estimates see also Amnesty International´s investigative study from 2018 on how the multinationals in the Niger Delta constantly underestimate the number of spills and their role in such incidents (Amnesty International 2018). Compare with Stevens 2011.

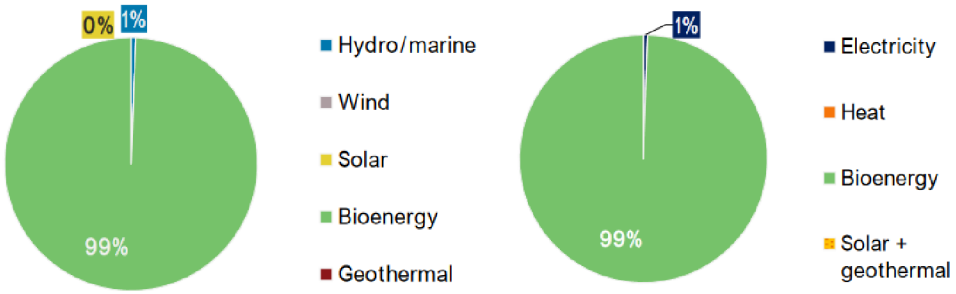
In comparison with several negative consequences of utilisation of non-renewable resources such as oil, gas and coal, Nigeria can employ various renewable resources to achieve clean energy, including solar, hydro, wind or biomass. There would be a wide range of environmental benefits, including lower carbon emissions, lower rate of pollution and environmental degradation. Equally important, renewables would deliver social benefits such as sustainable jobs creation and affordable energy generation for rural populace (see Shaaban and Petinrin 2014), not to forget positive economic effect of reducing overdependence on oil (Olanipekun and Adelakun 2020: 66, compare Aliyu, Dada and Adam 2015, Ezugwu 2015 or Kehinde et al. 2018). Yet only marginal portion of the potential capacity is being used. Although Nigeria´s primary energy consumption is dominated by renewables (Figure 11), bioenergy accounts for 99% of the share (Figure 12).

Figure 11: Total primary energy supply (2018)



Source: IRENA 2021.

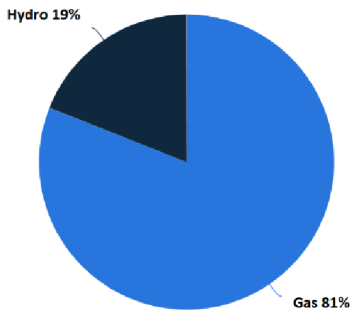
Figure 12: Renewable energy supply (left) and consumption (right) (2018)



Source: IRENA 2021.

Potential of solar and wind remains largely untapped (Figure 13), while hydro is partly employed for electricity generation (Figure 14). More importantly, though, energy from renewables is consumed almost exclusively on the household level; industry, transport, and other sectors only account for 7% of consumed renewable energy (Figure 15) (Akuru et al. 2017, IRENA 2021, Statista 2022).

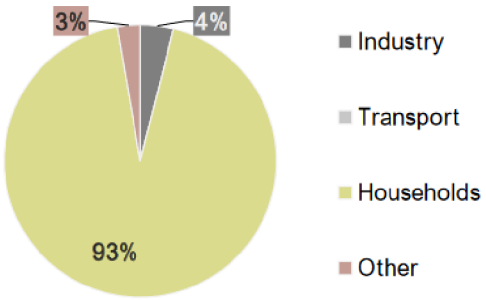
Figure 13: Electricity generation by source (2019/2020)



Generation in 2019	GWh	%
Non-renewable	**25 059**	**75**
Renewable	**8 492**	**25**
Hydro and marine	8 430	25
Solar	41	0
Wind	0	0
Bioenergy	21	0
Geothermal	0	0
Total	**33 552**	**100**

Source: Statista 2022, IRENA 2021.

Figure 14: Renewable energy consumption by sector (2018)



Source: IRENA 2021.

Figure 15: Untapped potential of renewables

Resource	Potential	Remark	
Solar	3.5 kWh/m2/day to 7.0kWh/m²/day	19 MW exploited	
Large Hydropower	11,250 MW	1,938.40 MW exploited	
Small Hydropower	3,500 MW	64.20 MW exploited	
Wind	Average of 2 – 4 m/s at 10m height	3 MW exploited	
Bioenergy	Municipal waste	18.5 million tonnes produced in 2005 and now estimated at 0.5kg/capita/day	10 MW exploited
	Fuel wood	43.4 million tonnes/yr. fuel wood consumption	
	Animal waste	245 million assorted animals in 2001	
	Agricultural residues	91.4 million tonnes/yr. produced	
	Energy crops	28.2 million hectares of arable land; 8.5% cultivated	

Source: Olanipekun and Adelakun 2020: 65.

5.5.4. Political dimension

There are three main ways through which a political dimension of energy security is formed. First and foremost, politics produce legal and institutional framework for energy to ensure transparency, accountability and governance integrity including division of executive roles over the sector. In addition, particular energy policies and strategies are another important outcome, providing visions and goals on the national, regional and local level, and outlining the ways how to reach them. Second, politics as such play a crucial role in each country´s energy management. Resource rich countries often suffer from a damaging resource-democracy nexus, commonly known as the *resource curse*, where typical symptoms include hindering democratic rule, corruption and diverting resource revenues into private pockets. With the already constrained level of holding on to democratic principles, rule of

law and civil right across African countries (compare Mattes 2019[48], Temin 2020[49], Zamfir 2021[50]) and Nigeria in particular (Freedom House 2022), energy management is with no doubt prone to non-democratic practices. And third, mismanagement of energy sector together with other negative effects outlined in economic, social, and environmental dimension of energy security can provoke conflict for control over resources, giving birth to local militias and insurgencies that in turn harm the country´s security.

While analyzing Nigerian politics and its long-term failure to deliver democracy, security and flourishing of its populace in spite of the country´s natural resource wealth, numerous metaphors appeared in books and studies as a symbol of that failure. Osaghae (1998) and Nwadiaru (2014) call Nigeria "a crippled giant", Tijani (2008: 143) talks about "a sick man who refuses treatment", Adetayo´s (2018) heading reads "Blood as a metaphor for Nigeria". An analyst and African Center for Transparency coordinator Osmund Agbo (2021) goes even further when he writes about Nigeria being only a corrupted system ruled over by oligarchs: "These people are so drunk with money, power, and privilege, which they traded with personal freedom and for which they mortgaged their country's future. Like the goldfish, they have fed fat on Nigeria till their stomach ripped apart and it's easy to tell that these emperors have no clothes." (Agbo 2021) More or less precisely, these metaphors summarize the three main ways through which a political dimension of energy in Nigeria is formed. First of all, Nigerian authorities themselves admit that "existing policies in the energy sector have been those of individual energy sub-sectors such as electricity, oil and gas, and solid minerals. These have been developed from limited perspectives of each of the sub-sector and had resulted in some cases to conflicting policies and programs, to the detriment of the country as a whole." (Federal Government of Nigeria 2003: iv). This is the case of renewable energy, for example, where "the lack of awareness, promotion and practical government support" (Onyejelam 2015) accounts for the mixed political reality in energy sector. It does, however, apply to the energy sector as a whole. On the one

[48] Afrobarometer Policy Paper.

[49] Freedom House Report.

[50] European Parliamentary Research Service Briefing.

hand, Nigerian energy policies and other strategic documents may, theoretically, label most of the areas that require legal and institutional framework. On the other, however, their real impact remains low due to a lack of political will that leads to poor policy implementation, and corruption (Ahmadov and Guliyev 2016: 48-50, Bamgbopa et al. 2021). In the long-term, this results in favoring the fast-revenue-generating oil (and gas) sub-sector over the others at the expense of majority of the country´s populace, living either in the neglected rural areas in the North with no access to power or the marginalized communities of the Niger Delta whose livelihoods have been destroyed by extraction and pollution.

Since independence, Nigerian politics were characteristic by instability. Between 1960 and 2004, the country had experienced 15 military coups or attempted plots[51] which eroded the political system and twisted it towards ethnic favoritism, nepotism, and violence. More importantly, Mbaku (1994) points out to rent seeking as an ultimate feature of the military leaders overthrowing governments and seizing power in Nigeria and across Sub-Saharan Africa. In case of Nigeria, this means the constant maintenance of the *rentier state* in which oil directly contributes to disruption of democracy. At times, Nigerian public may seem to be supportive of the army intervening in what they perceive an unsustainable and inherently rotten system of clientelism under the guise of democracy.[52] This does, however, inevitably lead only to another disappointment. The price of the elimination of the elite that does not listen to the people it rules over is often too high as the new rulers quickly forget about their promises, explains Hill quoting the famous Nigerian writer and a diagnostic of the Nigerian political malady, Wole Soyinka (Hill 2012: 99-100, compare with Lewis 2006: 89-91). As a result, only 33% of Nigerians considered their country democratic in 2018 according to the Afrobarometer survey, but in 2014, the number was only 19% (Mattes 2019: 15).

In today´s Nigeria, the legacy of military governance manifests in normalization of violence and brutality by its armed forces. With the government being unable to fully control its territory – an essential aspect of a state – its constant neglect of democratic principles, manipulation of elections, suppression of human rights and

[51] For an overview of the coups, see Center for Systemic Peace 2014.

[52] For the ambivalence of Nigerian army´s role in political reform, see Adejumobi and Momoh 1995.

incapability to transform the enormous oil revenues into welfare for all, violent means are often employed as universal solution to Nigerian problems. In particular, this is the case of the oil-producing Niger Delta region where politics translates as insurgency and a constant fight of the local movements and militias against the federal government, and long-term oil infrastructure sabotage and oil theft (see Derefaka and Okorobia 2007, Ojakorotu 2010, Hill 2012, Oluyemi 2020). From the first insurgency in 1966, through the Biafra war in the late 1960s, the Niger Delta conflict escalated in the 1990s with the rise of the Movement for the Survival of the Ogoni people (MOSOP) represented by the world-known activist Ken Saro-Wiwa. What had begun as a non-violent protest against the exploitation by the government and multinational oil companies, quickly rose to an armed struggle as the government showed no intention in settling the situation and clamped down on the protesters with force. What followed was a militarization of the region where a protracted conflict, kidnappings of oil workers, oil theft and never-ending insecurity have become of a daily occurrence. In 2005, around 50 armed groups operated across Niger Delta states with a men force over 20 thousand. Among them, Movement for the Emancipation of the Niger Delta (MEND) grew the strongest, carrying attacks even in the capital Abuja and at the sea, hijacking oil vessels (Hill 2012: 29-31, Habiba 64-65, Oluyemi 2020: 2). Despite some top-down peace initiatives, most notably the amnesty for 20 thousand armed fighters offered by the president Umaru Yar´Adua in 2009 and his attempts to organize joint summits with the local people to engage in a dialogue and open a disarmament, demobilization, reorientation, and reintegration process (DDDR) (Francis, Lapin and Rossiasco 2011: 16), the Niger Delta region remains in conflict and exposed to environmental, socio-economic and political neglect, undermining energy security of the country.

6. Data and results

6.1. Summary of main findings

The Nigerian energy security discourse in the selected Nigerian dailies was covered by a total number of 3.958 articles between 2015 and 2019. These articles form the corpus that was subject to the content analysis and the reflexive thematic analysis. This means they include minimum of one of the keywords.

