

Political economy of green growth and energy security

A framework for country-level analysis

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Clingendael report





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Netherlands Institute of International Relations



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This report sets out a framework for analysing energy-related political economy factors in relation to green growth policy options. It is meant to be the main point of reference for country studies in Colombia, Indonesia and Kenya. Responsibility for the content of the report lies with the authors only. They would like to thank Ilmi Granoff, Leo Roberts, David Sogge and Luc van de Goor for their useful and constructive comments on earlier drafts, and Eva Maas for research assistance.

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1 Introduction

High-profile studies such as the Calderon report on the New Climate Economy and the much earlier *Stern Review on the Economics of Climate Change*¹ argue that low carbon policies can generate positive effects for economic growth and avoid the future costs of climate change. The Paris Agreement of 2015 underlines the need for urgent and bold action. However, government policies designed to reduce emissions may face resistance for a variety of economic, technical, social and political reasons. Politicians may be concerned that measures necessary to facilitate change may harm their standing with powerful interests, based inside or outside the country.

Energy security is a particularly relevant concern, since access to energy is key for businesses and citizens. In low- and middle-income countries, where economic growth is vital for lifting local populations out of poverty, reliable and affordable energy systems are essential. When high growth and insufficient infrastructure to meet this demand lead to black-outs and high volatility of energy prices, economic disruption and even unrest may be the result.² At the same time, in developing countries, a so-called green growth approach may provide the most opportunities: it may enhance efficiency of demand and supply, and the use of renewable resources could strengthen energy security, thereby favouring conditions for sustained economic growth.

Against this background, this report discusses the energy options that enhance energy security which are compatible with green growth objectives, and how 'politics' may influence this relationship. It sets out an approach grounded in political economy analysis (PEA) to identify which green growth options not only make economic sense, but might also prove politically attractive since they align with or can be linked to legitimate energy security concerns. The objective is to use this approach for studies in three countries: Colombia, Indonesia and Kenya.

1 The Global Commission on the Economy and Climate (GCEC) 2014. *Better Growth – Better Climate: The New Climate Economy Report*; Green Growth Best Practice project (GGBP) 2014. *Green Growth in Practice: Lessons from Country Experiences*; Stern, N. 2006. *Stern review on the economics of climate change*, Cambridge: Cambridge University Press.

2 For a more detailed analysis, see: Stark, J., Mataya, C. and Lubovich, K. 2010. 'Energy Security and Conflict: A Country-Level Review of the Issues', CMM Discussion Paper no. 2, United States Agency for International Development (USAID).

The objective of the overall project is to identify which green growth options in the energy sector resonate most strongly with the dominant political and economic interests in these countries, primarily by analysing the way in which powerful actors approach and act upon strategic energy security considerations. These actors could include powerful foreign investors, multinationals or other countries. This should give us a better insight in longer-term energy security concerns with a view to offering credible advice on green growth planning, thereby contributing to climate-compatible development.

Our selected countries span three continents and face typical challenges when it comes to considering energy security interests in relation to green growth. Colombia is a country with vast amounts of oil and coal within its territory. It is an emergent upper middle-income country with a high vulnerability to climate change. Together with other Latin American states, Colombia is quite ambitious within the context of international climate negotiations and has joined the OECD Declaration on Green Growth. At the same time, it is still highly reliant on hydrocarbon energy exports, which currently make up around 8% of its gross domestic product (GDP). Also, a high degree of inequality and the precarious post-conflict situation are key domestic concerns likely to influence the country's ability to implement green growth policies.

Indonesia has recently carved an opportunity out of historically low global oil prices by ending government subsidies for domestic fossil fuel consumption and could influence other countries to do the same. Its islands are still predominantly using coal as main source of energy, but renewables might become increasingly attractive as alternatives. Indonesia has the 4th largest population and is the 6th largest emitter of greenhouse gases when current levels of deforestation are included.

Kenya has huge potential in solar and geothermal power, but needs to create the business environment for this sector to prosper.³ Land ownership and recent discoveries of oil and gas may jeopardise the country's prospect of becoming Africa's renewable energy champion. Kenya is a low-income country, but with high growth figures and a function as a regional economic powerhouse. It has a strong civil society and private sector, but politically is under increased stress as a result of terrorism and regional instability, which undermine its governance capacity.

The central question of this project is how to identify structural and political barriers as well as enabling factors in countries struggling to achieve green growth in the context of such diverse energy security considerations. This report is structured as follows: Chapter 2 will discuss the concepts of energy security and green growth, synergies and tensions that may arise, and will describe how this project will identify where energy security and

3 Newell, P., Phillips, J., Pueyo, A., Kirumba, E., Ozor, N. and Urama, K., 2014. 'The Political Economy of Low Carbon Energy in Kenya', IDS working paper no. 445, Brighton: Institute of Development Studies.

green growth align. Chapter 3 will concentrate on what it means to carry out a PEA, and how it could be adjusted to identify political barriers and enabling factors for the uptake of energy security and green growth options and benefits. Chapter 4 sets out what should be included in a country-level political economy analysis of green growth and energy security. It discusses problems we might face when carrying out our research, how they will be addressed and how we could adjust our framework for carrying out an energy-security sensitive PEA.

2 Energy security and green growth

This chapter introduces the concepts of energy security and green growth, gives examples of possible interactions and discusses the approach taken in the project to lay the foundation for the political economy analysis.

