Statkraft

Grantham Research Institute on Climate Change and the Environment

Statkraft Policy Research Programme

‘FIT-FOR-PURPOSE’ ENERGY AND CLIMATE CHANGE MITIGATION POLICIES FOR THE EUROPEAN UNION

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The Grantham Foundation for the Protection of the Environment

LSE The London School of Economics and Political Science

This document describes the research theme for the Statkraft-LSE Policy Research Programme, including the aim and rationale of the project, its structure, and the entry points into the policy debate.

1. AIM OF THE RESEARCH PROJECT

This research project on **''Fit-for-Purpose' Energy and Climate Change Mitigation Policies for the European Union**' is funded by the Statkraft Policy Research Programme.

The Programme began in January 2016 and will continue until September 2017. It focuses on the transition to the low-carbon economy and aims to contribute high-quality independent analysis to support and inform the development of energy and climate change policies within the European Union.

Under this Programme, the Grantham Research Institute will develop a research project addressing the need of policy-makers to understand 'what works' among climate policies, in terms of effectiveness, public acceptability and long-term credibility.

In particular, the research aims to explore how well the complex architecture of energy and climate change policies in the European Union, which has emerged over the past decade, does function, and whether it can meet future carbon reduction and energy security ambitions for 2030. It will assess whether the current policy framework is 'fit-for-purpose', recognising (i) the market, policy and economic context in which the policies are set and (ii) the need to meet the more ambitious decarbonisation requirements for 2030 and beyond.

The focus will be on policies affecting primarily the power sector and electricity-intensive industries at European level and in a set of representative Member States.

2. RATIONALE

Energy and climate change mitigation policies in the European Union have been strongly focused on achieving targets for 2020. These targets, coupled with a broad mix of state-level incentives, have shaped the current electricity market structure and power generation fleet. Low-carbon energy technologies have also advanced considerably, with new approaches to power generation that draw on different resources, produce different power profiles, and have significantly different socio-economic impacts, reaching the point now when they are reasonably competitive with other forms of electricity generation.

Looking forward, a further phase of policy interventions will be needed to deliver on targets and political ambitions for 2030 and beyond. These interventions will need to take into account the characteristics of the existing energy market, the rate at which new technology solutions become investable, and the effectiveness of the European

Union in developing policy to drive change. The current situation within Member States, such as the availability of natural resources, political and strategic interests, and concerns with the private sector, is also likely to influence the effectiveness of new policies.

The starting point for the analysis carried out for the Statkraft Policy Research Programme is the current landscape of European Union policies. This defines the context within which energy and climate change mitigation policies for the next 15 years are set, including the current market structure, the broad technology fleet, the suite of available policy instruments, fiscal constraints, and public attitudes. The work will explore policy options – both at European and national levels - that are effective in this context and can achieve the European Union's ambitions for 2020 and 2030.

3. PROJECT STRUCTURE

The research project will be structured around the following three parts.

1) Background research: Policy landscape

This part of the analysis aims to define the context within which future energy and climate change mitigation policies are set, and provide the background information needed for the analytical part of the research (described in the following sections). It is a relatively brief introductory 'stock-taking' exercise, reviewing current energy and climate change mitigation policies and the features of today's electricity market. Notably, it aims to provide insights on:

- What are the main climate change mitigation and energy challenges that are likely to shape future policy choices?
- How are Member States performing in terms of facing these challenges?
- What are the key European Union and domestic policies in place that affect the power sector and electricity-intensive sectors?

The focus will be on key EU-wide policies and legislation, as well as domestic policies in selected Member States, chosen to be representative of key geographical and economic features within the European Union.

2) Analytical research: 'Fit-for-purpose' policies

This is the core analytical part of the research project. It will examine the current and future potential effectiveness of energy and climate change mitigation policies to investigate their unintended consequences and issues of public acceptability and political credibility. It will draw on theoretical analysis as well as experiences from European and national policies, where these offer relevant insights. The analysis will be developed in three papers, each exploring a particular aspect of energy and climate change mitigation policies:

- **The distributional impacts of climate change mitigation policies on market players:** This paper will identify ideal design options that would enable climate change mitigation policies affecting the power sector to encourage new entrants

without penalising low-carbon incumbents. Secondly, it will consider 'second best' real world examples, from a selection of Member States (Germany, Poland and the UK), to understand the distributional incidence of existing policies and identify possible 'fixes' to minimise distortions.

- **The acceptability of climate change mitigation policies:** This paper will aim to provide guidance for decision-makers about the design and introduction of climate change mitigation policies, legislation and regulations while taking into account their acceptability by the private sector and public. Based on the academic literature in economics and social policy, this project will present 'stylised facts' (ie findings that are generally applicable) about how design choices can determine the acceptability of policy instruments for climate change mitigation affecting the power sector. It will also explore how these stylised facts relate to past, current and potential future policies, legislation and regulations of the European Union and its Member States, and will include a case study on the UK.