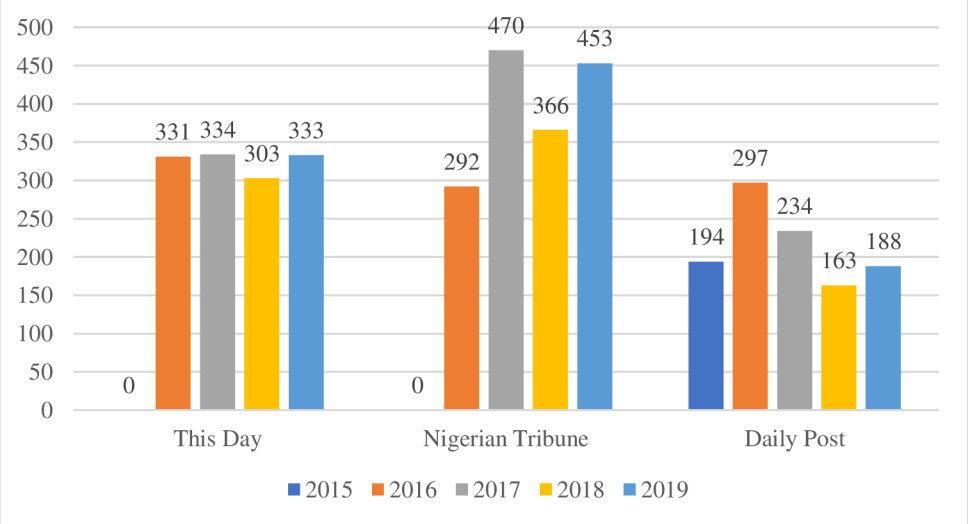
The largest share of the corpus come from Nigerian Tribune (1.581), followed by This Day (1.302) and Daily Post (1.076) (Table 2, Figure 16).

Table 2: Corpus overview

Daily	**Number of articles**
This Day	1.302
Nigerian Tribune	1.581
Daily Post	1.076
TOTAL	3.958

Source: author.

Figure 16: Share of articles, 2015-2019

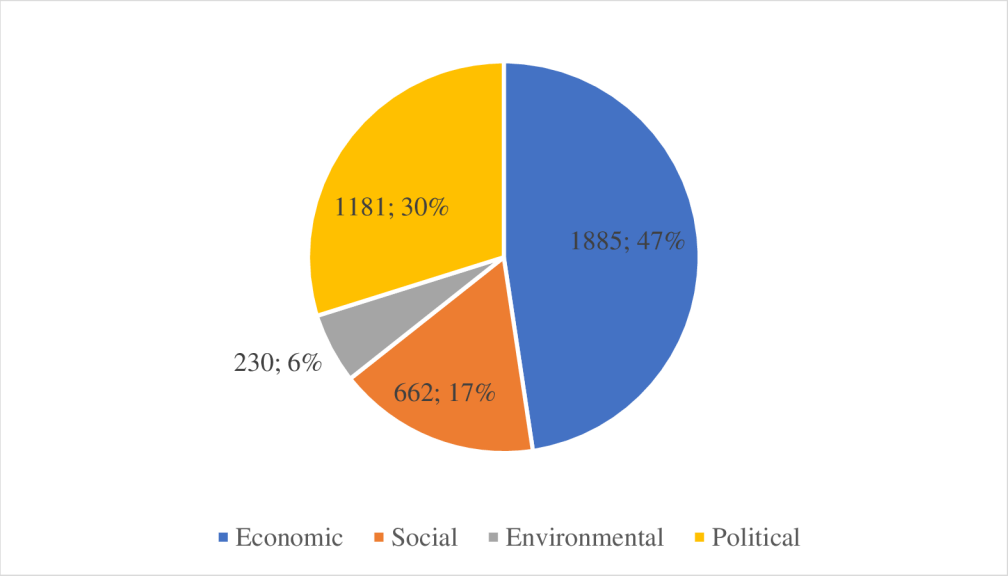


Source: author.

As Figure 17 shows, the four defined sub-discourses, namely economic, social, environmental, and political were present in all dailies. The economic sub-discourse was dominant with nearly half of articles falling under it, proving that more than anything else, energy security in Nigeria is a matter of production, supply, and the role of natural resources for the state´s coffer. Political sub-discourse constitutes one third of the corpus, while 17% of articles fit into social sub-discourse. Environmental sub-discourse is rather marginal with only 6% of all articles.

This figure also proves the point from the preliminary AntConc query, giving more coherence to the content analysis results. Terms related to economic aspects of energy, such as *economy, budget, growth, supply,* or *production* are quite frequent and present across resources. Terms that could be coined political also constitute large portion of the most frequent words appearing in the corpus, such as *state, government, federal, ministry, president, project* etc. Socially related terms are less frequent and are linked only to particular resources, e.g. *asthma* or *cooking* (biomass), *women* or *health* (fuelwood), *people* or *access* (renewables) or *agriculture* (tar sands). Environmental terms such as *green, clean, sustainable* or *environment* are rather scarce.

Figure 17: Energy security sub-discourses



Source: author.

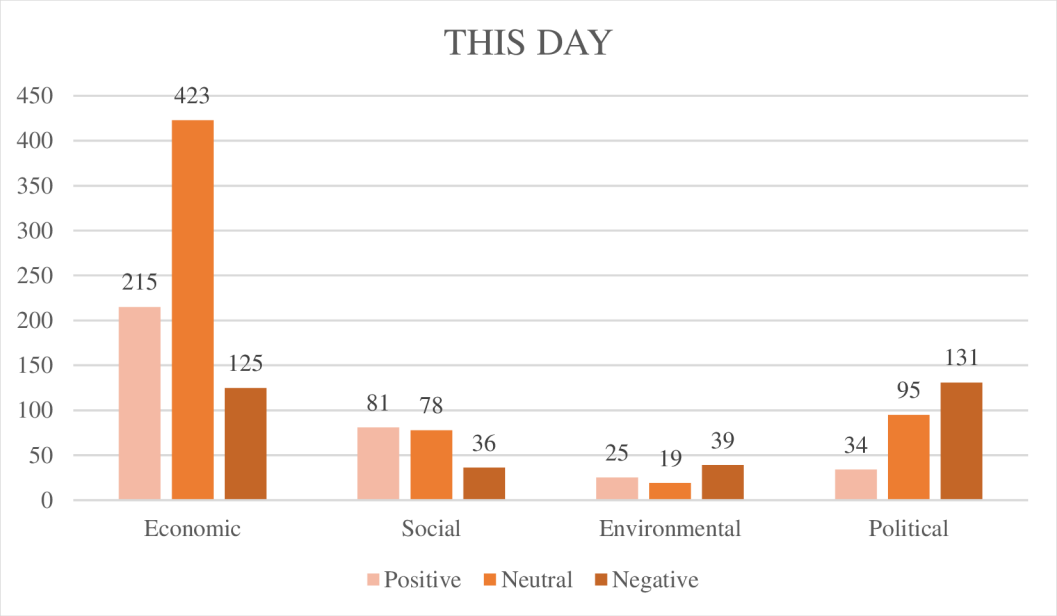
This pattern, however, varies among the dailies. While energy security is most notably related to economics in This Day and Nigerian Tribune, 51% of articles in Daily Post present energy security in political context. Social aspects of energy security are at the heart of one in every five articles in Nigerian Tribune, but only one in ten in Daily Post. The energy-environment nexus is neglected similarly in all analyzed dailies. Table 3 below provides an overview, while detailed outlook of each of the dailies can be seen from Figures 18, 19 and 20.

Table 3: Annual share of articles per sub-discourse in each daily

THIS DAY	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**	**%**
Economic	0	192	209	185	177	763	58,6
Social	0	44	29	50	72	195	15,0
Environmental	0	10	28	17	28	83	6,4
Political	0	85	68	51	56	260	20,0
NIGERIAN TRIBUNE	**2015**	**2016**	**2017**	**2018**	**2019**	**SUM**	**%**
Economic	0	146	224	180	187	737	46,6
Social	0	53	105	90	118	366	23,1
Environmental	0	10	22	30	44	106	6,7
Political	0	83	119	66	104	372	23,5
DAILY POST	**2015**	**2016**	**2017**	**2018**	**2019**	**SUM**	**%**
Economic	87	106	84	53	55	385	35,8
Social	12	14	19	27	29	101	9,4
Environmental	4	9	4	7	17	41	3,8
Political	91	168	127	76	87	549	51,0

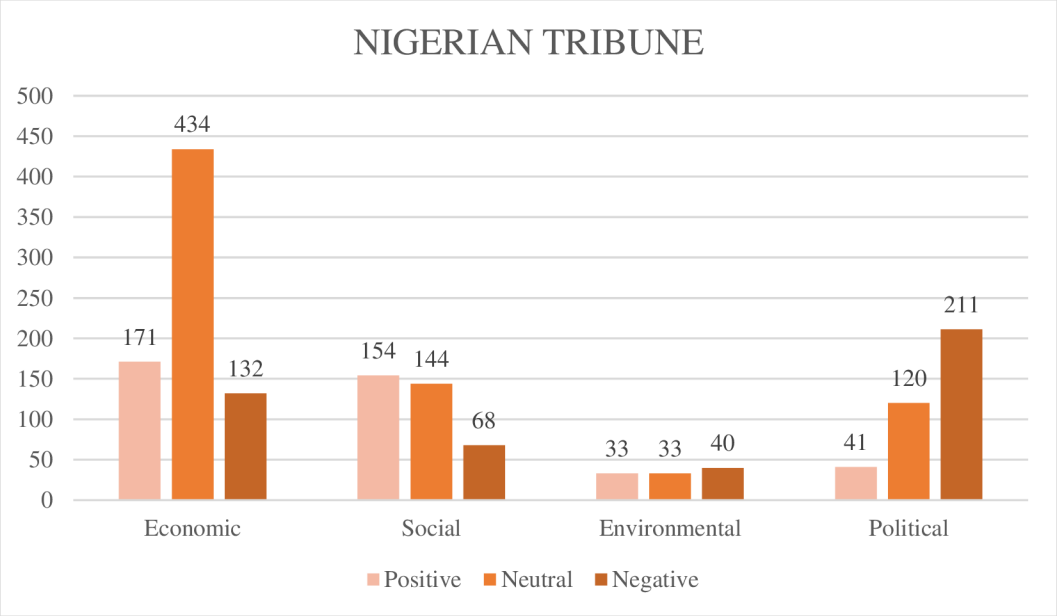
Source: author.

Figure 18: Share of articles per discourse (This Day)



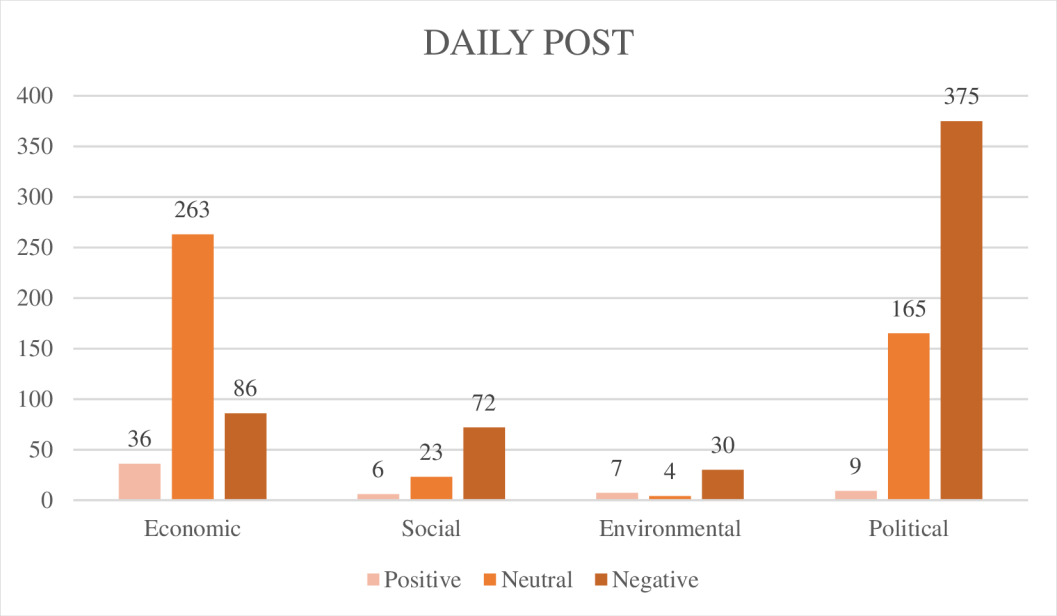
Source: author.

