

Learning from the Czech Republic on using EU ETS revenues for residential renovations

By Louise Sunderland, 26 September 2019

Introduction – carbon revenue recycling

Carbon revenues are generated when a price is put on carbon, either through a carbon tax or a cap-and-trade system like the EU Emissions Trading System (ETS). Carbon revenues from the ETS, received by every Member State government, are rising. The price of allowances in the ETS has risen fivefold compared to 2017 as a result of recent reforms.¹ Revenues received by Member States are projected to reach 165 billion euros over the next 10 years, creating a significant new investment opportunity.

While public debates on climate strategy tend to focus on carbon pricing, the truth is that how we spend carbon revenues can be much more important in driving emission reductions. Investing revenues in effective energy efficiency programmes can save seven to nine times more carbon than the price alone.² Therefore, the use of carbon revenues can accelerate decarbonisation at lower cost to the consumer. Carbon revenues are a key source of funding for the clean energy transition.

EU ETS revenues in the Czech Republic

As governments around the world consider how to target their carbon revenues, the experience gained in the Czech Republic offers crucial and positive lessons. The Czech Republic has a decade's worth of experience with recycling carbon revenues into energy efficiency and renewable energy programmes that produce positive returns to the economy. This case study explores how carbon revenues have been used over the last decade and the potential impact of investment of future revenues on the renovation of the building stock.

History

Carbon revenue recycling began in the Czech Republic in 2009, when the government committed the revenues from the Kyoto Protocol to a new energy efficiency programme, the Green Savings Programme. The programme overcame initial teething troubles with design — challenging technical requirements and low subsidy levels — to become very popular. This public popularity garnered support from the subsequent government to fund the programme directly until ETS revenues were secured from 2013.

¹ European Commission. EU Emissions Trading System: Revision for Phase 4 (2021-2030) [Webpage]. Retrieved from [Revision for Phase 4 \(2021-2030\)](#)

² Cowart, R., Bayer, E., Keay-Bright, S., and Lees, E. RAP. (2015). *Carbon caps and efficiency resources: Launching a "virtuous circle" for Europe*. Brussels, Belgium: Regulatory Assistance Project. Retrieved from <https://www.raponline.org/knowledge-center/carbon-caps-and-efficiency-resources-launching-a-virtuous-circle-for-europe/>

Legal mechanism and framework

Since 2012, the investment of ETS revenues into energy efficiency and renewable energy has been enshrined in Czech law. Section 4 of the Act on the Conditions of Trading in Greenhouse Gas Emission Allowances (Act No 383/2012) requires that at least half of the revenue from auctions is devoted to measures reducing greenhouse gas emissions (100% will be devoted if revenues are less than CZK 12 billion Czech korunas, or 480 million euros³).

These revenues are divided equally between the Ministry of the Environment and the Ministry of Industry and Trade. The Ministry of Environment devotes the revenues to the New Green Savings Programme (Nová Zelená úsporám), which was re-launched in 2014. The Ministry of Industry and Trade uses revenues to support investment in renewable energy and energy saving in the public and commercial sectors through the EFEKT Programme.⁴

New Green Savings Programme

The New Green Savings Programme provides subsidies for the improvement of energy performance of residential buildings, the construction of new homes with high energy performance and the efficient use of energy sources and renewable energy sources.⁵

The programme is focused on the renovation and construction of highly energy-efficient single-family buildings, along with multifamily buildings in Prague, as these were identified as gaps in the coverage of funding from European Structural and Investment Funds.⁶ Therefore, the direction of funds from the ETS is designed to fill gaps in the national strategic investment framework. Funding for multifamily buildings for the rest of the country is expected to be available in the next phase from 2021.

Energy efficiency measures eligible for subsidy include fabric insulation measures, heat source and system replacement, solar thermal and photovoltaics, forced air and mechanical ventilation with heat recovery, green roofs, wastewater heat recovery and expert advice. Subsidies are available for renovations of varying depth. The subsidy level increases with depth of renovation from around 30% for a partial renovation to 50% for a more thorough renovation of a single-family home.⁷ This is based on a subsidy amount of between 4,000 and 10,000 euros for a partial renovation and 12,000 to 28,000 euros for a more complex renovation.⁸

The average subsidy per application is 10,000 euros for renovations, excluding renewable energy and new buildings.⁹ The largest part of the subsidy goes to fabric thermal energy

³ All subsequent figures have been converted from Czech koruna to euros at the rate of 1 koruna to 0.4 euros.

⁴ Šance pro Budovy [Chance for Buildings]. Program EFEKT [Webpage]. Retrieved from <http://www.renovujdum.cz/cs/programy/efekt>

⁵ Although the main aim of the programme is residential buildings, unallocated funds have also been used since 2016 to supplement the subsidy offered for the renovation of central government buildings. Around 3% of the funding in 2018 was spent on government buildings. Státní fond životního prostředí ČR [State Environmental Fund of the Czech Republic]. About the New Green Savings Programme [Webpage]. Retrieved from <https://www.novazelenausporam.cz/about-the-new-green-savings-programme/>. See also Renovujdum [Chance for Buildings Renovation] [Webpage]. Retrieved from <http://www.renovujdum.cz/>

⁶ Czech Ministry of Industry and Trade. (2017). *Update of the National Energy Efficiency Action Plan of the Czech Republic*. Prague, Czech Republic: Author. Retrieved from <https://ec.europa.eu/energy/sites/ener/files/ener-2017-00343-00-00-en-tra-00.pdf>

⁷ Hrbek, J. (2018). *New green in savings programme Nová zelená úsporám* [Presentation]. Retrieved from <http://c4eforum.net/panel-sessions>

⁸ Renovujdum [Chance for Buildings Renovation]. Retrieved from <http://www.renovujdum.cz/>

⁹ Hrbek, 2018.

efficiency measures for both single-family houses (63% of total investment) and multifamily houses (85% of total investment).¹⁰

The programme is run on behalf of the Ministry of the Environment by the State Environmental Fund, regional offices of which provide support to applicants. The fund is designed to be open for the entire funding period, from 2014 to 2020, with ongoing provision of funds.

