

Identifying policy instruments to reduce environmental footprints

Globalized trade patterns mean that only part of the total environmental impacts linked to a country's consumption of goods and services take place within its borders. Policy-makers are increasingly interested in finding ways to reduce the external environmental impacts of their countries' consumption. Yet there are uncertainties around which policy instruments might offer efficient ways of doing it.

Imported goods have different types of impacts in the producing country, shaped by both the production methods used (including upstream production and use of raw materials) and the volumes produced. National environmental policies and laws still tend to apply only to the environmental impacts of production within the national territory. At the same time, international agreements on trade and on environment have not been sufficiently effective in improving the sustainability of production or balancing the dramatic growth in consumer demand in developed and fast-growing emerging economies, much of which is met by imported goods.

At the same time, our understanding of, and ability to measure, *external environmental footprints* – here defined as the extra-territorial environmental impacts linked to the production and transportation of imported goods and services – are growing. Tools and methods for footprint analysis are rapidly improving, not least SEI's own tools such as SEI-PCS (Spatially Explicit Information on Production to Consumption Systems, environmentally extended multi-regional input–output models like EUREPA, and the REAP tool for energy and resources footprinting.¹ However, while these provide an ever clearer picture of environmental footprints, they do not



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Sweden imported US\$4 billion worth of computers (SITC code 752) and US\$3.3 billion worth of telephones (SITC code 76411) in 2014;² most of the environmental impacts from production and disposal of electronic goods consumed in Sweden take place abroad.

provide recommendations for concrete policies to reduce them. Neither do they help decision-makers to balance environmental concerns with development objectives in the producing country, which may at times be synergistic but at other times conflict, at least in the short term.

This Policy Brief is based on a study that explored ways to bridge this gap. SEI was commissioned by the Swedish

Key findings

- Measuring environmental impacts from consumption of imported goods is challenging in a world of globalized and complex supply chains.
- However, there is still enough information available for countries to take concrete action to reduce their external footprints.
- Countries may have many feasible policy options for reducing external footprints; in Sweden we identified around 60 existing or potential new instruments.

Environmental Protection Agency to examine what existing and possible policy instruments Sweden could use to tackle the external environmental footprint arising from Swedish consumption (Persson et al. 2015). The Brief outlines how the study was carried out and presents selected findings from Sweden as illustration.

Political will and framework

In many countries there is not yet a strong political framework on action to improve external environmental footprints in the context of sustainable consumption, although interest is growing both nationally and internationally. The most recent draft of the Sustainable Development Goals, which are due to be adopted in the United Nations General Assembly in September 2015, includes a goal on sustainable consumption and production (Goal 12). At the European Union level, both the Environment Action programme and the Roadmap to a Resource-Efficient Europe are sensitive to Europe's global impact.

Sweden is pioneering in the sense that the overall goal of its national environmental policy, known as the “Generational Goal”, states that: “The overall goal of Swedish environmental policy is to hand over to the next generation a society in which the major environmental problems in Sweden have been solved, *without increasing environmental and health problems outside Sweden's borders*”. This goal has so far not been associated with a particular action strategy, and the study upon which this brief is based is intended as a contribution towards a broader discussion on how to achieve this aspect of the Generational Goal.

Identifying possible policy instruments

For the purpose of this study we developed a three-step analytical approach to identification of relevant policy instruments, and this approach could be replicated in other countries. The first step is *mapping the national consumption profile*. This looked at two variables: the ratio of imported goods to total national consumption of goods, and the main categories of imported products. This step provides initial orientation as to which supply chains and producer countries have the most important external footprints in terms of negative environmental impacts. Swedish imports correspond to 40% of the Swedish GDP, and products constitute more than half of the import. Large

¹ See <http://www.sei-international.org/tools>.

² All statistics on import values in the s are taken from the United Nations Statistical Division COMTRADE database, using SITC Rev. 4 classifications.



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Sweden imported 355 089 cars (SITC code 7812), worth US\$7.9 billion, in 2014; this represented almost 5% of the value of Swedish imports in 2014.

import product categories in Sweden are electronic products, vehicles, food and textiles.