Figure 19: Share of articles per discourse (Nigerian Tribune)



Source: author.

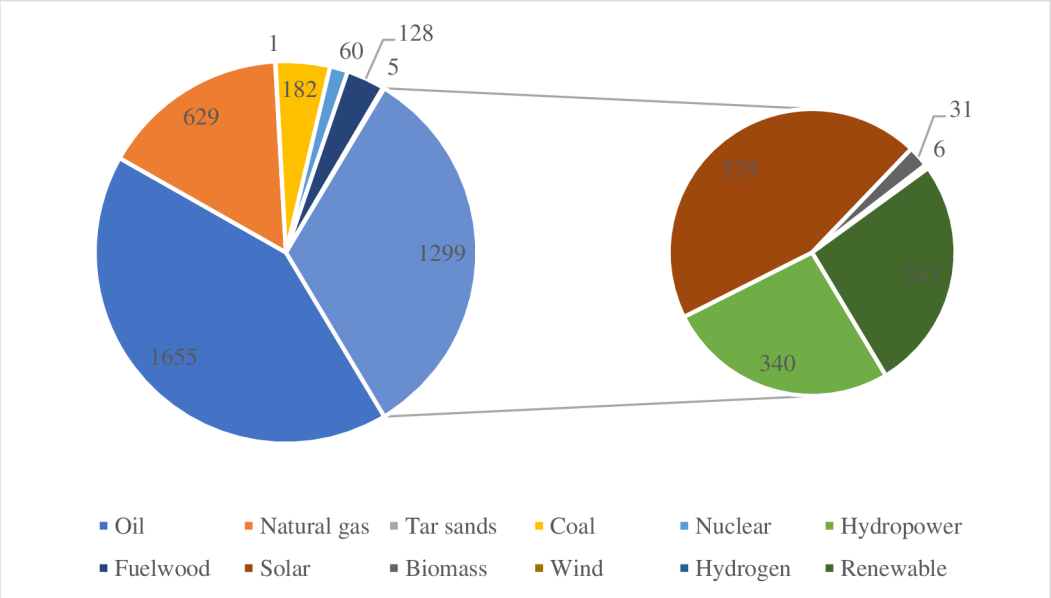
Figure 20: Share of articles per discourse (Daily Post)



Source: author.

Throughout the articles, all energy resources under study were present. Figure 21 charts their distribution, uncovering that in sum, 41,8% articles were dedicated to oil. Considering the role oil has always played in Nigeria, it is hardly surprising that it is the most cited resource. Natural gas ranks second, while it accounts for 15,9% articles, followed by solar that appeared in 14,6%.

Figure 21: Share of energy resources in selected dailies



Source: author.

If disaggregated, however, these numbers differ significantly in particular dailies as shown in Tables 4, 5, 6 below.

Table 4: Share of articles per resource (This Day)

	This Day						
	2015	**2016**	**2017**	**2018**	**2019**	**SUM**	**%**
Oil	0	92	83	72	69	**316**	**24,3**
Natural gas	0	59	75	63	66	**263**	**20,2**
Tar sands	0	1	0	0	0	1	0,1
Coal	0	41	35	16	23	115	8,8
Nuclear	0	8	8	6	12	34	2,6
Hydropower	0	46	41	44	33	164	12,6
Fuelwood	0	8	12	18	10	48	3,7
Solar	0	47	38	50	63	**198**	**15,2**
Biomass	0	3	6	3	4	16	1,2
Wind	0	3	0	0	0	3	0,2
Hydrogen	0	0	1	0	1	2	0,2
Renewable	0	23	35	31	53	142	10,9
	0	**331**	**334**	**303**	**334**	**1302**	**100,0**

Source: author.

Table 5: Share of articles per resource (Nigerian Tribune)

	Nigerian Tribune						
	2015	**2016**	**2017**	**2018**	**2019**	**SUM**	**%**
Oil	0	121	197	126	155	**599**	**37,9**
Natural gas	0	44	71	63	61	**239**	**15,1**
Tar sands	0	0	0	0	0	0	0
Coal	0	19	15	15	7	56	3,5
Nuclear	0	2	4	4	12	22	1,3
Hydropower	0	25	25	20	21	91	5,8
Fuelwood	0	7	22	8	9	46	2,9
Solar	0	50	90	85	137	**362**	**22,9**
Biomass	0	1	8	2	2	13	0,8
Wind	0	1	1	1	0	3	0,2
Hydrogen	0	0	0	1	0	1	0,1
Renewable	0	22	37	41	49	149	9,4
	0	**292**	**470**	**366**	**453**	**1581**	**100,0**

Source: author.

Table 6: Share of articles per resource (Daily Post)

	Daily Post						
	2015	**2016**	**2017**	**2018**	**2019**	**SUM**	**%**
Oil	144	222	158	98	118	**740**	**68,8**
Natural gas	17	37	30	18	25	**127**	**11,8**
Tar sands	0	0	0	0	0	0	0
Coal	3	4	3	0	1	11	1,0
Nuclear	2	1	1	0	0	4	0,4
Hydropower	18	11	18	25	13	**85**	**7,9**
Fuelwood	2	10	8	7	7	34	3,2
Solar	2	4	7	2	4	19	1,8
Biomass	0	0	2	0	0	2	0,2
Wind	0	0	0	0	0	0	0
Hydrogen	0	0	1	0	1	2	0,2
Renewable	6	8	6	13	19	52	4,8
	194	**297**	**234**	**163**	**188**	**1076**	**100,0**

Source: author.

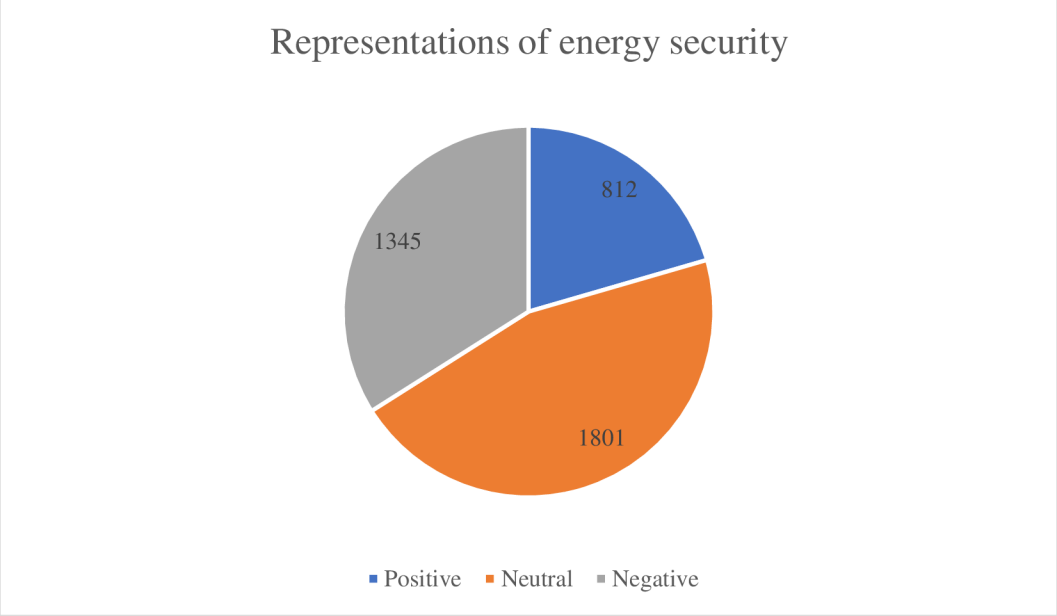
In Daily Post, more than two thirds of articles talk about oil, whereas it is one third in Nigerian Tribune and one quarter in This Day. This means that the second largest share of an individual resource mentioned by Daily Post is a 12% and 8% share of natural gas and renewable energy, respectively, making the distribution quite uneven. Moreover, Daily Post is the only daily where renewables combined do not outreach oil. Also, compared to the sum, attention paid to solar is rather scarce. Contrary to Daily Post, five out of the twelve resources in This Day occupy more than 10% share, and in Nigerian Tribune, solar is ranked second, leaving gas behind for a notable margin. By looking at these numbers it may seem obvious that non-renewable resources dominate the energy discourse, as only oil and gas combined represent nearly 60% of the corpus. However, the Nigerian National Energy Policy lists renewable energy *per se* along with particular renewable resources, namely hydropower, solar, wind and biomass. The analysis confirmed that renewable energy often appears throughout articles without mentioning a particular resource, which are then found in different articles. If these are count together, then renewables suddenly occupy second position behind oil with 1299 articles in sum. This does not, however, apply to Daily Post where 11 out of 12 resources under study combined account for a half of the share of oil. Nonetheless, the overall coverage of renewables is in sharp contrast to the minimal share of environmental

sub-discourse as outlined above, if one assumes that the aim of the transition towards green energy is to mitigate climate change. This paradox will be further elaborated below as there is obviously another explanation behind the amount of renewables discussed in the energy discourse.

Positive, neutral, and negative representations of particular resources within the four sub-discourses are also distributed unevenly. On the one hand, the data show that nearly half of the articles across the dailies talk about energy security in a neutral manner. On the other hand, however, negative representations exceed positive by large, composing a third of the corpus. In This Day and Nigerian Tribune, positive and negative perceptions are spread fairly, but in Daily Post energy is dominantly presented in negative context. Considering the four energy security sub-discourses, majority of economic associations to energy is neutral. As Figure 22 shows, if an article refers to any of the twelve resources in economic terms, neutral representation is usually dominant. Also, the highest number of an individual resource cited in an article can be found in economic sub-discourse in 75% cases. The only deviant resources are oil (political), fuelwood and solar (social). If each sub-discourse is considered individually, though, the picture becomes much more diverse. Clearly, social, environmental, and political associations to oil are all predominantly negative. Hydropower, on the contrary, is referred to in a positive manner in these sub-discourses. Apart from the economic sub-discourse, negative representations prevail with 5 out 12 resources in social and environmental context, and with 3 in the political dimension. Interestingly, it is only oil where the negative perception stands out, metaphorically, in all sub-discourses apart from economic. Moreover, if we look at the data more closely, we can see that the image of oil in This Day is purely negative in all economic, social, environmental, and political context. Turning back to the overall perspective, natural gas, coal, nuclear and fuelwood turn out to be presented neutrally and negatively across all sub-discourses, while majority of articles on tar sands, hydropower, biomass, wind, hydrogen and renewable occur in neutral and positive contexts. Solar is then stretched across all. Obviously, fossil and non-renewable resources do not seem to be strongly associated with economic, social, environmental nor political benefits, compared to renewables where the positive view prevails. The only exception here is coal in which case a positive economic

attitude equals neutral in This Day and Daily Post. Detailed overview is provided in Section 6.2.

Figure 22: Share of representations



Source: author.

6.2. Findings per sub-discourse

6.2.1. Economic sub-discourse

Through the reflexive thematic analysis, various economic themes have been discovered within the sub-discourse, linked to particular resources. They can be further divided into categories based on their context, which is either positive, neutral, or negative. As the previous section indicated, economically related articles were dominantly neutral in meaning. However, while fossil or non-renewable resources are then associated with negative effects, individual renewables are rather neutral and positive by a large margin.

