

Recycling carbon revenues: transforming costs into opportunities

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EXECUTIVE SUMMARY

- Governments worldwide generated \$26 billion in 2015 in carbon pricing revenues
- The benefits and co-benefits of carbon pricing can be enhanced by recycling carbon revenues
- Revenue allocation decisions made by governments are vital as these revenues can help shift the narrative on carbon pricing from 'burden to benefit'
- Existing carbon pricing schemes can provide useful feedback on revenue recycling
- A well-positioned decision-making and governing framework is required to ensure the efficient recycling of carbon revenues

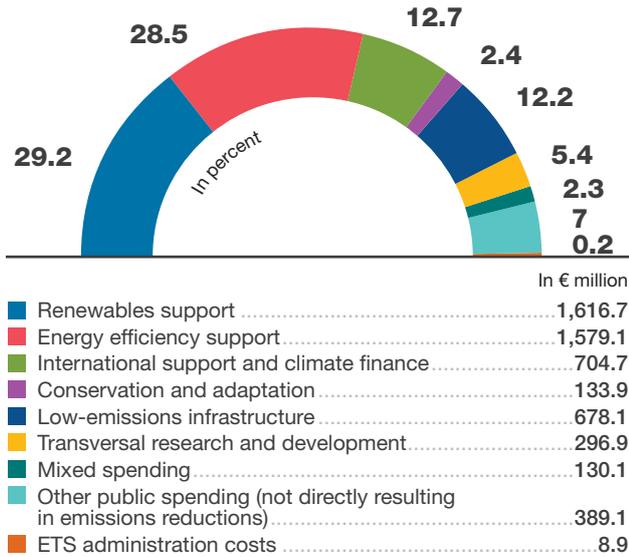
Recommendations for policymakers

Regardless of where the revenues are spent, a **well-positioned decision-making and governing framework is required** to ensure that revenue spending is in accordance with set objectives; progress in achievement of objectives can be monitored and verified; the investment plan is able to reflect changing priorities and revenue spending decisions are communicated clearly to the public. In general, the spending model's objective should be to emphasize environmental and economic gains, referred to as 'the revenue recycling effect', and for these gains to exceed the potential cost of distortions created by the revenue-raising policy.

In order to facilitate this process, policymakers should:

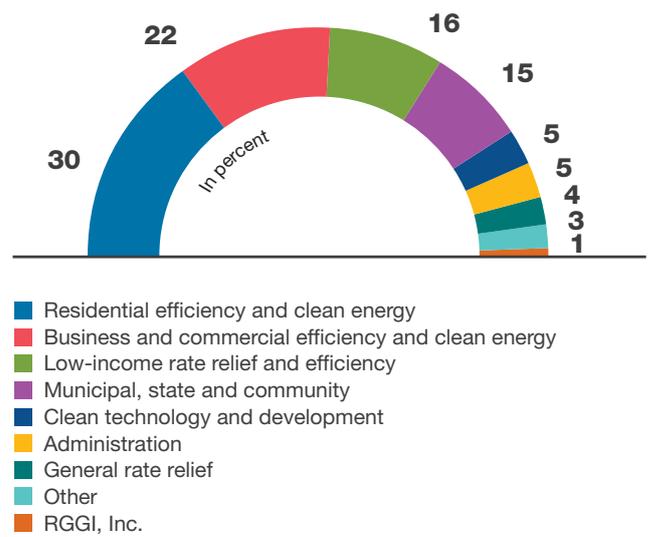
1. Plan revenue spending while designing carbon pricing policies and establish spending objectives and guidelines;
2. Engage in public consultation with stakeholders to clearly identify spending priorities and ensure support;
3. Where feasible, establish Monitoring-Reporting-Verification systems that can provide accurate information on the impact of revenue allocations;
4. Set checkpoints to revise the revenue spending plan to reflect changed objectives and improve its environmental and economic efficiency, with the potential objective to have the highest 'revenue-recycling effect';
5. Develop safeguards to compensate beneficiaries in case of revenue shortfall;
6. Regularly communicate progress to the public to encourage transparency while demonstrating the effectiveness of carbon pricing and revenue spending policies;
7. Identify ways to maximise the utility of these revenues, for example, by seeing how carbon revenues can be leveraged to raise additional private finance, particularly for large-scale projects.