The second step is *identifying relevant policy instruments*. We used a combination of two methods. The first, the problem-based “hotspot” method relies on environmental footprinting tools to establish which product categories (or individual products) and which source countries (or regions, or other geographical scale) are associated with the greatest net environmental burdens of different types. This method identifies a limited set of supply chains and product categories as well as certain producer countries on which to focus policy instruments and other activities that could enable the importer to reduce its external environmental footprint.

To date, there is no exhaustive footprint tool that covers all kinds of relevant environmental parameters. A selection of critical environmental issues therefore first needs to be made (e.g. CO₂ emissions, water consumption, biodiversity impact). The modeling data from footprinting tools can be complemented by qualitative information from other sources, together providing a basis for prioritizing supply chains and countries.

The second method takes the existing policy instruments of relevance for the imported goods (such as environmental requirements in public procurements of imported products or taxes on hazardous substances) as a starting point and looks for potential improvements or new policies that could improve sustainability performance (the “policy instrument” method). We found a combination of both approaches to be advantageous in order to identify strategic opportunities to reduce external impacts.

Focusing on greenhouse gas emissions and impacts from the use of hazardous chemicals, the hotspot method identified

the Swedish import of electronic equipment from China as a supply chain with significant impacts. A second import product category with significant ecological footprint is food, and we focused specifically on the import of soy from Brazil to Sweden (as soy, but also “embedded” in other products, such as meat in which it has been used as a feed).

The third step involves *classifying and systematically prioritizing the policy instruments* identified, as the basis of a focused action strategy. In the Swedish case study, we classified instruments using standard policy instrument typologies, as well as noting if they were existing policies, modifications to existing policies, or suggested new instruments. Systematic prioritization should ideally build on evidence of the actual or potential effectiveness of policy instruments. Such evidence is not always available.

Policy recommendations for Sweden

Using this approach for Sweden, we were able to identify a set of around 60 existing, modified or new instruments. Many of these were not within the traditional remit of the Ministry of the Environment and Energy; the nature of the problem is such that it demands efforts across several ministries and agencies in order to achieve a coherent and effective strategy. The selection of instruments presented here should be regarded as a first contribution to the discussion and needs to be followed up by in-depth analysis for each policy area and with the appropriate assessment of issues of policy coherence regarding global sustainable development goals.

1. Prioritize among policy opportunities

The inventory of policy instruments we identified showed that there is no lack of ideas or opportunities in the field. The challenge rather lies in translating them into political decisions and strategically prioritizing among all the options.

- The government offices should develop a plan of action with time-bound targets and clear division of responsibilities for the implementation of high priority policy instruments and other activities aimed at fulfilling the international dimension of the Generational Goal.
- Responsibility for implementing the plan of action should rotate between the ministries of the Environment and Energy, Finance, Foreign Affairs, Justice, and Enterprise and Innovation, to ensure mutual ownership and broad mandate.



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Swedish imports of vegetables and fruit (SITC code 05) in 2014 were worth US\$2.7 billion

- The potential impacts of the proposed policies and activities should be assessed, not least in the context of the Swedish Policy for Global Development. The aim should be sustained policy coherence.

2. Incentivize long-term, systemic change in consumption patterns

Neither relying only on consumers' will to change their consumption habits nor isolated efforts to improve production methods in other countries will be sufficient to achieve sustainable consumption. More profound alterations at the system level will be needed, for instance using policy levers to change the fundamental demand for different products. To this end:

- The Ministry of Finance should develop short- and long-term proposals for adjusting the tax system aimed at encouraging sustainable consumption.
- Sweden should set up a working group with the aim of developing concrete and accessible visions of sustainable lifestyles, using the platform offered by Sweden's position as co-lead of the Programme on Sustainable Lifestyles and Education under the 10-Year Framework of Programmes on Sustainable Consumption and Production.³
- The Swedish Consumer Agency and the Swedish Environmental Protection Agency should consider increasing legal requirements for the lifespan of products including longer warranties and design for durability.
- Sustainability criteria in public procurement should be continuously reviewed and improved.

3. Focus on specific industries and supply chains

As a complement to more long-term systemic change, efforts should be prioritized for sectors and supply chains with negative impacts of particular concern.

- The government should launch an inquiry using the hotspot method exemplified in this study to identify supply chains and products of particular interest in terms of their high negative impact. This should be done in collaboration with the academic community and with private-sector actors.

4. Learn from and enhance successful regulatory policies

Health and environmental requirements on products are a direct way of addressing problematic supply chains.