Unsurprisingly, the positive role of oil reserves for the Nigerian economy is represented through the national income. Rising commodity prices on the international markets are hailed as they bring more revenues and comfort the country´s economy and its budget. With the oil sector growing, the Federal

Government calls on investors and foresees new contracts. Seen through these lens, new oil discoveries in particular areas of Nigeria (Bauchi state) are appraised as an economic driver and an important prerequisite for future development, especially in terms of infrastructure. Therefore, constructing new oil terminals is planned as a valuable asset. Interestingly, only one article specifically mentions the oil sector´s potential to generate new job positions, despite the fact that since the oil discovery, Nigeria has suffered from the Dutch Disease which results, among others, in a very limited jobs creation in the sector (The Economist 2010, Jannah 2017a[53]). Considering the fact that oil has been mostly exported and refined products have always been imported, it is interesting to see that development of domestic refineries is increasingly a subject to the national energy debate (Jannah 2018a,b[54]). Moreover, while referring to oil, Nigeria does not seem to keep on track with the recent developments towards green energy globally, hailing the first oil producing countries summit that took place in Nigeria in 2018. Its results clearly declared future willingness to revive oil industries to feed the growing appetite for energy and power demands (This Day 2018a). As a result, low prices of oil are often presented in a negative light causing severe consequences for the national budget, which is hardly surprising. Moreover, the sector is distorted by oil subsidies without a significant impact on either development or production of refined products that keep being imported. In particular, some news accuses the federal government of a constant neglect of oil producing states in terms of development and infrastructure construction. What is more, the government is not even able to pay the subsidies regularly, owing large sums to the oil marketers who, in return, threaten to halt the production and go on strike. However, many more articles put Nigerian oil in a shadow for being a disadvantageous commodity to abandon. Rather, investments should be made into agriculture, livestock and other non-oil sectors that have a development potential for the country, instead of the no longer attractive oil industry. They do often call for looking beyond oil and stop depending on it as the oil age is over, indicating long-term displeasure with Nigeria relying on oil for decades (This Day 2017a, Opejobi 2018[55]). An article published in This Day wraps this argument by claiming “That Nigeria is officially in a recession is no longer

[53] Daily Post.
[54] ibid.
[55] ibid.

news. Some have argued that the major reason that the nation has got itself into this predicament, is because of its over-dependence on a single export product, crude oil. The huge potential in non-oil exports that abound in Nigeria, are grossly under-explored and under-utilised." (This Day 2016a) The only way out of this conundrum is adopting what is called the Zero-Oil Plan, focused on cultivating and exporting non-oil products to generate revenues.[56] As Nigerian Tribune further goes, "Let´s allow oil to rest and channel our economy to other dormant sectors" in their article with a peculiar heading "Borno Oil Discovery Can Make Nigeria Poorer If..." (Nigerian Tribune 2016a) Articles labelled neutral then usually provide information on crude oil prices, inform about the domestic situation in the oil sector including oil deals between both domestic and foreign companies, introduce financial plans of the government related to oil sector or summarize talks between the Ministry of State for Petroleum Resources and oil marketers operating in the country.

Like oil, monetization of natural gas through its enhanced exploration and production is a leading positive economic theme. However, the role of gas is also highlighted in terms of stable supply and power generation, along with a prospect for industrial growth and economic diversification. Gas is then hailed for its potential to change African economic. "In Nigeria, gas, unlike oil, has a significant impact on the GDP. Gas creates linkages with other sectors of the economy such as agriculture, industry and power. Gas penetration is key to enhancing the industrial growth of the transit towns and villages." (Adegbite 2018a[57]) Contrary to oil, negative references to natural gas do not literally collide with the positive ones. While there is either appraisal or condemnation of oil, there seem to be no such ambivalence in case of gas. Rather, improper utilization of the resource is criticized, knowing that it is an important element in the country´s energy mix. For it gas flaring dominates the negative frame within the economic sub-discourse, lamenting huge losses it causes. Moreover, frequent gas shortages are recalled as a constant challenge for power generation that is gas-dependent, in addition to drops in gas prices on the global market. This applies to the liquified natural gas (LNG) and

[56] Within the 2015-2019 period, references have been made to the plan, while it has only been in 2021 when the Nigerian Export Promotion Council came up with a supporting agenda to put the plan in place, called Opportunities in the Export Market report (see Ukpe 2021).
[57] Nigerian Tribune.

subsequently leads to increased price of cooking gas in the domestic market, threatening the economy from a micro-perspective. Once again, neutral label dominates the sub-discourse with a wide range of gas-related issues. From above, these include foreign investments into gas sector, expressed by the United Kingdom in the period under study, Nigeria´s participation on international business summits where gas is discussed, deals on gas plants and pipelines with Total and Chevron, or with Morocco and neighboring West African countries where Nigeria aims to be a key player in the industry. Domestically, the articles inform on the government financial plans for gas sector and other fiscal incentives such as reducing fuel costs, gas price review and the role of tax mechanisms, overview of the reserves and gas supply to power plants.

In line with the main argument, coal is strongly linked to the macroeconomic benefits. Its position among Nigerian fossil fuels is, however, bound substantially to improving the country´s erratic power supply. Compared to other resources, particular companies are often mentioned in connection to coal. Specifically, this is the case of the African industrial giant Dangote Cement, run by the admired Nigerian business magnate Aliko Dangote, who is at the same time the richest person in Africa, and who somehow substitutes the government´s role in industrial development. While referred to in a negative light, coal does not differ from oil and gas. Price drop leading to an economic decline are a typical example of such article, others lament exorbitant tariffs that hamper power generation by coal usage (Okafor 2016[58]). Neutral articles on coal then talk about electricity generation where coal has a role, informs about commodity price index including price of coal and discusses if Nigerian coal plants should be revamped to produce power for future development of the country (Uzodinma 2017[59]). The latter is especially commonplace, presenting coal as one of the country´s resources that may be utilized to keep the economy running. As a result, search for new coal deposits is still active with reference to Sokoto (Daily Post 2016).

Another resource featuring economic growth most of all is nuclear. Though scarcely discussed in the media, it is perceived a prospect for economic

[58] This Day.
[59] Daily Post.

transformation and electricity production. It is worth to note that, in almost all articles within the positive-economic scheme, nuclear energy is only mentioned in relation to the Nigeria-Russia cooperation and Rosatom´s representatives are often quoted there (Nigerian Tribune 2017a), while this is not the case of any other foreign multinational in relation to any other energy resource. Published in Nigerian Tribune, an article called "From Russia With Love" is a bright example of this relationship (Malafia 2019[60]). Essentially, there is no other nuclear-related theme in either neutral or negative frame than this idea of developing nuclear energy, most probably in Nigeria-Russia cooperation.

Economic benefits resulting from an international cooperation occur significantly with hydropower. Chinese investments into hydro plants development are stressed out as an important factor here. Although some similarities with non-renewables can be found here, such as power supply and generation and economic growth, hydropower is much more socially oriented. In terms of the economic sub-discourse, this means that in contrast to the sole macroeconomic appraisal of oil or gas, hydro is rather seen as a vital socio-economic prospect for broad prosperity and poverty alleviation, themes that are way more developmental by nature. In fact, Mambilla Hydro Power project is listed among poverty eradication programs in Nigeria (Garba 2019[61]). When it comes to the negative side, the only problem associated with hydropower as presented in the energy discourse in selected dailies is the low production of hydro plants caused by the lack of rains and water for the turbines, subsequently. Losses are also mapped per plant, pointing to those to blame (Odunsi 2017[62]). Issues labelled neutral are not different from the other resources so far; hydro as a part of Nigeria´s energy mix, usually in an overview of the current energy production, hydro as an investment-friendly area and governmental financing of the sector.

Despite solar is less developed than other hydro in Nigeria, its positive economic contributions are equally emphasized. Aside from the electricity generation and the input to the national grid, solar is a vital tool for market stabilization, and should be preferred by the SMEs (small and medium enterprises) across Nigeria.

[60] Nigerian Tribune.
[61] ibid.
[62] Daily Post.

Moreover, since Nigeria is endowed with renewable resources, using solar should be a matter of course. By providing a stable and uninterrupted power supply, solar can spur industrialization and contribute to poverty alleviation across Nigeria through economic growth. Solar energy is not associated with negative economic effects in the selected dailies, but there are numerous neutral articles that somehow contribute to the positive context around solar, nonetheless. Often speaking about smaller and larger projects, private bodies are mentioned as an entity that mingles with solar all around. Firms do often employ solar to improve their energy capacities and Nigerian government calls on Nigerians to embrace solar power on all levels. Moreover, there is news that Nigeria will produce their own solar panels (Jannah 2017b[63]). Interestingly, the list of partners and foreign investors in solar industry in Nigeria is long and diverse, compared to other resources. From traditional partners of Nigeria, such as the United Kingdom and recently also China, to Iceland, India or Japan, and the African Development Bank (Nnabuife 2016[64], Jannah 2017b, Adegbite 2018b[65]).

Economic positives of renewables as such then pretty much summarize the benefits linked to individual renewable resources, although some of them are not mentioned by any articles within the positive frame of economic sub-discourse. Nonetheless, the economic gains range from boosting electricity and assisting in solving the perennial power sector woes in Nigeria, through an attractive environment for investments and economic recovery to tens of thousands of jobs created. For it to fully develop, tax burden on renewables should be reduced, one article advised (Adegbite 2019[66]). More importantly, energy security as a topic is directly stressed out here, compared to other resources analyzed (Dodondawa 2019[67]). The absence of economically negative associations is also symptomatic to renewables as a group of resources in Nigeria. There is only a single mention that renewable energy projects are expensive and will require further incentives and subsidies to become vital (Omorogbe 2018[68]).

[63] ibid.
[64] Nigerian Tribune.
[65] ibid.
[66] ibid.
[67] ibid.
[68] ibid.

6.2.2. Social sub-discourse

In social sub-discourse of energy security, data show that renewable resources prevail by large. Social impact of solar discussed in the selected dailies exceed all other resources by number of articles combined. It would be, however, incorrect to assume that there is no social aspect of fossil fuels. The social-energy nexus builds strongly on equal access to energy, affordability, and energy justice, reducing energy poverty and focuses on the role of energy from a micro perspective. And no matter how much the country is endowed with reserves of oil and gas, neither of these resources have proven to contribute positively to the people´s well-being in Nigerian history, as Chapters 5.1 and 5.2 demonstrate. For it social associations with these resources are mostly negative.

Nonetheless, few positive themes related to a positive social role of oil appear in the corpus. Nigerian Tribune informs that one domestic oil company relocates its headquarters to the Niger Delta in an attempt to promote corporate social responsibility in the sector by leading a good example. Since the company benefits from the region´s oil deposits, it is committed to deliver these benefits to the local populace and its vulnerable members such as widows (Adurokiya 2019a[69]). This is, however, the only exception of a social-friendly approach, although providing education in the oil states´ communities seem to have some level of support from the federal government (Oliomogbe 2018[70]). Another exception then talks about petroleum bodies helping internally displaced persons in Northern Nigeria. Quite paradoxically, the donation of food and non-food items was delivered by Shell which has been brought to court several times by local communities for destroying the environment in the Niger Delta (Kayode 2019[71]). Nonetheless, by this the list of social good through oil ends. The other side of the list is, however, significantly larger. Although the analysis has shown that negative social impact of oil accounts only for some 5% of all articles on oil, the range of topics is quite wide. First and foremost, the oil states´ communities blame oil companies for a massive destruction of their livelihoods and long-term socio-economic neglect. Along with Shell, both international and domestic firms such as Chevron Nigeria Limited, Sahara Enageed

[69] ibid.
[70] ibid.
[71] ibid.