Energy security

Security of energy supply is the number one goal of energy policy in most countries. The study of energy security traditionally focuses on the uninterrupted supply of fossil energy: in the first half of the 20th century the aim was to ensure availability of oil to troops in wartime situations; following the oil crises of the 1970s, Western governments focused on protecting their economies from deliberate shocks in oil supply caused by foreign actors, with an emphasis on geopolitical 'inter-state' considerations and dependency on fossil fuels.⁴ In recent years, the concept has regained attention: the world's population and prosperity are rapidly growing and with it the demand for energy, while at the same time supply is vulnerable to fossil resources scarcity and geopolitical changes and (in)stability. Energy security concerns no longer focus on oil availability alone, but also include electricity supply and other energy sources to provide modern energy services.⁵

Recent surveys of energy security literature show that the definition and scope of the term varies and there is no clear definition that fits all contexts and purposes. In the absence of a clear definition, energy security has become an umbrella term for many different policy goals and the focus changes over time.⁶ Although recent literature suggests adopting definitions that include a variety of contemporary topics such as environmental sustainability, poverty reduction and inclusiveness, for the purpose of

4 International Institute for Applied Systems Analysis (IIASA), *Global Energy Assessment: Towards a Sustainable Future*, 2012.

5 Jansen, J.C. and Seebregts, A.J., 2010. 'Long-term energy services security: What is it and how can it be measured and valued?', *Energy Policy*, no. 38, 1654-1664.

6 Winzer, C., 2012. 'Conceptualizing energy security', *Energy Policy*, no. 46, 36-48; Ang, B.W., Choong, W.L. and Ng, T.S., 2014. 'Energy security - Definitions, dimensions and indexes', *Renewable and Sustainable Energy Reviews*, no. 42, 1077-1093.

this study⁷ we use the more restricted International Energy Agency (IEA) definition: **energy security is the uninterrupted availability of energy sources at an affordable price.**⁸

Quantifying energy security is difficult. Measuring energy security for a country using indicators has gained in popularity, but meaningfully capturing the national energy security situation in a few (or even one) indicator is hardly ever useful.⁹ Methods usually target sources of risk and aspects related to impacts, but they encounter methodological challenges such as choices on the number of indicators, their relative weighting and the level of aggregation.¹⁰ In our analysis we will not aim to quantify energy security, but instead we take a qualitative look at the different types of threats and vulnerabilities that can compromise energy security.¹¹

Cherp and Jewell (2012) introduce three types, or perspectives, of vulnerabilities and threats to energy security. Threats can originate from predictable causes such as resource scarcity, inadequate capacity, failing infrastructure and exposure to (international) commodity price fluctuations. Typical responses to making a country's energy system more *robust* include using abundant and accessible energy sources, ensuring adequate investment in infrastructure and reducing energy intensity of economic activities. A second perspective calls for the protection of energy systems from unpredictable threats, for example extreme weather events such as floods, droughts and hurricanes, or natural events such as earthquakes and volcanic eruptions (and tsunamis). In response, countries improve their *resilience* by diversification of energy sources and design of infrastructure to withstand and recover from shocks and stresses (for example by decentralising infrastructure). The final perspective on energy security is protection from actors whose interests do not necessarily align with ensuring domestic energy security: unfriendly (foreign) political powers, unreliable trade partners, foreign owners of energy assets and deliberate disruptions by overly powerful energy companies, terrorists and criminals.¹² To improve *sovereignty* and domestic control

7 We deliberately do not include acceptability related to environment in our definition to avoid logical fallacies (cf. green growth benefits increase energy security because of enhanced environmental acceptability).

8 International Energy Agency (IEA), 2014. [Energy Security](#), (accessed June 2015).

9 Cherp, A. and Jewell, J., 2014. 'The concept of energy security: Beyond the four As', *Energy Policy*, no. 75, 415-421.

10 Winzer, C., 2012. 'Conceptualizing energy security', *Energy Policy*, no. 46, 36-48; Ang, B.W., Choong, W.L. and Ng, T.S., 2014. 'Energy security - Definitions, dimensions and indexes', *Renewable and Sustainable Energy Reviews*, no. 42, 1077-1093.

11 Cherp, A. and Jewell, J., 2014. 'The concept of energy security: Beyond the four As', *Energy Policy*, no. 75, 415-421.

12 *Ibid.*; Global Energy Assessment (GEA), 2012. *Global Energy Assessment: Towards a Sustainable Future*, Cambridge: Cambridge University Press and Laxenburg: International Institute for Applied Systems Analysis (IIASA).

over energy systems, governments typically respond by increasing national energy independence, establishing strategic reserves and exercising strict market regulation and oversight.

For the country-level analyses, energy security refers to the availability of sufficient and affordable energy supply to meet our various demands, for example for transport, electricity, heating and cooling. We look at the existing energy system in terms of production, trade, transmission and distribution, and consumption. We consider access to energy as a key driver for development¹³ and whether it is affordable (taking into account energy subsidy schemes). This will raise questions to explore, such as: How is energy security featured in existing policies and strategies? How important and relevant is energy security as a concern, and for whom? What are the projections for energy demand and supply? How do contextual factors affect energy security concerns? Who is likely to be confronted with the consequences of changes in energy security?

Green growth

Since 2008 the concept of *green growth* has attracted attention from the international policy community as a 'new' approach for governments to achieve economic growth while taking climate change and social development concerns into consideration. As a concept, green growth is closely linked to the notion of *green economy*, which dates back to the radical environmentalism of the 1960s/1970s and was put back into the spotlight by the UN Environment Programme (UNEP) in 2007 with its Green Economy Initiative. Green growth is the dominant approach to reach that green economy – it relies on mainstream neoclassical economics with an emphasis on growth, innovation and productivity improvements, while environmental policies and programmes are primarily viewed as opportunities and not as threats.¹⁴ For the purpose of this study we use the OECD definition¹⁵ of **green growth as fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.**

Two types of arguments for green growth exist. First, the costs of acting on climate change are significant but manageable, compatible with the continuation of economic growth, and much less than the costs of not acting (this is the main argument presented

13 We consider access to energy for households part of the energy security, because it is an important driver of energy policy in developing countries. For a discussion, see Pacauri and Cherp (2011) 'Energy security and energy access: distinct and interconnected challenges', *Environmental Sustainability* 3:199-201.