FIGURE 1. ETS REVENUE SPENDING BY EU MEMBER STATES (2013-2015)



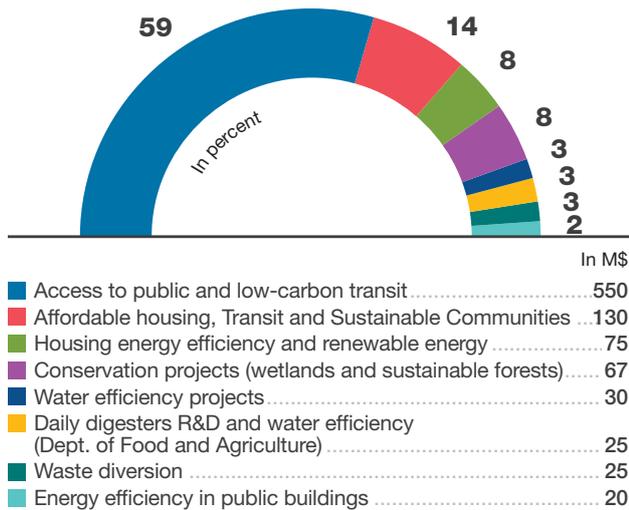
Source: I4CE - Institute for Climate Economics, 2016

FIGURE 2. CAP-AND-TRADE REVENUE SPENDING BY RGGI MEMBER STATES (2008-2013)



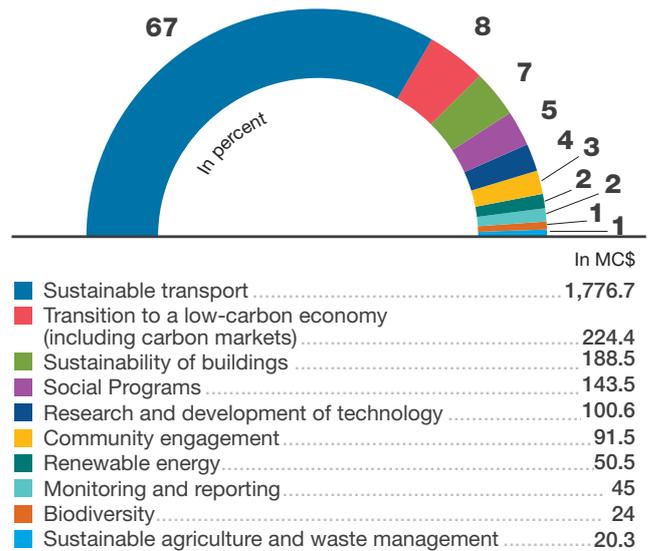
Source: Investment of RGGI Proceeds Through 2013, 2015

FIGURE 3. CALIFORNIA'S CAP-AND-TRADE REVENUE SPENDING PLAN (2013-2015)



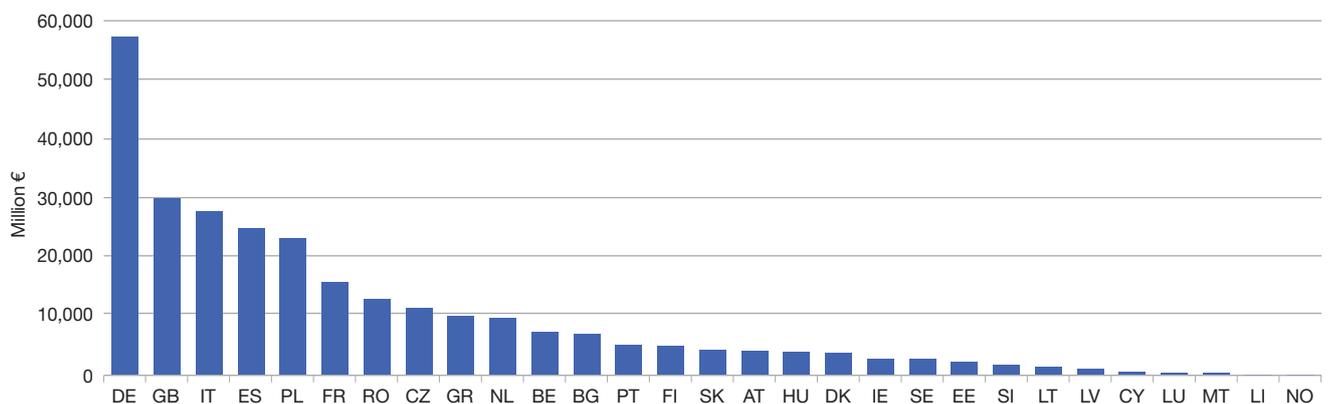
Source: I4CE - Institute for Climate Economics, 2015 and California Air Resources Board, 2015