Resource Ltd or Heritage Energy Operational Services Ltd were accused of side-lining the locals during negotiations about oil arrangements in Delta, Ondo, and Edo States (Adurokiya 2018, Adurokiya 2019b, Gbadamosi 2019[72]). What is worse, oil production cost human lives and health in number of cases, either caused by oil spillage (Shell), pipeline explosions (Agip, Pipeline Product Marketing Company) or oil wells fire outbreaks (Consolidated Oil) (e.g. Nigerian Tribune 2019a). According to the news, the economic boost fostered by oil cannot outweigh the fact that people working in the oil industry are exposed to heavy metals that causes infertility (This Day 2018b). Furthermore, the negligence of social responsibility from oil companies together with the state´s indifference towards development of oil communities contribute negatively to the availability of services such as education and training. One heading goes that "Pupils sit on bare floor to learn in community hosting six oil wells," (Omonigho 2018[73]) illustrating the massive social suffering. As a result, protests often occur in various oil states, requiring compensations and attention to the problems stemming from the oil exploration and production.

Whereas the world moves to phase-out fossil fuels including oil, natural gas is oftentimes perceived a transfer resource from dirty to green energy. As such, one would expect it to have bigger social impact than oil. The opposite is true, however. The number of articles labelled social and positive is lower than for oil, while the negatives exceed it. The only positive themes that emerged here are a donation of gas cylinders to Nigerians and a recommendation to use gas for cooking instead of fuelwood that poses serious hazards to human health. On the other side, dozens mention deaths caused by gas explosions across Nigeria. In Daily Post no other negative theme occurred but this. To demonstrate its weight, Human Rights Writers Association of Nigeria called on the United Nations and African Union to investigate the causes of the frequent gas explosions in Nigeria (Odunsi 2016[74]). One article also points out the gender inequality in the oil and gas industry.

Discussing the relation of coal to social issues, only negatives appear in the selected dailies. Apart from a reminder of Enugu coal riot that left several dead in 1949,

[72] ibid.
[73] This Day.
[74] Daily Post.

coal-burning incidents harming human health and causing death and the high rate of fatality per injured person in coal industry (This Day 2019a) rank top among the articles.

Few articles were listed positive in the social sub-discourse for fuelwood, mentioning personal stories of successful individuals who began as fuelwood collectors or women "fuelling family welfare with charcoal." (Enna 2018[75]) Others explain that charcoal stoves are donated to widows in an empowerment project or improved and exhibited by students in an annual vocational skills competition. These are rather rare, outnumbered by neutral notes on the traditional role fuelwood plays in Nigerian households, especially in case when there is a kerosene scarcity or cooking gas price hike, others fuels used in kitchens. Fuelwood is also put in context of lives of internally displaced persons often forced to leave their homes by Boko Haram in Northern Nigeria. For them, fuelwood not only presents a source for cooking and lighting, but a source of income as well as they often collect and sell it in their neighborhoods. Paradoxically, fuelwood gives and takes it away. Being the only energy resource for many in Nigeria, burning firewood and charcoal is associated with respiratory diseases such as pneumonia and asthma, often discussed in the media. Moreover, "according to the WHO report on use of fuelwood, traditional use of firewood is estimated to cause 95,000 deaths annually in Nigeria. After malaria and HIV/AIDS, this is Nigeria´s third highest killer of mostly women and children." (Ajakaiye 2016[76]) Similar effect also applies to biomass, which has otherwise no social links in the discourse.

On the contrary, renewables are a whole different story, being categorized almost exclusively positive and neutral within the social sub-discourse. First, hydropower helps to electrify rural areas, promoting equal access to energy. Second, wind can be effectively used as a community solution to energy provision. It can also be part of an emerging industry that generates new jobs. Though predominantly an economic issue, it concerns Nigerian youth who are in fact a socially vulnerable group due to its share in the country´s populace and lack of socio-economic opportunities. Third, and most importantly, solar is a key social driver in terms of

[75] Nigerian Tribune.
[76] This Day.

energy security in Nigeria, providing community solutions on the local level. Numerous articles present solar home systems in rural areas unconnected to the national power grid. Its potential to change lives of indigenes is a common theme here, with special focus to a so-called pay-as-you-go solar system that removes the burden of a monthly payment, often too heavy for many households to carry. As Nigerian Tribune calls it, "after decades of darkness, over 50 Lagelu communities may finally light a bulb." (Nigerian Tribune 2018) Clearly, improving living conditions of people is the core impact of solar energy. Moreover, vulnerable groups appear among beneficiaries, strengthening the positive role solar plays within the social domain. Solar solutions help in rural schools, hospitals and mother centres, centres for handicapped persons or in remote areas where solar powered boreholes ensure access to safe water and irrigation. And fourth, renewables are also positively represented in the media without recalling particular resources. Energy that empowers individuals and communities, fosters socio-economic well-being, and aims to eliminate energy poverty are the main themes, along with a support towards renewable energy education and trainings that provide individuals with new opportunities, farmers, and villagers in particular. Interestingly, and mentioned not only once, such activities assist in fighting cultism and drug abuse among the youth in for example Anambra State (This Day 2017b, Ovat-Awka 2019[77], This Day 2019b).

For renewable resources, it is often difficult to make a distinction between positive and neutral representations as the benefits they bring are somehow implicit in most of the articles. As a result, many articles labelled neutral could be interpreted as positive as well. Nonetheless, while the latter more or less clearly extoll the effects of renewables, the premier tend to be more informative and less emotional in nature. New themes here include listing hydro, wind, and solar projects in remote and agrarian communities with some of them being given partial ownership, stories about police going high-tech with solar powered cars and motorcycles, trainings for the youth on how to build and install solar power panels, introduction of solar streetlights or concessioning hydropower for aquaculture and cage fish farming (Nigerian Tribune 2019b). Nearly non-existent are negative representations of

[77] Nigerian Tribune.

renewables. On biomass, impact on asthma exacerbation is noted once, another article informs about a fire caused by a faulty solar panel in a residential area, threating its inhabitants, while some others point out to a displacement of people in areas designed for hydroelectric dams, followed by local protests and compensation talks (Dipo 2018[78]).

6.2.3. Environmental sub-discourse

Despite the fact that oil is mainly represented through negative themes, positives are not completely absent. "Today marks a historic step towards improving the situation of the Ogoni people who have paid this high price for too long," goes an article in Daily Post, pointing out to a clean-up in River State, that has been affected by numerous oil spills (Nwachukwu 2016[79]). On the one hand, this is an extremely rare case in the corpus and negative environmental effects of oil production prevail by large. On the other hand, however, there are some notes on the governmental efforts towards adopting technologies to control and tackle oil spills. Moreover, a unique international cooperation emerges here as Nigerian government partners Ecuador in this area. While their general trade relations are rather insignificant[80] as the Latin American country has also suffered from massive water intoxication since 2001 (Adegbite 2017[81], Heubl 2021). It also should not go unacknowledged that an international commission was introduced in Bayelsa State, the oldest and largest onshore oil-producing state in Nigeria, in 2019, to end what its governor calls *environmental terrorism*. Its role should mainly cover assessing environmental damage and determining responsibility (This Day 2019c). Neutral relation between oil and the environment is also covered by only a limited number of articles, which usually focus on informing about the current state of an oil spill clean-up or environmental protection initiatives. On the contrary, a whole bunch of articles stress out how oil companies pollute the environment in Nigeria. Obviously, the main problem are numerous oil spills that have devastating effects on soil and water. Shell and Agip are at fault here, accused by oil states´ communities and both local and national authorities. What is worse, oil companies do often try to pass

[78] This Day.
[79] Nigerian Tribune.
[80] In 2019, Nigeria exported goods worth only 42 thousand US dollars to Ecuador, while there was a million-worth import (OEC, undated).
[81] Nigerian Tribune.

over it, neglecting the oil states completely. At the end of the day, an International Commission on Oil Spills in Bayelsa State has called this "nothing less than environmental genocide." (This Day 2019d) On a similar note, Environmental Rights Action, a Nigerian human rights group, talks about environmental racism and calling for an ecological disaster zone to be declared in the Niger Delta (Oliomogbe 2019[82]).

Positive role of natural gas is even more limited than of oil in the selected dailies. Essentially, the only theme is based on an argument that gas is an interstage in the energy transition from fossil to green, promoting it as environmentally friendly. Contrary to that, gas flaring is a major problem cited by numerous articles, causing massive air pollution by producing toxic and flammable residues.

Interestingly, coal is also represented here through an article stating that using coal stoves in rural areas may help to tackle deforestation caused by cutting trees for firewood, the only energy resource in many remote areas in Nigeria (Oladoyinbo 2018[83]). But despite that, coal is listed among the dirty fuels that produce unwanted emissions.

The analysis of the corpus did not discover any themes related to a positive or neutral impact that may fuelwood or biomass have on the environment. There are, however, some negatives. While biomass is cited as an unwanted element exacerbating air pollution, unsustainable collection of firewood, illegal logging and deforestation seem to dominate the debate on fuelwood.

The situation differs significantly with the attention turned to renewable resources, unsurprisingly. Hydropower clearly represents and environmentally friendly resource, used through dams in energy provision, irrigation, and water supply. Moreover, it is put within the global agenda on transition to a green economy, which Nigeria should follow. The data also show that hydro dams prevent ecological catastrophes and thus deserve attention. Solar then has even more advantages related to environment and specifically to Nigeria. Along with reducing carbon footprint, once again with note to the global decarbonization agenda, solar is

[82] ibid.
[83] ibid.

employed by companies thriving for a corporate environmental responsibility. It is used by shops in cooperation with recycle points to promote eco-friendly waste disposal, and applicable in urban settings to create sustainable dwelling concepts across Nigerian cities (This Day 2018c). One article goes even further claiming that "keying into this trend [of substituting fossil fuels with renewables such as solar] is a realistic, killer economic ace for Nigeria," environmental benefits included (Nigerian Tribune 2017b). Speaking neutrally, renewable resources are represented plentifully in the corpus. Financing the development of solar and explaining the role of solar energy in agriculture is among the themes, while renewables are often cited in terms of climate change and its effects on Nigeria, and green bonds; an indigenous tool to promote reducing carbon emissions through the use of renewables. Negative themes are completely absent.

6.2.4. Political sub-discourse

In terms of politics, oil is reflected through acknowledging oil legislature that ensures more effective running of state oil companies, strengthens fiscal, commercial, and operational frameworks for oil industry and brings in more indigenous producers and traders. Moreover, Nigeria´s commitment to global principles for its oil industry is appreciated. Apart from policies, new institutions were introduced to promote harmony between oil states´ communities and oil companies. In a few cases, positive role is assigned to the security services and their operations on rescuing abducted oil workers or arresting oil thieves. Courts are also mentioned several times as an important actor; in a landmark judgement, the Supreme Court of Nigeria "ordered the federal government to adjust its share of proceeds from the sale of crude oil whenever the price exceeds $20 per barrel." (Iriekpen and Addeh 2018[84]) Not only does this uphold the rule of law, otherwise rare, but it also upholds the rights of oil communities and addresses the anomaly to avoid further losses of the oil states as the sharing formula has not been reviewed since 1999, but the oil price has increased (This Day 2018c). Other positives then include a mobile application for tracking issues in the oil sector that will effectively engage all stakeholders to control the industry or the Nigerian youths parading in Port Harcourt to express their support for fighting cultism and other criminal

[84] This Day.

activities such as attacks on oil pipelines that negatively affect the economic life of the community. Several politically neutral themes related to oil occur here too. They can be summarized under the following titles: legislation and oil sector reform including deregulation, OPEC policies and their relation to Nigeria and international oil policies in general, oil deals, contracts and swaps including licencing process, state support for oil marketers through fuel import allocations, need for local capacities in the oil industry, transparency and oil and elections. Nevertheless, the politically negative block is the most robust. Numerous articles speak about the oil curse, presenting Nigeria as "a pathetic study" of a country that is unable to fund its healthcare or education system for it does not refine its oil and must spend immense amounts of the federal budget on subsidies and importing petrol products (Uzoatu 2016[85]). Moreover, looting oil revenues and numerous cases of unaccounted oil money are the country´s bread and butter. Oil deals are often dragged to court, most notably the Malabu Oil Scandal which has been sued both in Nigeria and abroad. Oil frauds are, however, not limited only to revenues; subsidy frauds are discussed too with corruption being a common denominator that appears throughout time and different cases. These are also often linked to immense economic losses in billions of USD. Unsurprisingly, bad politics and non-enforcement of the country´s legislation is another theme in the corpus. Another large bunch of articles sheds light on oil theft, oil bunkering, pipeline vandalism and illegal refining. Finally, militancy, bombings, and other types of attacks in the Niger Delta constitute a significant share of the corpus, including kidnappings of oil workers, cult activities and the omnipresent oil wars that are somehow synonymous to modern Nigeria.