14 Death, C., 2015. 'Four discourses of the green economy in the global South', *Third World Quarterly*, 36(12), 2207-2224.

15 OECD, 2011. *Towards Green Growth*, May 2011.

by the Stern review¹⁶). Second, environmental protection is not only compatible with continued economic growth, but it can positively promote it. Neither line of argument for green growth is ‘universally accepted’, but they do give the concept of green growth political appeal: it offers an *alternative development pathway* with a level of environmental protection and climate compatibility that is not being met by current or ‘business as usual’ growth paths.¹⁷

Based on the imperative of sustainable development, proponents of green growth highlight the benefits: money can be saved, new industrial opportunities emerge, and green infrastructure choices are often more resilient to resource scarcity and climate-related hazards. Green growth also faces a multitude of barriers: costs and pricing of externalities, biased institutions and policies, technology risks and lack of skills/expertise, lack of awareness and social acceptability, competitiveness concerns, and the lobbying power of vested interests.¹⁸ The benefits do not constitute a *general* argument that green measures are always good for the economy: they present factors that can combine to create *specific* opportunities which, if responded to, can effectively give a boost in economic competitiveness and welfare. They differ from country to country and sector to sector.¹⁹ The barriers are real and can only be addressed by active policy; in many cases this will involve setting prices and incentives appropriately.

Since the global financial crises that began in 2008 and the growing awareness of climate change in the beginning of the 21st century, green growth has become a prominent topic in development fora. It is part of the narratives of international organisations including the World Bank, Organisation for Economic Co-operation and Development (OECD) and World Trade Organization (WTO) (and, with some nuances, UNEP, UN Development Programme (UNDP), International Labour Organization (ILO)) and of major economies in the West and the global South. Developing countries and emerging economies that have bought into the green growth discourse include South Korea, India, China, South Africa and Ethiopia. The role of the state – or national government – to promote pathways to a green economy has seen growing acceptance, as can be seen in UNEP’s 2009 ‘Global Green New Deal’ proposition and the green

16 Stern, N., 2006. *Stern review on the economics of climate change*, Cambridge: Cambridge University Press.

17 Jacobs, M., 2012. ‘Green Growth Economic Theory and Political Discourse’, Grantham Research Institute Working paper no. 108, London: The Grantham Research Institute on Climate Change and the Environment.

18 Green Growth Best Practice project (GGBP), *op. cit.*; Hallegatte, S., Fay, M., Vogt-Schlib, A., 2013. ‘Green Industrial Policies: When and How’, World Bank Policy Research Working Paper no. WPS 6677, Washington DC: World Bank.

19 Zadek, S., Forstater, M. and Naidoo S., 2012. ‘Shaping a Sustainable Future: Strengthening the role of development cooperation in delivering sustainable development’. Policy Briefing Paper prepared for the UN Development Cooperation Forum, New York: UN Department of Social and Economic Affairs.

transformation narratives of the governments of South Korea and South Africa.²⁰ Whether green growth is a new fashion or grand scheme for change remains to be seen, but it is clear that as a concept it gains traction with a broader audience of decision makers than the related 'sustainable development narrative' has been able to.²¹

For the country-level analyses we focus on existing options to strengthen green growth. We focus on green growth technologies in the energy sector, since these are likely to have the most synergy with energy security concerns. However, we will also look at green growth options that may not be synergetic with a desire to strengthen the degree of energy security. The energy technology analysis includes consideration of efforts to increase resource productivity while decreasing energy intensity, improving efficiency of conversion and use, use of efficient energy management strategies, and the use of renewable energy sources. We look at existing policies and strategies for green growth in the energy sector and opportunities for more ambitious approaches, and how these affect energy security. This will raise questions to explore, such as: What are the potential for and drivers of green growth? What is the prevailing narrative on benefits, trade-offs and costs related to green growth? How effective have strategies and policies been to date, what are the barriers, and who benefits?

Synergies and tensions between energy security and green growth

Literature on the relationship between green growth and energy security is scarce.²² Energy efficiency in supply and demand, increased resource productivity, shifting to more efficient modes of transport, and demand management all serve both energy security and green growth ambitions. Achieving this efficiency has proven more difficult than it sounds and the role of government policy is often highlighted (for instance by the International Energy Agency and in the New Climate Economy report). In the long term, any national energy system will probably need to be based on renewable energy to be secure, due to the inherently finite nature of fossil fuels. In the short and medium term, however, there may be tensions and there are political choices to be made on the speed

20 Death, C., 2015. 'Four discourses of the green economy in the global South', *Third World Quarterly*, 36(12), 2207-2224.

21 While building on the more traditional sustainable development discourse, the green economy agenda is more precise in two aspects: it is articulated in a number of theoretical economic frameworks, showing that it can be compatible with existing thinking about economic growth, and it promotes new national accounting techniques as alternative measures of progress, cf. Ferguson, P., 2015, The green economy agenda: business as usual or transformational discourse?, *Environmental Politics*, 24(1).

22 See, for example, IEA, 2007. 'Energy Security and Climate Policy – Assessing Interactions', Paris; King and Gullledge, 2013. 'Climate change and energy security – an analysis of Policy Research', *Climatic Change*, 123:57–68.

and scale of uptake of green growth alternatives in the energy sector. Some examples of situations in which these trade-offs occur are discussed below.