FIGURE 4. QUEBEC'S CAP-AND-TRADE REVENUE SPENDING PLAN (2013-2020)



Source: I4CE - Institute for Climate Economics, 2015 and Québec MDEELCC, 2015

FIGURE 5. FORECASTS OF 2015-2030 AUCTION REVENUES OF EU MEMBER STATES



Note: Revenue forecasts exclude allowances that are distributed through transitional free allocation under Article 10c of the EU ETS directive. Calculations are based on the assumption of an increasing trend of the carbon price that reaches €31 in 2030.

Source: I4CE - Institute for Climate Economics, 2015

EXISTING CARBON PRICING SCHEMES IN THE EU AND NORTH AMERICA PROVIDE USEFUL FEEDBACK ON REVENUE RECYCLING

The examples of regional and sub-national spending of carbon revenues highlight the wide array of sectors and projects that can be supported, whether small-scale or large-scale. A popular trend that can be seen among EU (Figure 1) and RGGI Member States (Figure 2), for example, is to target the low-hanging fruit of domestic reductions such as energy-saving retrofits in public and private buildings. California (Figure 3) and Québec (Figure 4) use multi-annual revenue spending plans to direct money towards many objectives, including awareness raising, conservation and the decarbonisation of their largest emitting sector – transportation.¹

THE BENEFITS AND CO-BENEFITS OF CARBON PRICING CAN BE ENHANCED BY RECYCLING CARBON REVENUES

The utilisation of carbon pricing revenues can highly depend on political, economic, legal and social priorities identified by the regulatory authorities.

Revenue allocation decisions made by governments are vital as these revenues can help shift the narrative on carbon pricing from ‘burden to benefit’. For example, carbon revenues can be used to achieve further emissions reductions in the longer term, which can lend credibility to a carbon pricing policy as it reinforces the primary objectives of the policy (reducing emissions and encouraging sustainable behaviour). Carbon revenues can be used to fulfill a wide range of objectives, a few of which are briefly covered below:

- **Funding low-carbon development:** Channeling carbon revenues towards much-needed innovative, low-carbon R&D can send positive signals to investors that could encourage further investment. The European Union, for example, has proposed to use a part of the revenues raised through its Emissions Trading System towards EU-level Innovation and Modernisation Funds² to support low-carbon research and development. This form of spending can also enhance economic performance and competitiveness gains in these sectors.

- **Supporting groups to ease the low-carbon transition:**

In order to minimize any adverse impact resulting during the transition into carbon pricing i.e. from rising energy costs, revenues can be channeled to compensate or support targeted industries or demographics. France, for example, uses revenues from the EU carbon market to fund energy-efficient renovations, primarily in low-income households.

- **Developing public infrastructure:**

Carbon revenues can be invested into infrastructure expansion and improvement to meet public spending objectives. If this spending can be used to enhance sustainability objectives as well, by investing in infrastructure that promotes more environmentally-favourable behaviour, it can help ensure longer-term emission reductions. For example, California has planned to use a large portion of its auction revenues to build high-speed rail and intercity rail networks to promote the use of public transit.