- **Political credibility:** This paper will develop and apply a framework for the assessment of the political credibility of Member States' commitments on climate change mitigation, defined as the likelihood that policy-makers will keep to their intent of reaching their targets for 2020 and 2030. The aim will be to highlight key areas where Member States should focus efforts to improve their policies, institutions, decision-making processes, policy performance and involvement of the public and stakeholders, in order to meet their 2020 and 2030 targets.

3) Synthesis and policy conclusions

This section will bring together all of the elements of the analysis, providing an overall synthesis and highlighting lessons and recommendations for new policies and business models.

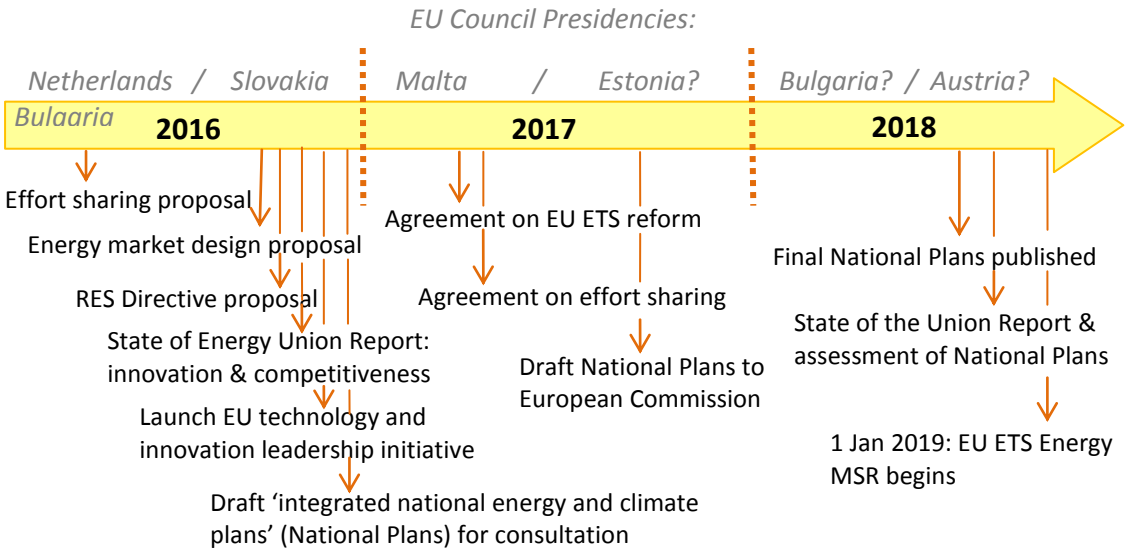
Best practices and recommendations for future 'fit-for-purpose' policies for climate change mitigation would be defined on the basis of the information collected throughout the study, as well as brainstorms and discussions with experts and stakeholders, including the European Commission, businesses and national civil servants. The synthesis will be provided in a clear and concise format, in a style suitable for policy-makers.

4. ENTRY POINTS INTO THE POLICY DEBATE

Following the Paris Agreement on climate change in December 2015, the focus of decision-makers in the European Union is again turning to domestic policy. The key challenge is now to turn into concrete action the Intended Nationally Determined Contribution (INDC) submitted by the European Union ahead of the Paris Agreement. Good policies will be essential to achieve the 2030 climate change targets in the most cost-effective way. However, it is also clear that these policies will be designed in a second-best world and will need to work within the existing market, policy, fiscal and

economic context. This creates opportunities to engage and inform the ongoing debate in the European Union (Figure 1).

Figure 1: Linking the research to the EU policy cycle



The research project will examine a range of existing and potential market-based instruments, including emissions trading and taxation, as these types of tools will remain central to climate change mitigation policies in the European Union. Notably, the 2015 State of the Energy Union Report stressed the need to find "opportunities to shift the tax system in a way that stimulates employment and competitiveness while contributing to the Energy Union objectives in a number of Member States".

Issues relating to the political credibility of climate change mitigation objectives and the acceptability of policies are also important. A lack of credible policies would create large uncertainties over the ambitious decarbonisation pathway required to 2050 and beyond. Notably, in 2016-17, the European Union will seek agreement on the effort sharing between Member States of emissions reductions across sectors not covered by the European Union Emissions Trading System (EU ETS), as well as on a revised renewable energy Directive. The debate about the proposed reform of the EU ETS is also ongoing, and is being challenged by some Member States.

Credible and acceptable policies are also crucial to reassure stakeholders and to attract private investment; this is particularly important as new investment is needed in low-carbon innovation and deployment. This part of the analysis aims to support the upcoming State of the Energy Union Report and innovation strategy, expected in the second half of 2016.

The project will also provide independent assessment ahead of the submission of Member States' 'Integrated national energy and climate plans', which are due to be finalised in 2018.