For the power sector, increased efficiency in demand and supply contributes to energy security and it is a key part of green growth. Using renewable energy for power generation can reduce import dependency, especially when it replaces oil and gas, and it typically increases price stability. The costs of several renewable energy technologies are dropping rapidly²³ and in many contexts present an economically attractive alternative to oil, gas or coal-based power generation. Even in situations where fossil power plants offer economically attractive baseload generation now, there is a risk that assets could become 'stranded' before the end of their 30-60-year lifetime because of rising fuel prices or competition from cheaper (renewable) alternative suppliers. There are possible tensions: technologies such as wind and solar are intermittent by nature, which means there is a need for specific capacity to balance supply and demand. Also, not all renewable energy technologies are by definition more secure: hydropower, for example, can be vulnerable to disruptions in availability of water due to up-stream activities in neighbouring countries, or due to natural rainfall variability or the effects of climate change.

For the transport sector, vehicle efficiency improvements and shifting to more efficient modes of transport can contribute to green growth and increase energy security. Moving to biofuels and electric vehicles can further reduce dependency on (imported) fossil fuel and in some cases reduce costs. However, trade-offs can emerge: although some countries have successfully introduced biofuel industries and demand, most of the supply is still heavily subsidised or regulated; biofuels may cause more emissions as a result of land-use change and in some countries it is proving difficult to scale up biofuel production due to competition for food, water and land; and a shift to (hybrid) electric transport and introduction of mass public transport using rail and bus requires large infrastructure investments and behavioural challenges.

In the developing world, more than 2.7 billion people rely on traditional biomass for cooking,²⁴ which is often not harvested in a sustainable manner, causing carbon emissions and environmental degradation, and also creating potential future energy supply challenges due to the depletion of forests. Programmes to alleviate energy poverty and insecurity tend to focus on efficient stoves for cooking, liquid petroleum gas (LPG) to replace kerosene for lighting, and technologies such as solar photovoltaics (PV) and biomass digesters to provide electricity. The scalability of renewable energy technologies makes them interesting for rural and off-grid situations. However, they require investment and policies to create viable markets, and thereby introduce a new

23 REN21, 2015. 'Renewables 2015 – Global Status Report', REN21 Secretariat, Paris.

24 IEA, 2015. *World Energy Outlook 2015*, Paris.

type of economic dependency (and vulnerability) to users who may thus far not have been paying for their energy.

Where do energy security and green growth align?

Keeping in mind the central question of how to identify structural and political barriers as well as enabling factors in countries struggling with diverse energy security considerations and the potential for green growth, we will take the following qualitative approach for the country studies.

First, we will look at the current energy system in terms of production, trade, transmission and distribution, and consumption. We then look at projections for demand and supply in the short (2020) and medium term (2030), distinguishing between the power sector, the transport sector, and the use of heating and cooling for industry and the residential sector (including cooking). Based on this, we aim to get a sense of infrastructure and energy capacity needs, and the demand and supply technology options (including fossil and renewable) that could be used to achieve this. Our starting point will be existing strategies and plans for the energy sector,²⁵ but we will also consider alternative technologies. We then reflect on each of these demand and supply options and whether they address or introduce energy security threats and vulnerabilities. Next, we look at how the options that are best suited to ensure energy security align with green growth objectives. Here, too, the starting point will be existing strategies and plans for green growth, although we keep an open mind as to alternatives and increased ambition. The aim of this comparison is to identify whether there are obvious alignments and where the choices are less clear. Based on this approach, we lay the foundation for the political economy part of the country studies by identifying where technologies and approaches to address energy security vulnerabilities align with green growth.

25 Official projections may have a political component and we will need to investigate their bearing in reality.

3 Political economy analysis

Decisions affecting green growth and energy security are likely to emerge from a highly politicised process involving numerous competing interest groups and actors. Simply identifying the most promising policy options for green growth is an essential exercise, but it is not sufficient to ensure the actual implementation of a green growth approach, and state resources and capacity to meet these demands tend to be limited.

In practice, carefully selected policies regarding energy use, or steering of future economic development, land reform and security provision, are very often not adopted, or not implemented in the spirit with which they were conceived. The political constraints, weaknesses and distortions that might in one way or another affect the design and implementation of policies are multiple, and vary according to the level of state and economic development, and the nature of a political elite's entrenchment in power.

In a recent study several common characteristics of middle-income countries in relation to green growth transformation were presented highlighting the structural difficulties these countries usually encounter.²⁶ The study points to a general openness of governments to engage in green growth and the ability to build upon existing processes and institutions of industrialisation, as well as moderate levels of transparency and governance. However, environment ministries are usually weak within governments, (polluting) industries grow fast, the private sector is underdeveloped and often dominated by parastatals, public resources are moderate, and deficits in infrastructure prevail. Politically, these countries tend to focus on economic development, topics of inequality and expansion of services. There is increasing awareness of localised pollution, but framing policy as climate mitigation may risk losing support from key political decision makers. There is public resistance to energy subsidy reform and an increasingly powerful incumbent energy sector. Such political economy factors structurally undermine the potential for an effective implementation of green growth. However, as we will outline below, political economy analysis can also be used to go beyond identifying structural constraints and can find situations where energy security is an additional argument for green growth. Moreover, it can go beyond state institutions to identify the powerful actors and the networks able to catalyse change.

26 Bailey, R. and Preston, F., 2014. 'Stuck in transition: managing the political economy of low-carbon development', Chatham House Briefing Paper, Chatham House.

What is a PEA and how might it be related to energy security and green growth?