Positive political associations to gas are rather scarce compared to oil. Essentially, they are limited to gas policies that forbid gas flaring, an element causing financial losses for the country and a massive air pollution. More value from gas projects is thus expected together with an improved participation of local producers and traders. Steps towards transparency and non-discriminatory access to gas transportation networks are also among the positives. Individual gas policies and regulations are then discussed in a neutral manner, if either planned or being

[85] ibid.

processed and explained. Among these, Gas Master Plan is mentioned along with Petroleum Industry Bill, reflecting on improving gas to power projects. Negotiations between various players in the industry represent another theme here, with Petroleum and Natural Gas Senior Staff Association of Nigeria (PENGASSAN) being the dominant actor cited in majority of articles. Associations marked as negative are somehow similar to oil – illegal gas plants and gas stations, pipeline vandalism, looting of gas revenues, frauds brought to court and massive insecurity in the Niger Delta, where militants often burst gas pipelines. In addition, widely distributed substandard gas cylinders seem to be a problem that requires a political solution.

Speaking of coal, positive effects in the political arena are very rare, with notions to a political commitment of the president Muhammadu Buhari to promote Enugu Coal to Power project. Neutral representations include political debate on the future role of coal, role of private companies in coal power generation and mining licencing process that should favor domestic producers. Marked negatively, political decisions to abandon coal projects and improper sales of coal corporation properties can be found in the corpus. Most interestingly though, an international affair was mentioned once, pointing the Nigerian finger on western powers "being a stumbling block to Nigeria´s plan to improve power output through the use of coal. (...) we are being blocked from doing so, because it is not green. This is not fair because they have an entire western industrialisation that was built on coal fired energy." (Nigerian Tribune 2016b)

Positive political sub-discourse on nuclear, fuelwood and biomass is non-existent. Neutral label can be, however, put on few articles about these resources. On nuclear, the dailies analyze Nigerian nuclear and radiation regulatory framework and inform about a green light from the IAEA granted to the country for nuclear power energy projects. International cooperation with Russia and Iran is then examined, with the first being a key partner for Nigeria in this area. In one case this cooperation is being criticized for the government "lacks the discipline and technology to manage such a plant." (Jannah 2017c[86]) On fuelwood, political debate on forestation is presented as the country established a National Forestry Trust Fund to promote sustainable

[86] Daily Post.

policies on forest management. Negative aspects are then related to illegal logging and smuggling and supply syndicates among loggers and charcoal dealers in Borno State that are allegedly supplying the terrorist group Boko Haram.

A small share of articles is devoted to the positive aspects of renewable resources within the political arena. Political commitments towards hydropower projects represent a positive development. Moreover, as the federal government partners an indigenous company, "Nigeria now has competent hands in handling such issues, which were hitherto left in the hands of foreigners." (Enumah 2016[87]) On a similar note, untapping the potential of solar through political incentives is an important step towards better future. Moreover, solar is powering the Nigeria Immigration Service communication and surveillance activities to manage remote border areas, a positive effect an energy resource can bring. Renewables are then appraised collectively in terms of an international cooperation of Nigeria and Morocco, national commitments towards Renewable Energy Bill and exploring an effective way to foster private-public partnerships in this area. Most of neutral articles on renewables cover particular policies that should be put in place or amended to promote these resources, calls for public-private partnerships and political debates on the topic including public roundtables. Negatives are not avoided, although they apply only to hydropower and solar. While the first is associated with corruptive tendencies surrounding Zungeru and Afam hydro power plants, poor condition of government payments to hydro power stations and an inadequate legal framework leading to delays in hydro projects, the latter is rather linked to illegal activities such as solar panels and batteries theft and vandalism on solar powered streetlights. In addition, some of these apply to Boko Haram which has been found guilty of purloining solar panels.

[87] This Day.

7. Conclusion

7.1. Interpretation of the findings

Energy security is without doubt a very complex problem and as such, it can be approached from many different angles. Definition of the term essentially implies that economic focus has the highest priority since continuous and disrupted supply of energy in various forms, sufficient quantity and for reasonable prices are the most important pillars of energy security. Production and consumption of energy produced from various resources are worth analyzing as well as the role of energy in economic development of nations. It would be, however, misleading to think of energy security as a purely economic concept. Dozens of other definitions provide for different perspectives, stressing out the role of affordability of energy and equality in accessing it across social groups or geographical locations within each country to see how energy can contribute to promote flourishing of people and reduce energy poverty. This social perspective is thus rather micro, focusing on households or individuals, compared to the economic macro-view. In this labyrinth of definitions, others appear to look at energy security through environmental lens, pointing out to the increasingly complex link between energy production and consumption on one side, and the environment and climate on the other. Current global trends such as decarbonization of economies and promotion of renewable resources instead of fossil fuels play in favor of this view. No less importantly, political and geopolitical considerations are at stake while discussing energy security. Without legal and institutional framework, no country nor the international community would be able to promote transparent and accountable energy sectors where information is available, governments act on legal ground and the resource course is prevented to avoid harm to democracy.

Obviously, the concept of energy security has different connotations in Sub-Saharan Africa, including Nigeria. While the traditional macroeconomic perspective is often employed nonetheless (see Akinlo 2008, Richard 2012, Adams, Klobodu and Opoku 2016 or Zerbo 2017), alternative approaches can be found in the literature, stressing out the micro-level point of view. Instead of bringing something completely new though, they rather build on particular aspects worth

analyzing in African settings, such as electrification of rural areas, clean cooking energy provision and the role of women within the energy complex. For a long time, developmental agencies have promoted this in their projects in particular countries in the region. This goes further hand in hand with improving mostly large-scale power infrastructure that would allow for increased production of energy (Meierding 2011, compare with Leal, Leite and Nogueira 2018, Blimpo and Cosgrove-Davies 2019, Pistelli 2020). On the one hand, this may seem to bring us back to the economic approach to energy security. On the other, however, this is where environmental concerns come up together with specific social issues such as displacement of communities, or both domestic and international politics and political negotiations. Eventually, traditional or alternative, macro- or micro-level focused, these approaches can we summarized through the four sub-discourses of energy security discourse adopted in this thesis, namely economic, social, environmental and political. Not only does this prevent from omitting any important factor entering the energy security complex. It also offers the researcher the opportunity to explore new topics within this complex and potentially establishing a new sub-discourse or a stream within the existing ones.

To achieve this goal, analyzing discourse is a reasonable choice of a methodological approach towards the research. Building on the critical social constructivist approach and its theoretical claim that social reality is rather constructed by social structures around it than being fixed, discourse can by understood as a universe where objects come to life through talk and writing that assign them with a particular meaning. Qualitative content analysis then allows to analyze and categorize the meanings within a particular discourse. Reflexive thematic analysis is an additional research component for the researcher to familiarize with the data and explore patterns and new themes emerging from them. This combination of research methods helps to overcome the problem with lacking data from Africa, if employed properly. In this case, media provide a valuable input in terms of data, as the media discourse often compensates for the political discourse, inaccessible in most of African countries, including Nigeria. In the selected period of from 2015 to 2019, Nigerian media seem to prove the point well. Economic, social, environmental, and political aspects of energy security are all represented in This Day, Nigerian Tribune, and Daily Post, either positively, neutrally, or negatively

with particular energy resources associated with them. In this case, these include oil, natural gas, tar sands, coal, nuclear, hydropower, fuelwood, solar, biomass, wind, hydrogen and renewable. An overall number of 3958 articles was categorized within the economic, social, environmental, and political sub-discourses, and analyzed to explore the context in which they tend to appear. By doing so, based on the robust data presented in the previous chapter, the following paragraphs provide a strong and clear answer to the overall research question of this thesis: *How is the energy security of Nigeria presented in Nigerian media outputs, what energy security sub-discourse is dominant, and what major themes emerge from each sub-discourse?*

Despite the possession of abundant reserves of oil, natural gas and other resources, energy security of Nigeria could hardly be called effective. Nigerian oil contributes less than 10% to the country´s GDP, although it has accounted for 80-90 % of the national income in the long term through exports of a raw product. Ever since the oil was discovered in the country, it has been the greatest illness of its economy, not speaking of its social, environmental, and political impact (Norbrook 2020). The Nigerian Rural Electrification Agency (NREA) estimates that, nearly half of Nigerians lacks access to electricity and those lucky enough to be connected to the grid experience massive and frequent outages (Nwankwo 2020). One of the recent Afrobarometer surveys shows that more than nearly one in three Nigerians think providing electricity to its citizens should be a top priority for the government (Brass, Harris and MacLean 2019: 1). And although not that frequent as in other countries, Nigerians are taking to the streets to protest overpower outages that make their lives miserable (see e.g. Yafugborhi 2014 or AFP 2020).

And it is exactly this erratic power supply for which some say that "Nigeria may not get adequate electricity in 2,000 years." (Odunsi 2019) And yet, the economic narrative on energy security somehow dominates the discourse in Nigerian media. The analysis has clearly shown that in nearly half of articles, the country´s resources are discussed in an economic context, whereas any links to social dimension typical for energy security in developing countries appear in less than 20% cases. Although mainly neutral in meaning, renewable resources are significantly more often cited in positive light, whereas fossil fuels are assigned negative meanings. And despite

the media seem to promote the role of oil in fuelling the national income, hurting Nigerian economy is much more common view that appears in the articles. Nonetheless, oil is associated with the highest absolute number of articles in the corpus marked economic positive (87). As a result, the first hypothesis has to be declared true. Interestingly, almost no variation was found between the dailies inclined to the government and those who claim to be private and thus strictly neutral. It should be noted, however, that if measured as a share of the whole economic sub-discourse, positive economic associations of oil account only for 13%, the lowest share of all resources under study.[88]

> ***Hypothesis 1:*** *If a positive economic representation of energy occurs in a media output, it is represented by oil.*
>
> ***Result:*** *Partly true.*

For it restructuring of Nigeria resonated in the public discourse for long. Essentially, the idea that appeared in 2016 was for Nigeria to eventually acknowledge that, individual federal states of the country do not produce anything and only rely on the share from oil revenues provided by the federal government every month to them, according to a legal formula. This debate was followed by the urge to develop non-oil sectors, mainly agriculture, which do often drive the country´s economic growth instead of oil (Nigerian Tribune 2016c, This Day 2018e). In their Chatham House conversation on the *next generation Nigeria*, as they called it, el-Rufai and Okolo explain that the "national psyche has since then been focused on the distribution of easy oil rents from the central governments to the states ... [that] created a rentier economic structure and preserved the colonial stratagem of divide and rule using ethnic, religious and geographic identities." (el-Rufai and Okolo 2017: 4) This supports an idea that stems out of the analysis produced in this thesis that the concept of energy security is truly a network of different streams meddling into various fields, be it economy, politics, or social affairs. What more, the case of Nigeria clearly shows that a single resource can lay at the heart of a high-level political debate on political organization of the most

[88] Tar sands has a share of 0% as the corpus only include one article related to this resource, and it is economically neutral. Oil may thus not be rated the last, but considering that tar sands are almost non-existent in the corpus compared to other resources, it could be left aside.

populous country on the African continent. This is an important notion for further thoughts on how to analyze energy security in developing countries in particular, where the generally prevailing approach focused on production and consumption of energy is largely insufficient.