- **Fulfilling international climate finance commitments:**

Revenues can be invested outside of one’s jurisdiction to help fulfill climate finance pledges while investing in cost-effective reductions in developing countries. Countries can invest through bilateral channels or through international climate finance funds such as the Green Climate Fund. The United Kingdom has used part of the financial equivalent of its auction revenues to support international climate finance by investing in Clean Investment Funds (CIFs).

- **Increasing economic activity:**

There is much literature that supports the idea of using revenues, particularly carbon tax revenues, to reduce distortive effects of other taxes in order to promote economic activity and boost employment. With an aim to be revenue-neutral, the province of British Columbia recycles its revenues by providing cuts in income and corporate taxes.

¹ For more information on the revenues spending model of EU Member States, RGGI, California and Québec, see I4CE – Institute for Climate Economics’ 2015 report: “Exploring the EU ETS beyond 2020”, Chapter 5 on low-carbon funding mechanisms.

² To be implemented for Phase IV of the EU ETS (2021-2030), the Innovation Fund will aim to invest in innovative renewable technologies and other technologies that are not yet commercially viable. The Modernisation Fund will aim to modernise existing energy systems and improve their energy efficiency.

An overview on revenue recycling

\$26 billion in carbon pricing revenues...

In order to reduce the impacts of global temperature rise in a timely manner, countries and non-state actors are seeking viable decarbonisation opportunities. While carbon pricing is not a new solution, there is growing literature that supports its effectiveness in facilitating a long-term, low-carbon transition, as part of a harmonised climate policy framework. This has motivated many governments to implement carbon pricing tools that suit their national priorities and emission reduction ambitions³. In addition to the growing recognition of the co-benefits that come with carbon pricing⁴, the generation of new revenue streams further motivates the uptake of these policies by governments.

The World Bank estimates that in 2015 alone, \$26 billion in government revenue has been generated through carbon pricing initiatives⁵. These revenues can be used for many purposes – including achieving climate ambitions – that could yield economic and environmental gains. This potential gain is referred to as the ‘**revenue recycling effect**’⁶. The European Union (EU), for example, could raise over €230 billion between 2015 and 2030 (Figure 5) – a sum that is equivalent to the additional energy sector investments required to move from an EU New Policies scenario to a 2°C scenario⁷.

... that require a well-positioned decision-making and governing framework

The utilisation of carbon pricing revenues can highly depend on political, economic, legal and social priorities identified by the regulatory authorities. Governments and even ministries themselves can differ on how and where to allocate these resources. Questions can range from whether to be revenue neutral, to earmark or to direct revenues into the general budget or whether to spend on households or industry compensation etc.

³ Nearly 40 countries and 20 sub-national jurisdictions have currently established or are planning to establish carbon pricing mechanisms (State and Trends of Carbon Pricing, World Bank, 2015).

⁴ Parry, Ian, et al., 2014. How much carbon pricing is in countries' own interests? The critical role of co-benefits. *International Monetary Fund*, September 2014.

⁵ The World Bank and Ecofys. 2016. *Carbon pricing Watch*. May 2016.

⁶ Parry, Ian. 1997. Revenue Recycling and the Costs of Reducing Carbon Emissions. *June 1997*.

⁷ International Energy Agency (IEA). 2014. *World Energy Investment Outlook*.

While this does not fall under the idea of revenue recycling, it is useful to mention that many governments choose to transfer their revenues directly into the national or sub-national treasuries. This option is often popular among Finance Ministers as hypothecation or earmarking of revenues does come with issues of uncertainty, particularly when spending needs of governments may change over time.

Regardless of where the revenues are spent, a **well-positioned decision-making and governing framework is required** to ensure that revenue spending is in accordance with set objectives; progress in achievement of objectives can be monitored and verified; the investment plan is able to reflect changing priorities and revenue spending decisions are communicated clearly to the public. In general, the spending model's objective should be to emphasize environmental and economic gains, referred to as ‘the revenue recycling effect’, and for these gains to exceed the potential cost of distortions created by the revenue-raising policy.

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