There is no single approach to political economy analysis, nor is there any particular consensus as to what its most important areas for study should be. An array of methods are available, with all of them potentially laying claim to the central contributions of PEA as described in a publication from the UK Department for International Development (DFID): 'Political economy analysis is concerned with the interaction of political and economic processes in a society: the distribution of power and wealth between different groups and individuals, and the processes that create, sustain and transform these relationships over time.'²⁷ At the same time, one recent count found 15 different approaches to the use of political economy in analysing development, including among them historical materialist, modernisation theory, neo-liberal, neo-statist, gender and environmental.²⁸

The huge variety in accounts of the interaction between politics and economics owe much to these different ideological standpoints. However, the past 20 years has seen an intensive evolution of the philosophy and practice of PEA under the influence of ever-greater interest from development policy makers. This has been driven in large part by the growing awareness of national development agencies and international financial institutions that purely 'technical' solutions to issues of poverty and economic growth result in very different outcomes according to the national context. This insight was further burnished in the early 1990s by the realisation that heavy state intervention in an economy, widely associated during the free-market orthodoxy of the 1980s as hostile to economic growth, has in the case of East Asia generated extraordinary material advances. Again, the political economic context – and not the policies in and of themselves – proved crucial in understanding whether and how state-led development could work.²⁹

According to one of the most comprehensive recent analyses of trends in PEA, three principal phases of the political economy approach have arisen in the past two decades.³⁰ The first was marked by a focus on formal governance, with an emphasis on the most suitable bases for institutional reform and democratisation. The second, and arguably most significant, attempted to generate far more nuanced accounts of political

27 Department for International Development (DFID), 2009. *Political Economy Analysis How To Note*, London.

28 Payne, A. and Phillips, N., 2010. *Development*, Cambridge: Polity Press. Cited in Hudson, D. and Leftwich, A., 2014. *From Political Economy to Political Analysis*, Birmingham: Developmental Leadership Program.

29 Kohli, A., 2004. *State-Directed Development: Political Power and Industrialization in the Global Periphery*, Cambridge: Cambridge University Press.

30 Hudson, D. and Leftwich, A., 2014. *From Political Economy to Political Analysis*, Birmingham: Developmental Leadership Program.

power in developing countries by using a more holistic perspective, acknowledging the key role played by informal structures and transaction, and encouraging close qualitative analysis. Outstanding examples of this approach can be found in the Drivers of Change framework designed by DFID, and the Strategic Governance and Corruption Analysis (or SGACA) used by the Netherlands Ministry of Foreign Affairs. The Drivers of Change, for example, used a three-level analysis of a country's structures, institutions and agents as the basis for a comprehensive and integrated political economy analysis.

The abundance of analytical material generated by these methodologies, and the copious reports that followed from them, has in turn generated something of a backlash – and thus a third generation of PEA, which aims to produce rather more focused operational guidance. This new generation, exemplified by the World Bank's Problem-Driven Governance and Political Economy Analysis, has been described as a turn to the 'economic of politics', with a greater emphasis on the material incentives underlying political agency, and a new terminology anchored in the identification of 'stakeholders' to any given policy area.³¹ This approach has certainly proved insightful in understanding the dilemmas facing particular individual sectors or policy areas in developing countries, and has thereby displayed its relevance for grasping the trade-offs and tensions affecting energy or resource use.³² However, as a general approach it also risks becoming slightly mechanical in its understanding of motivation, overly dismissive towards the role of ideas and ideologies (whose importance in a globalised era has become undeniable), and to a large degree insensitive to the sort of informal and opportunistic coalitions and crossovers characteristic of political dynamics in many low-income countries.

As a result, PEA as applied to energy issues, can now draw on a large conceptual basis that exposes the importance of analysing a range of actors involved (or excluded) from decision making, and the material axes of competition between them. In our case this is likely to include their economic interests in coal, oil and gas production and use. However, it is crucial that the benefits of the sort of holistic, multi-level analysis that characterised the second generation of PEA is not lost. This requirement is all the more urgent for two reasons. The first stems from the observation made above regarding the global spread of ideas, which has been evident for instance in the wave of civic protests following the Arab uprisings of 2011, as well as the contagion of certain extremist

31 *Id.*, chapter 4.

32 Harris, D., 2013. *Applied political economy analysis: A problem-driven framework*, London: Overseas Development Institute (ODI). An example of this sort of analysis, as applied to the energy sector, can be found in Newell, P., Phillips, J., Pueyo, A., Kirumba, E., Ozor, N. and Urama, K., 2014. 'The Political Economy of Low Carbon Energy in Kenya', IDS working paper no. 445, Brighton: Institute of Development Studies. See also United Nations Development Programme (UNDP), 2011. *The Political Economy of Renewable Energy*, UNDP discussion paper.

ideologies. Policies related to energy and climate are particularly exposed to such transnational influence due to the global character of the issue, and discussions over the international distribution of responsibility.

The second issue goes to the heart of political phenomena by considering not merely the formal and informal structures of power, as well their economic bases, but also the crucial role played by networks of influence that are joined by shared interests, even if these are transient. Important parts of a PEA when applied to a particular part of the state and policy-making apparatus (e.g., the energy sector) are thus to: locate the intermediaries and pact-makers that generate coalitions of support; understand the overlapping interests that enable different, fragmented groups to strike working arrangements; and elucidate what each side must 'put up with' for an arrangement to hold.³³

As a result, the various phases of PEA have provided different sets of tools for understanding the dilemmas around energy security and green growth in developing countries. By focusing on the constituent elements and core dynamics of political life, the so-called second generation provides the means to understand key decision-making structures and the influences upon them. Through a targeted sectoral analysis, drawing on extensive energy data, PEA can uncover the material incentives that govern the strategies of interest groups, and can enhance understanding of the dynamics of their competition. Yet a PEA related to energy and environmental issues would also benefit notably from a better understanding of how the policy areas are linked in practice to other crucial concerns for national development,³⁴ how the global debate affects perceptions and policies, and what networks and coalitions are being created around these issues – and by whom.

