

Key messages

- The “spillover” effects of non-energy (primarily economic) policies on the energy system are of considerable interest from a policy perspective. In ([The spillover effects of UK trade-enhancing industrial policies on the energy and non-energy systems](#)) we analyse the impacts of export promotion policies - a key element of the UK’s Industrial Strategy - on the energy system and energy policy goals.
- As the impacts of such policies are, in a large part transmitted via their effects on the economy, we adopt a computable general equilibrium model of the UK (UK-ENVI) that fully captures the interdependence of the energy and economic systems.
- Our simulation results suggest that an across-the-board stimulus to exports stimulates all major economic indicators, and increases total energy use significantly. The energy intensity of GDP increases - not directly through energy exports - but indirectly through the energy sectors’ linkages to other sectors.
- Export led growth therefore impacts on energy use - and significantly so. This in turn is likely to have an adverse impact on emission targets.
- Policy makers should be aware of the fact that a successful implementation of the Industrial Strategy may create significant tensions with the UK’s Clean Growth Strategy, for example, and with the goals of energy policy more generally, in the absence of offsetting policy initiatives.
- Ultimately, a knowledge of such spillover effects of economic policies on the energy system creates the potential for more effective and efficient policy making.

Introduction

The wider impacts of energy policy on the economy are increasingly being recognised in academic and policy discussions about the appropriate use of policy. For example, recent analyses of energy efficiency policies emphasise the stimulus to economic activity that these can generate, and the potentially beneficial impacts they can have on distributional issues.

However, the potential impact of economic policies on energy policy goals have been comparatively neglected. Ignoring such spillovers may lead to inefficiencies and undetected conflicts (or complementarities) among energy and non-energy policy goals, which could be avoided by a more *holistic* approach.

In our recently published working paper, we considered the potential impacts of a successful UK industrial, business and innovation policy on the UK. In particular, we looked at the system-wide effects of successful export promotion policies on the energy system.

The spillover effects of UK trade-enhancing industrial policies on the energy and non-energy systems

As the energy system impacts of such policies are, in a large part transmitted via their impact on the economic system, it is necessary to adopt an approach that fully captures such interdependence. We therefore use a model of the UK economy to analyse the impact of a successful export stimulus on both the non-energy and energy sub-systems.

Summary

At one level, the results of our analysis are re-assuring – the UK export promotion policies significantly stimulated all the major indicators of UK economic activity, including GDP, employment, consumption and investment. The major objectives of UK industrial policy are positively impacted by export promotion.

However, there are significant, and typically negative, spillover effects to the energy system. Most notably, UK exports are, on average, energy intensive, so that export-driven expansion is associated with a greater stimulus to total energy use than to GDP: the energy intensity of economic activity therefore increases as a result.

Furthermore, while not modelled here explicitly, this result could translate into increased CO₂ emissions if action is not taken at the same time to decarbonise the economy in line with the Industrial Strategy challenge on Clean Growth. General, across-the-board, export-driven growth is typically not “green” in nature. However, it may be possible to target such policies at specific sectors to stimulate “green growth”.

Overall, our results suggest that while successful export promotion strategies are likely to have the desired effect on the economy and the stated goals of industrial policy, they could have significant negative spillover effects on the energy system and energy policy goals, unless offsetting policies are pursued.

Neglecting these spillover effects creates a source of inefficiency in the conduct of policy, and a knowledge of their likely scale, could be used to develop a more *holistic*, coordinated approach to policy formation and implementation.

For example, pursuit of the clean growth strategy could mitigate/ offset an increase in emissions that would otherwise result from an export promotion policy. This would minimise the prospect of conflicts between UK industrial and green growth strategies.

The paper can be accessed here: [The spillover effects of UK trade-enhancing industrial policies on the energy and non-energy systems](#)

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The spillover effects of UK trade-enhancing industrial policies on the energy and non-energy systems

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