It should be noted, however, that for Nigerian government nor local businessmen, oil is a dead end. On the one hand, Nigeria claims to follow the global commitment towards clean energy and climate protection. In November 2021, it has adopted a new climate law to ensure zero greenhouse gas emissions between 2050 and 2070. And as of 2018, the country has invested vast sums into the development of solar and hydro power projects. On the other hand, there seem to be no end to fuel subsidies, and Aliko Dangote´s company plans to build a large refinery in Lagos to process more than 500,000 barrels of crude oil per day (Gerretsen 2018, The Continent 2022, Winkley 2022). Other businessmen follow, as Tony Elumelu´s investment in oil licences in 2021, the largest bet in Africa in a decade, clearly shows (Olurounbi 2021).

The restructuring debate indicates that for energy matters, economics is often inherently linked to politics a vice versa. To support the data, this thesis presented the reader with an overview of the institutional framework that provides both legal and strategic background for energy in Nigeria. Two points are particularly striking. First, analysis of the media outputs shows that one in three articles fits in the political sub-discourse on energy security. Interestingly, it is more than social and environmental combined, which may be startling given the high rate of energy poverty, disconnection of most of the rural areas across the country and the never-ending story of oil spills devastating the environment in the Niger Delta. Moreover, contrary to countries of the Global North, people in developing countries in Sub-Saharan Africa and Nigeria in particular do often live off-grid and the only energy they get is used for cooking. The individual and household level would be thus expected to appear more often in the discourse. And second, the analysis seems to have detected energy as a symptom of the dysfunctional politics in Nigeria. In the corpus, the ratio of negative and positive associations within the political sub-discourse is 1:7, meaning for every notion of a positive development there are seven unfavorable stories. It would not be unjustified to assume that oil accounts for most

of them, given the persistent crisis in the Niger Delta. Through employing violence, kidnappings and repeated attacks on oil infrastructure, the local militias aim to bring attention to the chronic poverty, pollution and neglect of demands placed by the local communities on the federal government. Aside oil, however, several other resources including solar appear to have negative political connotations. Nevertheless, it is reasonable to confirm the second hypothesis for the unsatisfactory developments in the Niger Delta is a dominant story in Nigerian media.

> ***Hypothesis 4:*** *If a negative social representation of energy occurs in a media output, it is represented through a social deprivation of individuals.*
>
> ***Result:*** *True.*

Fuelled by the anger among the local populace, militias in the Niger Delta have consistently demanded that new federal states will be established in the region for Ijaw communities, contracts for oil production granted to local leaders and development projects aimed at providing education, health and social care or jobs creation started. An attempt to provide partial solution through administrative reforms around the new millennium mostly failed due to corruption, poor discipline of execution, insecurity, and resistance to strengthen the federal organization of Nigeria (Igbokwe 2017). It is worth noted that at certain time, there was a common ground for governance reform shared by majority of stakeholders, including the federal government, civil society, and international partners of Nigeria. Transformation from a military to civil governments have also played in favor of such process. The efforts have, however, failed to meet the expectations (Newsom 2011). The amnesty programme introduced by the then president Yar´Adua promised to bring peace to the region and settle the long-lasting dispute by integrating militants into socio-economic life and supporting them through trainings. However, lack of opportunities combined with long-lasting disgust led to the emergence of new militant groups, undermining any efforts to solve what has ailed the Niger Delta for decades. Moreover, peoples of the region seem to have no faith in any federal-led attempts as they previously brought no results (ICG 2006). Due to the lack of political will and commitment, the government has eventually

turned to the "fire to fire" approach as the military operation called "Crocodile Smiles" from 2016 clearly shows. Unsurprisingly, this rather fuels the antagonism instead of bridging the gap between the Niger Delta communities and their enemy-to-be (Ajodo-Adebanjoko 2017). More than anything else, these examples are symptomatic to the broader problem of power politics in Nigeria. With implementation plans shrouded in mystery, it is unlikely for an average citizen to expect anything but another disappointment. As Garside (2011) pointed out, vision has never been enough. Lack of details required for execution of any new strategy or legislation combined with a strong lobby either from private companies or other powerful bodies that invest in power in Nigeria, any efforts to improve the situation result only in keeping the status quo. Therefore, it is hardly surprising that articles labelled political negative occupy a top position in the corpus as there seem to be no sustainable solution in sight.

Asking if the Nigerian youth still have a future, Uzozie claims that "under the watch or President Buhari, Nigeria has gone from being a failed state to a dead one." (Uzozie 2021) As a result of the perennial problems such as nepotism, incompetence, dictatorship, and no conscience of the country´s leaders, Nigerian society is falling into dark, unprecedented hardships where uncertainty is the only certainty for millions. When Muhammadu Buhari took over the presidency in 2015, he promised to deliver change to the Nigerian people only to leave their hopes in the cold. In a country where more than 60% of the population is below 25 years (Index Mundi 2020), situation of the youth seems to be the utmost important characteristic of Nigeria´s development. Uzozie goes on by pointing out that "(...) they´re furious at the lack of basic amenities. They´re furious about the lack of electricity (...)." (ibid) The problem is, however, much more complex, affecting other social groups too. In his op-ed for New York Times, Nigerian author Maja-Pearce expressed worries over the power provision in Nigeria as his monthly bill for electricity skyrocketed six times from 30 USD to 185 USD per month in February 2014 (Michaels 2015). Considering that 40% of Nigerians live in poverty,[89] such increase puts millions under existential threat. Without doubts,

[89] According to The World Bank (2022b). The number is probably much higher, somewhere between 40 and 62%, according to other sources (compare Monyei et al. 2017 and Onyeiwu 2021), and varies significantly among individual federal states of Nigeria, reaching 56% in Rivers State, 62% in Delta State, 81% in Ondo State and well over 90% in Katsina and Yobe States (Monyei et al. 2017: 5).

energy poverty is a serious problem in Nigeria. Tables 23 and 24 clearly show how energy (or its absence) relates to various social aspects and how energy poverty rates vary spatially, highlighting the rural areas living almost exclusively off-grid. This is in sharp contrast with the claim for Nigeria to be among the world´s 20 leading economies, postulated in Nigeria Vision20: 2020 document from 2010 (National Planning Commission 2009), considering that only 33 countries in the world have lower access to electricity than Nigeria (The World Bank 2022c).

Figure 23: Shares of Nigerian population living in energy poverty

Access to modern energy sources for cooking	
Percentage of Nigerian households that lack access to modern energy sources for cooking	71.8
Percentage of Nigerian households that have access to modern energy sources for cooking	28.2
Generation of indoor pollution	
Percentage of Nigerian households that generate indoor pollution	98.4
Percentage of Nigerian households that do not generate indoor pollution	1.6
Access to mains electricity and/or electricity from generator	
Percentage of Nigerian households that lack access to mains electricity and/or electricity from generator	54.2
Percentage of Nigerian households that have access to mains electricity and/or electricity from generator	45.8

Source: Ogwumike and Ozughalu 2015.

Figure 24: Energy poverty incidence per region

Category	*Energy poverty incidence (%)*
National	75.5
Zone	
South South	76.2
South East	75.3
South West	35.8
North central	82.3
North East	96.5
North West	90.7
Urban and rural areas	
Urban area	50.9
Rural area	94.9

Note that oil-producing states do relatively better compared to the poorest states in Nigeria, but still exceed national average by large.

Source: ibid.

On the one hand, the analysis of the corpus confirms that social problems caused by poor energy provision, need of the rural populace to use firewood that causes air pollution and subsequent health problems, and the energy inequality are with no doubts present in the energy discourse. The second hypothesis is thus confirmed as negative social representations of energy occur in the form of articles speaking of social deprivation of individuals and households.

> ***Hypothesis 2:*** *If a negative social representation of energy occurs in a media output, it is represented through a social deprivation of individuals.*
>
> ***Result:*** *True.*

On the other hand, positive associations outnumber the negatives within the social sub-discourse in two out of three dailies under study, most notably on solar energy. ESI Africa – Africa´s leading power and energy journal – provides a strong support to the evidence brought by this thesis, recalling a business study on social impact of solar in areas such as health, education, and food security. Another survey led by the Nigerian Primary Health Centres proves the point as the centres saw a 40-70% improvement in reducing vaccine waste and providing antenatal care. Moreover, in schools with solar equipment the study time of their students rose by over 200%, and farmers using solar-powered cold storage lost 30% less perishable goods in the post-harvest period (Tana 2022). Providing modern energy via solar is also on the rise in Nigeria, with households paying cash, raking loans, or renting the equipment, making it more accessible, other projects and studies indicate (Bungane 2016). Promising in the future, exploring the social impact of solar and energy in general offers space for future research with solar being largely discussed in Nigerian media and contributing significantly to the energy security discourse in the country.

Considering the energy-environment nexus, analysis of Nigerian environmental legislation offers an important insight showing the (un)attention paid to the environmental protection in the country. As a matter of fact, is has not been earlier than in 1999 when the basis of environmental policy was laid by the constitution.

And despite there have been previously some attempts to anchor environmental protection in law, it was not until 2007 when The National Environmental Standards Regulation Agency (NESREA) was established (ELRI 2021). But it was in only 14 years after oil discovery when the first oil spill occurred in Ogoniland in south-east Nigeria. Shell that was responsible for the leakage was forced to pay a fine only after 30 years in 2000. And yet, it has spilled another 3.500 tonnes of crude oil in 2007 in the Niger Delta, 7.000 tonnes in 2008 and 14.000 tonnes in 2009 (Vaughan 2011). Moreover, another massive leakage occurred in 1990 in Shell oil well. However, the damaged pipeline was not repaired for the next 15 years (Friends of the Earth International 2019). Although the UN Environment Programme proposed in 2011 to create a fund through to deal with the environmental damage caused by oil production in south-east Nigeria, "there is still no clean-up, no fulfilment of 'emergency' measures, no transparency, and no accountability for the failed efforts, neither by the oil companies nor by the Nigerian government," says an advocacy group of Amnesty International (CGTN Africa 2020). The Hydrocarbon Pollution Remediation Project (Hyprep), the governmental agency created to supervise the clean-up, does no better. Moreover, it was only established in 2017, some 60 years after the first oil was pumped out of the Nigerian wells (ibid). This disinterest is well documented through the analysis presented in this thesis. With only 6% of the energy discourse being focused on the relation between energy and environment, the media serve as a mirror to Nigerian government that has seemed to turn a blind eye on the problem ever since. This also explains why only a very limited number of articles talk about any positive effects of particular energy resources on the environment. One feature is particularly striking, though. If we look at the structure of topics labelled environmental positive in the corpus, majority is related to renewables as such and solar in particular. This would not be strange as renewables are considered clean resources. What is missing, however, is notions of the governmental efforts towards adopting renewables. Rather, individual firms or institutions such as the University of Ibadan are appraised for successfully opening programs on solar housing or power self-sufficiency. The absence of informing on Nigeria´s progress in developing renewable energy may simply suggest, there is actually nothing to inform about. Indeed, only 65 out of 3958 articles in the corpus mention acknowledge the role of renewables in providing clean energy and fighting climate change. "Nigeria appears unprepared for a comprehensive energy

transitioning; and it is hard not to see problems that the transformation may bring upon the economy of the nation," explains Alaigba (2021). As he further points out, Nigeria has claimed a commitment towards achieving a net-zero economy by 2050 and introduced an Energy Transition Plan to do so. Nevertheless, "not much is known of this plan," continues Alaigba (ibid). As the data from IRENA indicate, there has been no significant progress in the last years,[90] despite the adoption of the transformation plan and Nigeria´s commitment towards Sustainable Development Goals that include provision of clean energy. Moreover, Nigeria only set a goal of generating 38% of electricity from renewables as of 2020, with no goals whatsoever for improving capacity, renewable electricity used in transportation system nor hearing or cooling (IRENA 2021). Given that in 2021, 87,5% of electricity came from natural gas, the suggested picture seems to be true (Esan et al. 2021). On a similar note, Dioha (2018) explains that if the targets set by the NREEEP are to be met, the government will need to double its efforts according to current progress. Eventually, the third hypothesis can be marked as confirmed. Nonetheless, its explanatory power in comparison with the other three hypotheses is rather low considering the share of positive environmental representations in the corpus, which is negligible.

