

Policy coherence for green innovation

The challenge of linking supply-side and demand-side innovation policies through governance

Central to governance frameworks are the co-ordination mechanisms that bridge the various policy areas that can foster green innovation. Policy co-ordination is an essential part of a green innovation system. It ensures the coherence of measures to reduce environmental degradation through market mechanisms and regulation and those that aim to do so through innovation measures. Various developments have made this difficult to achieve (OECD, 2010). Policy co-ordination of separate policy areas (e.g. S&T policy, economic policy, environmental policy, transport policy, agricultural policy, industrial policy) encounter hurdles such as inertia of actors, incompatibility of policies or dominance of certain ministries/agents. Even in sub-parts of the system, such as the R&D system, the lack of a shared vision regarding the transition can lead to misaligned or conflicting research agendas and sector/ministerial goals and to excessive competition and unnecessary duplication of effort. Institutional path dependencies can also be an obstacle to adapting governance structures to meet the green growth challenge.

Furthermore, demand-side policies are not always distinct from supply-side policies. Yet, responsibility for demand-side policies such as tax incentives for green technology use, regulations, standards, public procurement or consumer policy is often far removed from the ministries and agencies responsible for promoting R&D and entrepreneurship or for meeting demand from public missions (e.g. transport ministries). There are some attempts to integrate demand-side policies, such as public procurement, in the design of supply-side policies such as R&D grants or, as in some countries, the simultaneous use of feed-in tariffs while supporting green R&D. At the same time, not all potential failures and barriers make government intervention necessary or desirable. There is no guarantee that government policy will be able to address a market or systemic failure in a way that effectively improves the outcome, e.g. in welfare terms.

However, although the idea of simultaneous use of demand- and supply-side policies is simple and intuitive and is widely accepted in the academic literature, its transposition to a real world situation is not always straightforward. There can be as much variation within policy types, as between them. It may sometimes be difficult to make a sharp distinction between supply- and demand-side innovation policies (Wintjes, 2012).

This has been apparent in the design of a number of policies. Prizes have included demand-side factors and can make the winning technology publicly available, thereby enhancing knowledge spillovers and dissemination; the IPR system may encourage both innovation and diffusion; and systemic policies such as cluster policies can bring together innovative firms and downstream users. Innovation or research vouchers are another policy tool for bridging supply and demand. They subsidise the purchase of research or technology services by SMEs either from other firms or from public research.

Governance decisions are also very much driven by political rather than economic considerations. In view of the fact that the transition to green growth will involve losers and winners, some ministries/agencies may be reluctant to upset their clientele through active co-ordination efforts in the area of green innovation.

The policy mix for green innovation

Countries will need to use a combination of policy instruments to achieve their policy goals. Moreover, policies to foster green innovation will be successful if they enhance the performance of

the system as a whole, addressing weak links in the system as a priority. In all countries, the priority assigned to different elements depends on the nature and state of their system: one size does not fit all.

Whether by design or default, all countries make different choices in their mix of policy instruments to support innovation. In most OECD countries, both supply and demand side policies are being used to strengthen innovation. This includes public investment in research, generic incentives to strengthen private investment in R&D, more targeted measures to support specific goals or steer innovation towards given sectors, technologies or groups of firms, as well as measures to support commercialisation and demand for green innovation.

This combination of demand-side and supply-side policies is an important consideration for the policy mix. Neither supply-side nor demand-side policies are likely to be effective in isolation. Fostering innovation requires addressing the entire innovation chain. As noted above, one reason for the growing interest in demand-side policies is their potentially low budgetary cost and their possible role in helping select “winners” on the basis of better functioning markets.

Even when countries have similar policy goals, the respective instrument mixes can be expected to differ as these mixes need to be adapted to the specific environments in which they are intended to work. These environments vary in terms of the structure of the productive base, institutions and preferences. For instance, a strong preference for a simple, transparent tax system may rule out tax incentives for R&D.

Different countries also exhibit different degrees of acceptance of regulation. And, the efficacy of various demand-side instruments can be highly sensitive to industry-specific characteristics. The key challenge for policy makers is therefore to strike a balance between the various instruments. For example, direct and indirect support for R&D may be applied as complementary tools, making best use of their respective advantages and recognising their interdependencies.

Another balance concerns how to achieve critical mass in the use of policy instruments. The trade-off involved here is on the one hand to have a set of instruments that is sufficiently differentiated to meet the needs of complex innovations systems. On the other hand, the policy mix needs to avoid inefficiencies arising from operating too many schemes at too small a scale. This is a real concern, since instruments can develop constituencies of support and a degree of autonomy, making them less amenable to change or cancellation, even where this would be sensible. In some cases, there may be ways to streamline the range of instruments and programmes, reduce complexity, enhance transparency and lower administrative costs and deadweight loss.

National strategies and priorities in support of green innovation

National plans serve to articulate priorities for research and innovation and to set policies and instruments. A growing number of OECD and non-OECD countries are establishing green growth strategies or prioritising activities within their national S&T strategies to create critical mass and accelerate the transition to green innovation and technology. Indeed most countries continue to place environmental issues, climate change and energy high on the list of priorities for innovation policy in general. However, specific policy priorities for green innovation and technology differ markedly across countries, depending on their scientific and economic specialisation, competitiveness goals and societal objectives. Priorities can be expressed through targeted funding instruments such as R&D programmes or through specific sectoral and scientific initiatives. National strategies also include quantitative objectives in terms of R&D spending and monitoring. Some OECD governments have introduced plans through ministry agendas, mainly environment or energy ministries. In practice, however, the mapping and the identification of green growth strategies purely based on STI is difficult, given that most national plans are characterised as “strategy and policy mixes”.

References

- OECD (2010), Science, Technology and Industry Outlook, OECD, Paris.
- OECD (2011), Fostering Innovation for Green Growth, OECD Green Growth Studies, OECD Publishing. <http://dx.doi.org/10.1787/9789264119925-en> [1].
- OECD (2012), “Transitioning to green innovation and technology”, in OECD Science, Technology and Industry Outlook 2012, OECD Publishing. http://dx.doi.org/10.1787/sti_outlook-2012-5-en [2].
- Wintjes, R. (2012), “Demand side innovation policies at regional level”, Regional Innovation Monitor, Thematic Paper 3.

Source URL: <https://www.innovationpolicyplatform.org/content/policy-coherence-green-innovation>

Links

[1] <http://dx.doi.org/10.1787/9789264119925-en>

[2] http://dx.doi.org/10.1787/sti_outlook-2012-5-en