- The government and relevant authorities should look for opportunities to broaden and adjust existing successful EU directives to include additional aspects or copy the principle and use it for new product categories. For example, the underlying principles of the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (2002/95/EC) could be applied to product categories such as textiles and toys.

5. Collaborate with producer countries

Yet another strategic option is to use bilateral collaboration and cooperation in order to reduce negative impacts of the import. This could also be targeted at especially high-impact products and supply chains. This could include:



Swedish imports of meat and meat products (SITC code 01) were worth US\$1.7 billion in 2014, down from US\$1.8 billion in 2013.

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- Cooperation to strengthen national environmental governance and enforcement, contributing to a reduced implementation gap with respect to national legislation and international environmental agreements. Authorities involved could include the Swedish Chemicals Agency, the Environmental Protection Agency and the Swedish International Development Cooperation Agency (Sida);
- Strategic Bilateral Cooperation with selected countries could be used as a channel for such collaboration. It could be followed up and assessed in terms of its contribution to the fulfillment of the international dimension of the Generational Goal.
- The export of Swedish environmental technology should be further developed towards more mutual cooperation with a focus on innovation. This effort could be administered by the Environmental Protection Agency and the Innovation Agency. In addition, the Swedish National Export Credits Guarantee Board could oversee more effective use of export credits to promote sustainable production.

6. Support voluntary commitments and civil society

There are many tools available developed by and for companies that wish to improve their sustainability performance. The government can play an important role in interacting with the private sector on the development of these tools and encourage alignment of the tools with the Generational Goal, as well as reviewing legal options for better due diligence.

- The Group for Sustainable Trade and Entrepreneurship at the Ministry for Foreign Affairs should engage in the efforts towards the Generational Goal and assess which tools have been most successful.
- The Foreign Affairs, the Environment and Energy, and Finance ministries could increase efforts to inform the Swedish public about the environmental and health effects of their private investment choices.

³ See <http://www.unep.org/10yfp/>.

Policy considerations

National efforts to reduce external footprints need to be multi-sectoral, with several different ministries taking responsibility.

The impacts of all national policy instruments and actions to reduce external footprints should be assessed, particularly in relation to global sustainable development goals, and for coherence with other national policies, including development policy.

We identify a range of strategic policy directions that countries concerned about their external consumption footprint could consider. These include:

- i. prioritizing specific supply chains and industries known to have large external footprints;
- ii. support long-term systemic change in consumption patterns;
- iii. working in partnership with producer countries;
- iv. applying successful aspects of existing instruments to new or expanded policies;
- v. supporting voluntary commitments and civil society action.

- The Swedish International Development Cooperation Agency (Sida) should continue and enlarge its support to civil society organizations in key producer countries as well as consumer watchdog groups in Sweden demanding sustainability improvements from companies and informing the public.

7. Coordinate research efforts and increase communication of the results

Sweden is funding a number of research initiatives in the field of sustainable consumption and production, but no overview of the coverage of current research or possible knowledge gaps appears to have been made.

- Swedish research councils, including the Swedish Research Council (Formas), the Swedish Foundation for Strategic Environmental Research (Mistra), the Swedish Research Council, the Environmental Protection Agency and private donors should develop a common strategy, based on a survey of ongoing research, in order to allow for targeted efforts to reduce any knowledge gaps.
- Dissemination of research results can be encouraged by additional meetings between researchers and policy-makers, for instance through a conference organized by the Ministry of the Environment and Energy.

8. Be a driving force in international cooperation

Sweden should continue to be a driving force at the international level. Relevant arenas include the implementation of environmental governance under the UN, developing work under the 10-Year Framework of Programmes, concrete work plans in the post-2015 agenda, capacity development within bilateral development cooperation, discussions and policy

processes within the EU, including on EU positions in World Trade Organization (WTO) negotiations, and work under the Nordic Council of Ministers

Conclusion

Addressing external environmental footprints will become increasingly important as trade becomes more globalized and supply chains more complex. Significant research efforts are now being made to improve footprinting. But even with the limited information currently available, some “no-regrets” policy options exist. The challenge is to identify them and translate them into action, while assuring coherence with the overall sustainable development and national policy agenda. There is good reason to think that the policy instruments for Sweden discussed in this brief are also relevant for other countries with high consumption of imported goods and services.

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