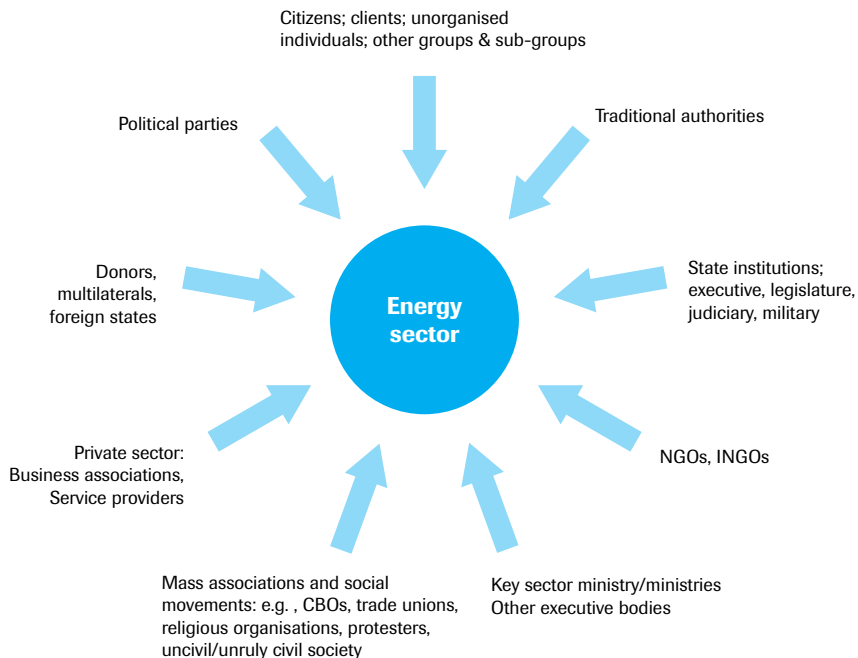
The PEA methodology to be used in the three country case studies will therefore incorporate all these elements from the last decades of political economy studies. It will map relevant actors for energy security and green growth policies, their interests and networks of influence, as well as links with overarching concerns for national development and how international debates on green growth resonate within a country.

33 This sort of network analysis is now commonly used in many fields of study, but has proved particularly useful in understanding criminal phenomena. See Briscoe, I., Perdomo, C., Burcher, C.U., Ed. 2014. *Illicit Networks and Politics in Latin America*, Stockholm: International Institute for Democracy and Electoral Assistance (IDEA).

34 This issue is spelled out in Bailey, R. and Preston, F., 2014. 'Stuck in transition: managing the political economy of low-carbon development', Chatham House Briefing Paper, Chatham House.

Mapping networks, interest and controversies

Who drives sustainable energy policies, and who seeks to hold them back? Many groups and actors are to be considered in such an analysis. As a result, the political economy analysis proper begins with a study of the main interest groups, both formal and informal (or even illicit), that are involved in a country's decision-making process on energy production and use. Although each country will have its own particularities depending on its level of energy use, its rate of economic growth and its pattern of import or export of hydrocarbons, it is likely that a few key groups with core material interests can be identified and mapped. These are likely to include: the hydrocarbon sector; renewable energy and energy efficiency business representatives; environmental campaign groups; coalitions of those affected by climate change and local energy-related pollution; the broad business lobby as well as major landowners; criminal organisations and non-state armed groups engaged in illegal mining, refining or oil theft; public interest groups affected by changes in the pricing and distribution of energy; and, lastly, civil servants with professional interests in preserving good relations with large energy firms. In each country, other groups are likely to emerge in the mapping process. It is important in this respect to recognise that changes towards sustainable energy use will produce both winners and losers. Furthermore, the mapping should seek to identify the main current controversies regarding issues of energy and climate change involving these groups.



Source: ODI Analytical Framework for Understanding the Political Economy of Sectors

This mapping, which should preferably be carried out early in the research process, will rely on careful selection of sources, and comparison or triangulation between them. Understanding the processes of decision making on energy issues at state level, in which these different groups (although perhaps not all of them) are involved, is also crucial. These processes may refer both to formal mechanisms of ministerial and inter-institutional policy making, or to informal sites and network arrangements whereby crucial decisions are taken.

As a result, two different sets of 'stakeholders' will be studied for different purposes. The first group consists of actors with a role in the concrete energy supply chain and to whom energy security matters directly. The second group of actors and organisations, which is described here and is used as the basis for the broader PEA, includes those who influence decision making on energy security and green growth by shaping the political and business environment in which strategic choices on development are made, but who may not be direct stakeholders in the energy system. This may include political parties, think tanks, advocacy groups, financial investors, development banks, non-state armed groups, etc.

Political economy analysis: the nexus between energy security, development and power

After the mapping of relevant actors, the process of analysis follows. This combines energy sector analysis with analysis of the relationships between the actors influencing, either directly or indirectly, policy decisions related to energy security and/or green growth.

For our research, it will be key to analyse the interests and power of key actors and networks. This will be the most research-intensive, and will require extensive interviews, a study of documents and data (e.g., of government spending and revenues related to energy), and possibly field visits. The aim is to study in greater depth the ways in which issues relating to green growth and energy security – which have been analysed in the first part of the research – mesh with a cluster of other issues shaping the socio-economic development of a country, and its distribution of social and political power and private goods. In this way, the study will be able to assess the trade-offs and possibilities for genuine political traction in the push for sustainable energy policies.