> ***Hypothesis 3:*** *If a positive environmental representation of energy occurs in a media output, it is represented by an effect of a renewable resource utilization.*
>
> ***Result:*** *True.*

7.2. Future prospects

The office of the UNDP has recently released a statement on some of the issues that need to be addressed in Nigeria if the country strives for future growth. Among others, energy was mentioned as an important factor affecting the country´s development. The UNDP representative made a strong link among energy, unsatisfactory economic situation and the large-scale insecurity that bedevils

[90] From 2016, power generated through renewables (in GWh) has decreased in 2017 and 2018 and only grew back to the 2016 level in 2019. Similarly, the net capacity change of renewables has not increased (IRENA 2021).

Nigeria. According to him, the military is not capable of ending the insurgencies that spread violence in several regions across the country. More importantly, however, these insurgencies are fuelled by the rising unemployment that threatens the country´s most populous group, the youth. And the reason behind unemployment is, among others, a poor power supply. Due to constant outages, various companies have left Nigeria and the cost of doing business in some areas thus increased. Industrial and agrarian sectors are hit the most, undermining the country´s economy. Eventually, "it may take another forty years for us to break loose from poverty," warns The Guardian Nigeria in their 2022 outlook for Nigerian power sector (Ogunmupe 2022).

This year, Nigeria will once again host the Nigeria International Energy Summit that will take place in the country´s capital, Abuja. With the event´s theme "Revitalizing the Industry: Future Fuels and Energy Transitions", it is worth remembering president Muhammadu Buhari´s speech from just last year. In his opening remark, Buhari recalled the achievements Nigeria reached in the field of energy. Three activities were particularly standing out, according to the presidency: successful conclusion of the Marginal fields bid round, preparing the Petroleum Industry Act and the Decade of Gas initiative. But while Buhari claimed to be aware of the environmental, social and governance demands placed on the development of the energy sector, his speech was mostly revolving around the role of natural gas that "ticks all the boxes," with only marginal notions of a global demand for cleaner energy and no support for the development of renewables in Nigeria whatsoever (NIES 2021). On a similar note, the Africa Energy Chamber positions Nigeria on top of the list of African producers of oil and natural gas, linking it to the need of further economic growth and addressing global energy demand. While it is without doubt important to recognize Nigeria´s role in the international energy, any notions of the country´s potential in renewables, most notably solar or wind, are present in the outlook (apofeed 2022).

It would be incorrect, however, to assume that Nigeria does not strive for clean energy at all. In 2020, the country´s vice-president call for a transition to clean and renewable energy that will create new jobs and a healthier environment (Ogunbiyi 2020). Indeed, growing investments in solar and hydro seem to support this vision

(Gerretsen 2018), yet the share of renewables in the country´s energy mix remains unchanged. It is estimated though, that if Nigeria covered 5% of land in central and northern part of the country by solar thermal systems, it would exceed its current power production three times (Newsom 2012: 15). And if solar-to-power systems were installed on just 1% of the total country´s land, the production would be thirty times higher, meeting the current demand more than enough, a fact already known by a decade (Bala 2012). Yet the current policies are not comprehensive and do not prioritize renewables, and they are poorly executed. The 80% untapped potential of hydropower provides strong evidence to this. As a result, Nigeria is not well set on track towards achieving the Sustainable Development Goal 7, which is to ensure access to affordable, reliable, sustainable, and modern energy (Ajao et al. 2021: 54-56), and the "double objective of energy access and climate mitigation (...) will only remain an illusion for Nigeria." (Dioha and Emodi 2018: 32).

To put in a nutshell, Nigeria is indeed facing what McDowell (2020) fittingly calls *energy security dilemma*. Lacking the capacity to properly utilize its natural resources, Nigeria remains dependent on oil exports, while it keeps importing majority of petroleum products. The greedy and corrupt politics continues to hinder the implementation of progressive energy policies, despite the introduction of the Petroleum Industry Governance Bill that aims to liberalize the oil industry. Persisting social insecurities are further exacerbated by the widespread violence in Northern Nigeria and in the oil-producing states in the South that contribute to the already disrupted energy supply. Environmental protection needs to be strengthened to save Nigerians from air pollution caused by gas flaring and massive utilization of traditional energy resources in households, and Niger Delta to be cleaned up after decades of land and water degradation caused by thousands of oil spills leaking from poorly treated pipelines owned by multinational such as Shell or Agip. The analysis of energy discourse in Nigerian media confirms the dilemma by showing that economic themes still dominate it, followed by political challenges while social and environmental issues on energy are only marginal, despite the potential Nigeria with no doubts has. It has also highlighted that the concept of energy security is multifaceted and would be misleading to approach it from a single angle, as the somehow tunnel focus on the relation of oil and Nigerian economy suggests, despite it clearly hurts it, and despite the negative role oil plays in other

areas. A strong political commitment to switch Nigeria to modern energy resources and ensure *energy democracy* (The Guardian Nigeria 2021) is what the country needs in order to provide all of its citizens with stable supply of environmentally friendly energy, to reduce (energy) poverty, sap the insurgencies and set the country on path towards sustainable development. Eventually, the public energy discourse may be a suitable channel to promote these goals.

8. Resources

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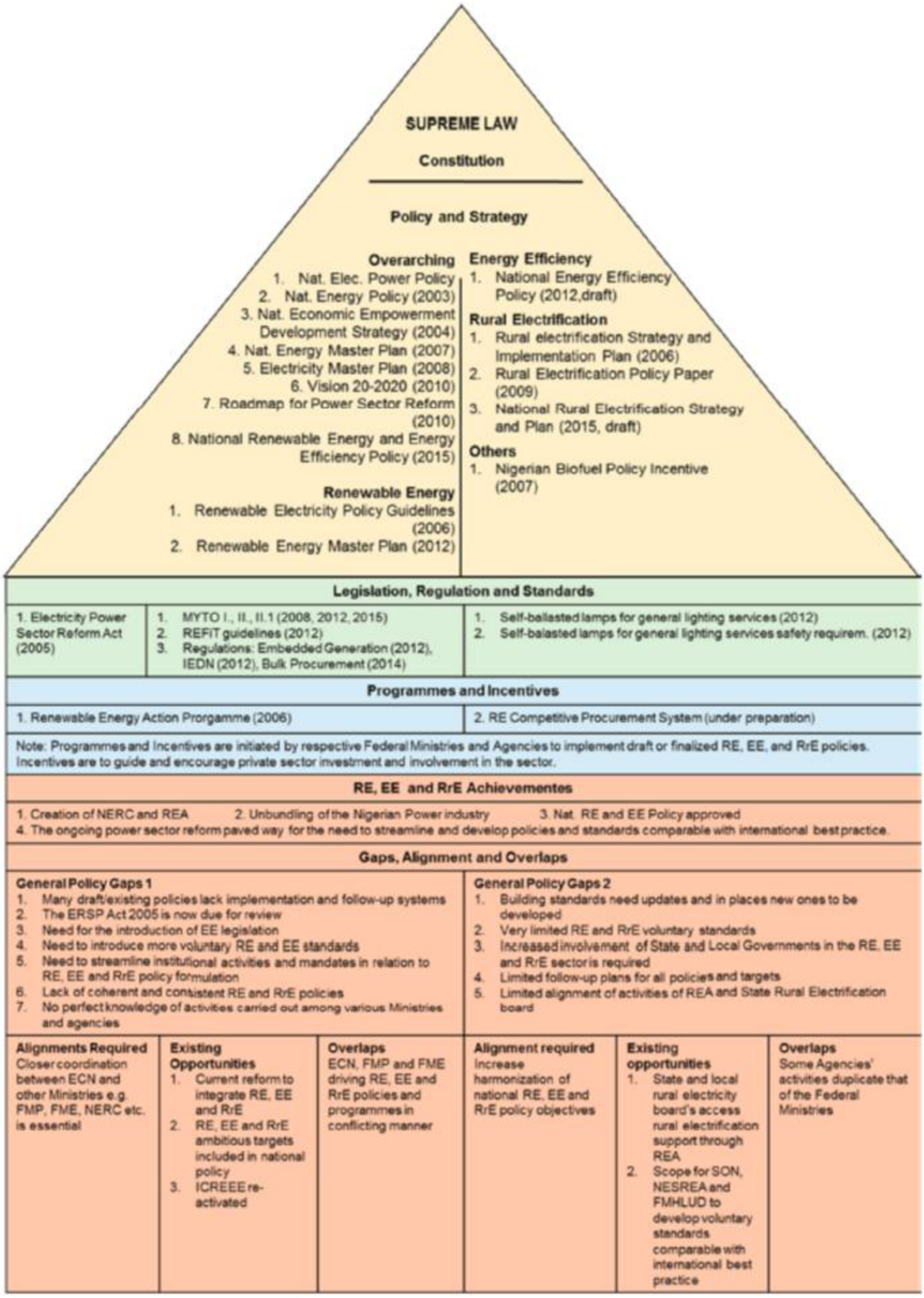
Appendix

Appendix A: Content frames and themes for energy security analysis

Sub-discourse	Content frame	Positive themes	Neutral themes	Negative themes
Economic	Energy production, consumption and supply, relation between energy, national economy and development, energy trade, taxes, energy subsidies, economic via.	Positive representations of energy in relation to: Economic growth, improved income, price growth, improved production and supply, improved tax collection.	Neutral representations of energy in relation to energy-economy nexus.	Negative representations of energy in relation to: Single-resource dependence, insufficient production and supply, price decline, ineffective tax system, harming subsidies
Social	Energy affordability, equity and reliability of supply, equal access to energy, energy justice, energy and poverty, social empowerment, energy provision in rural areas, household level living standards, social effects of natural resources utilization.	Positive representations of energy in relation to: Rural electrification, improved energy access, social well-being, improved service delivery, poverty reduction, improved well-being.	Neutral representations of energy in relation to energy-social nexus.	Negative representations of energy in relation to: Energy poverty, unequal access to electricity, social deprivation, negative health effects, forced eviction, lack of access to social service.
Environmental	Environmental effects of energy production and utilization of natural resources, sustainability, energy and global warming, pollution, ecosystems and biodiversity protection, role of renewable resources.	Positive representations of energy in relation to: Green energy, sustainability, reducing carbon footprint, reducing emissions, environmental cure.	Neutral representations of energy in relation to energy-environmental nexus.	Negative representations of energy in relation to: Negative ecological footprint of non-renewable resources, pollution, damage to livelihoods.
Political	Legal and institutional energy framework, transparency, accountability, natural resources governance, energy policies, private sector participation promotion, energy, politics and decision making, resource curse, energy criminality, conflict potential of energy, role of	Positive representations of energy in relation to: Successful policy, political integrity, improved private sector participation, transparency, accountability, conflict prevention or solution, democratic participation.	Neutral representations of energy in relation to energy-political nexus.	Negative representations of energy in relation to: Corruption, harm to democracy, energy theft, vandalism, conflict and violence, ineffective energy governance, lack of political will, inadequate policies and implementation.

Source: author.

Appendix B: Pyramid of Nigeria´s energy legislation



Source: GIZ 2015: 66.