As regards the energy sector analysis, basic questions for research in each country concern: structural and historical legacies; change processes and their consequences; ideologies, values and perceptions; management, leaders and composition; financing and spending; and incentives, motivation and capacity. Meanwhile, analysis of the broader field of political economy affecting energy policy will focus on the role and perceptions of the identified actors and organisations, the historical and material basis

for the relationships between them, and the power balance in these relationships.³⁵ The deeper understanding of the networked, competitive or collaborative relations between these individuals and organisations will then feed into an analysis that will focus on the broader field of a developing country's politics, and the role of energy policy within this. Several issues stand out in this regard:

- **The links to socio-economic development and rent seeking:** How important is hydrocarbon use and production to economic growth, state revenue streams (and thus budget capacity), and to general macro-economic stability (e.g., through balancing the country's capital account)? What might reduced hydrocarbon use and production signify for socio-economic development in the short, medium and long term?³⁶ Furthermore, how does the energy sector affect and shape the distribution of power between the public and private sector, and thus the strategic interests of both?
- **Effects on conflict-affected territories:** How are the patterns of land use and ownership connected with energy production affected by the presence of non-state powers and armed groups, if at all? How might peace and stabilisation efforts be shaped by energy considerations that involve use and exploitation of this land?
- **Vertical and horizontal coalitions and divergences:** What alliances are formed between different political interests on energy issues? Do different levels of the state, namely the central state, regions and municipalities, hold divergent opinions on the merits of alternative modalities of energy use and production? In what ways does this reflect the distribution of resources from energy use and production?
- **Public interest:** How are the interests of the general public likely to be affected by potential changes in energy use and production, above all as regards material aspirations, use and access to electricity and transport, and the effects of climate change on livelihoods? What are the main global and local influences on public perceptions in this regard?
- **State power and projection:** To what extent does the central state rely on certain sorts of energy production for its projection of power and influence at regional and geopolitical scale? To what extent can these sources of power be renegotiated? How significant and deep-rooted are state commitments to mitigating climate change at global level (e.g., OECD Declaration on Green Growth)?

35 Moncrieffe, J., and Luttrell, C., 2005. *An Analytical Framework for Understanding the Political Economy of Sectors and Policy Arenas*, London: Overseas Development Institute.

36 This connection is acute in Latin America, where, according to a recent World Bank report, commodity booms have been associated with sharp wage rises for least-skilled workers. See World Bank, 2015. *Working to End Poverty in Latin America and the Caribbean. Workers, Jobs and Wages*, Washington DC.

Sources of information

In order to carry out the PEA, a wide range of information sources needs to be employed. For this research we aim to include the following sources:

- specialist press and online media (on energy production and environment)
- advocacy documents (e.g., from business, environmental and/or consumer groups)
- expert interviews (above all energy industry insiders and ex-ministers of energy and environments, but also from a far wider range, including political leaders, civil society, state officials, business representatives and lobbies, consumer groups and environmentalists)
- policy and analytic documents (from the state, think tanks and academics); analysis of relevant government documents and budgets; where possible, field visits (e.g., to municipalities affected by high levels of hydrocarbon production)
- a workshop with key stakeholders to discuss their views on energy security and green growth.

4 Guidance for the country reports and how it might be adjusted

This document sets out a first version of the conceptual framework for analysis. It will be applied to our case study countries (i.e., Colombia, Indonesia and Kenya) to assess how useful it is and how resource-intensive it will be. On the basis of these cases, we will create a 'how to do a green growth and energy security focused PEA in a country' at the end of the project. We will also strive to publish research findings and a summary of the framework in a peer-reviewed academic journal article.

Country reports

Each of the country reports should feature a thorough assessment of the country's potential for green growth and perspectives on climate change issues, alongside a grounded analysis of the most important political, social and economic interests and structures guiding and shaping decisions on these issues – including those not conventionally featured in studies of environmental or energy policy.

The energy security analysis will focus on vital energy systems and zoom in on the roles that groups of energy users play (i.e., government, commerce and industry, and households). The current energy system and market is described in relation to the institutional and policy context, and the ambitions and expectations for growth. The analysis will focus on differences in the configuration of the energy system, its actors and their roles and interests.

This may support us in our analysis of what is holding back green growth policy options from becoming reality or where win-win situations exist or could emerge. We do this by gaining an accurate understanding of the interests and influence of different stakeholders within their particular (institutional) context, allowing us to answer questions such as: Which political economy constraints and enablers influence the ambition and implementation of national climate and development plans and in what potential ways? What viable policy options can be identified for a robust green growth trajectory as a result? When do arguments for green growth and energy security coincide, and when do they not? What does energy security mean for different audiences, and who will need to be convinced of green growth benefits?

Analysis of green growth potential, benefits and synergies with energy security

- Map current energy system: production, trade, transmission and distribution, and consumption
- Identify existing strategies and plans for the energy sector
- Identify existing strategies and plans for green growth
- Analyse existing projections for demand and supply in the short (2020) and medium term (2030)
- Assess infrastructure and energy capacity needs, and demand and supply technology options
- Reflect on the options and how these address or introduce energy security vulnerabilities
- Analyse which options are best suited to ensure that energy security aligns with green growth objectives

Problem-driven PEA for green growth and energy security

1	Reflection: Problem identification	What is the problem to be addressed	In country XYZ opportunities for green growth benefits are not captured; energy security vulnerabilities are not addressed
2	Diagnosis: Systemic features	Why does the problem persist? Structural features and institutions	Mapping of <i>structural features</i> : resource availability, patterns of (sectoral) investments, human and technology capacity, social issues, technological and financial barriers. Mapping of <i>institutions</i> : government ministries, agencies and their interaction. Existing laws and regulations. Policy processes (formal and informal rules).
3	Diagnosis: Political economy drivers	Why does the problem persist? Interests, incentives, legacies	Analysis of <i>stakeholders</i> : incentives, rents/rent distribution, historical legacies and prior experiences with reforms, social trends and forces (e.g., ethnic tensions) and how they shape current stakeholder positions, actions and dominant discourses
4	Diagnosis: Ideas and norms, networks and coalitions	Which actors and networks match best with available capacities and institutions for green growth and improved energy security?	<i>Identify which actors and networks are most promising ('winners'), which capacities and institutions they could use. Focus on political arguments, narratives and policy processes to be activated. Consider how to compensate or counter 'losers'.</i>

The studies may, in all likelihood, reveal systemic blocks to progress towards green growth, and also identify business sectors with vested interests in expansion of hydrocarbon production and use. They may, ideally, also identify groups and coalitions that would be most inclined to support moves to sustainable energy. This may not always be their apparent political priority but be merely congruent with other objectives (such as poverty or inequality reduction). The country studies should seek to assess what sources of pressure and influence are linked to support for green growth with a particular focus on energy security considerations. Lastly, the studies should provide a realistic panorama of potential capacity for and commitment to green growth at different levels and in different bodies of the state.

Work in progress

Carrying out an analysis of energy security, green growth and political economy factors that enable or constrain options that will benefit both energy security and green growth is no simple 'ticking the box' exercise. At this stage, the following more general aspects are under consideration by the project team.

- **Replication:** We may encounter problems with using the approach for a broader range of countries (applicability of the framework and generalisability of research findings). We strive to make a structured, focused comparison to see what general lessons we can learn on the basis of the cases.
- **Research dilemmas:** We may fail to create ownership with national politicians and other elites for our research. A key challenge will be how to limit/focus on crunch issues of strategic importance for green growth and energy security. Another will be how to address situations that do not coincide with our assumption of energy and economic growth. A specific challenge may be the call for an activist industrial policy, which often is made in relation to green growth policies. Developing countries might not be able to implement such an activist policy or might lack the resources for it.
- **Impact:** Ultimately, the objective of our work is to capture the complexity of making green growth a reality. But how can we ensure that findings reach the relevant audiences – national policy makers, the private sector, donors and other relevant stakeholders? How can we influence policies with the findings of the country studies? In order to address this issue we need to improve our insight into the extent to which green growth options are attractive not only economically but also politically. In this respect, it helps that we focus on energy security considerations, which we expect is key to strategic decisions on a grey or green energy future. At the same time, the PEA will allow us to generate better understanding of the motives of powerful actors regarding green growth options, and how these options can be made more attractive to a broader range of constituencies. By combining data on material interests related to energy systems with an analysis of powerful actors, networks and their diverse motives, we hope to contribute to more realistic and meaningful green growth policies.

Annex 1 – Stakeholder mapping

For the stakeholder mapping, various types of stakeholders and their attributes need to be taken into account.

Types of stakeholders:

- Hydrocarbon sector representatives
- Renewable energy and energy efficiency business representatives
- Environmental campaign groups
- Civil society, NGOs
- Coalitions of those affected by climate change and local energy-related pollution
- Broad business lobby as well as major landowners
- Criminal organisations engaged in illegal mining, refining or oil theft
- Public interest groups affected by changes in the pricing and distribution of energy
- Office-seeking civil servants
- Other opinion leaders such as committees, think tanks and various media

Attributes to record:

- Roles and responsibilities
- Ownership structure and finance
- Power relations and influence
- Historical legacy of the sector
- Corruption and rent seeking
- Service delivery beneficiaries
- Ideologies and values
- Decision-making processes
- Implementation issues and potential for reform

Annex 2 – Interview questionnaire

Each interview should start with a brief introduction of the research project and by whom and for whom it is being carried out. Mention that the interviews are confidential (unless otherwise requested), are not taped and will not be explicitly referenced in the project's written outputs.

1. What is your current position and how is your work/position related to energy security, climate change, green growth?
2. What is your understanding of energy security and how is it related to key political concerns and debates in your country?
3. What is your understanding of the most important development-related challenges affecting your country?
4. What is your understanding of the green growth concept and how do you value its potential for your country?
5. Do you consider renewable energy and energy efficiency politically attractive for your country? Why (or why not)?
6. What do you consider are the barriers for the uptake of renewable energy and energy efficiency?
7. Who do you consider are the main supporters of a larger installation and/or use of renewable energy and energy efficiency measures in your country?
8. Who do you consider are opposing or would be less enthusiastic?
9. How influential/powerful do you consider the actors you just described? How powerful do you regard your own position on the subject to be?
10. What did we forget to ask that might be relevant for a study on the politics of green growth and energy security in your country?

Annex 3 – Annotated outline for the country case studies

1. Introduction

- Climate, energy, and green growth
- Government and politics
- Development and geography
- Political economy

2. Climate, energy and green growth

- Climate impact and vulnerability
- Energy production, supply, and consumption
- Energy security
 - o Capturing benefits: Affordable, Available and Accessible, Acceptable
 - o Mitigating vulnerabilities: Robustness, Resilience, Sovereignty
- Green growth
 - o Strategies and plans
 - o Potential, drivers: narrative on benefits, costs and trade-offs
 - o Effectiveness and barriers

3. Government and politics

- Architecture and weaknesses
- Policy framework on energy and climate
- Role of public and private sector

4. Development and geography

- Economic model and public finances
- Domestic stability
- Urbanisation and growing middle class
- International projection

5. Political economy: interest groups and modes of influence

- Perception and framing: public opinion, government and the private sector
- Key stakeholders: support and opposition
- Obstacles
- Opportunities
- Alliances and divergence
- Modes of influence

6. Conclusion and recommendations

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