Programme evaluation

Between 2014 and 2018, over 350 million euros were distributed to 32,357 projects.¹¹ Investment through the programme has been rising as a result of design changes to make it more appealing and accessible to applicants. The highest level of grant totalling 96 million euros occurred in 2018. The energy savings generated are calculated to be 3.7 petajoules (PJ). This results in a cost of energy saving from the residential projects under the programme of 92 euros/gigajoule, making it one of the most cost-effective Czech energy saving programmes across all sectors. It is also the programme that has delivered the largest energy saving in the period from 2014 to 2018.¹²

The projected allocation of funds in the period from 2014 to 2020 is 916 million euros. For the programme to spend this level of funding would require the delivery of projects to be scaled up significantly.¹³ As a result of this funding, final energy savings in the period are calculated in the Building Renovation Strategy to be 10.6 PJ, which accounts for around 5% of the total energy consumption in the residential sector in 2017 (224 PJ).¹⁴ The latest evaluations, however, expect this level of saving to be achieved by the later date of 2023.

The Czech Building Renovation Strategy 2017 summarises a number of economic impact assessments of state investment into energy efficiency in buildings. It finds that state investment is fully returned to the Treasury in tax and benefits and creates GDP growth. Each 1 million euros of state investment produces a return to public budgets of 0.97 to 1.21 million euros in income tax paid by companies and their employees, social and health insurance and unpaid unemployment benefits. At the same time, it will induce GDP growth of 2.13 to 3.39 million euros.¹⁵

Potential of EU ETS revenues

Projected Czech revenues from the fourth ETS trading period, from 2021 to 2030, are expected to be more significant than revenues to date, at between 3.8 billion and 7 billion euros. In addition to nationally generated revenues, the Czech Republic is also eligible for an allocation of

¹⁰ Zámyslický, P. (2018). Investment priorities and options and their financing in the Czech Republic [Presentation (Prague)]. Retrieved from https://ec.europa.eu/clima/events/technical-workshops-eu-ets-funding-mechanisms-modernising-energy-sector-including_en

¹¹ This figure of 32,357 includes all projects. As more than one project can be carried out on each building, e.g., renovation and renewables, the number of projects is not the number of renovations.

¹² Ministry of Industry and Trade of the Czech Republic. (2019, June). *Record of Czech government negotiations: Information on development in the field of energy savings, their support and efficiency of implemented measures for the year 2018 (481/19)*. Retrieved from <https://apps.odok.cz/djv-agenda?date=2019-06-10>.

¹³ Ministry of Industry and Trade of the Czech Republic, 2019.

¹⁴ Ministry of Industry and Trade of the Czech Republic, 2017.

¹⁵ Ministry of Industry and Trade of the Czech Republic, 2017.

16% of the Modernisation Fund, which could contribute a further 1 billion to 1.5 billion euros.¹⁶ The Modernisation Fund is a fund created from auctioning 2% of EU ETS allowances in the 2021 to 2030 period, which will be allocated to the beneficiary Member States – those with a GDP per capita of less than 60% of the 2013 EU average. The fund is designed to enable investments in these countries related to modernising the energy system.

As a result of the increased national revenues in the period from 2021 to 2030 alone, the investment needs in this period for residential buildings outlined in the Czech Building Renovation Strategy could be met through the recycling of 100% of ETS revenues into a renovation programme. The Building Renovation Strategy 2017 projects cumulative investment between 2021 and 2030 under the “ideal hypothetical” scenario in residential buildings of 18.3 billion and 26.5 billion euros for the entire stock.¹⁷ Investment of public funds in building renovation in the Czech Republic leverages private investment at an average rate of 1-to-3. Therefore, the projected national EU ETS revenues of between 3.8 billion and 7 billion euros between 2021 and 2030, when leveraged, could cover all of the investment needs in the residential sector in this period.¹⁸

This investment is calculated to reduce final energy consumption in residential buildings by 23% between 2021 and 2030 (52 PJ [1.24Mtoe] from a baseline of 224 PJ [5.35Mtoe]). Overall, the Building Renovation Strategy projects investment in the entire building stock will result in a reduction of carbon emissions of 26% by 2030 and 60% by 2050, which is a reduction in total annual Czech emissions of 26%.

Summary

- The Czech Republic has established a legal requirement to recycle at least 50% of the country’s ETS revenues.
- This has allowed the development of a long-term renovation programme that has benefitted from refinements over time.
- The carbon revenues dedicated achieve leverage of private funds of 1-to-3.
- The investment of public funds is fully returned to the Treasury in tax and benefits and creates positive GDP growth.
- Projected revenues to 2030, if invested, have the potential to trigger further investment to fill the gap for renovations in the residential sector in that period.

¹⁶ Holub, P. (2018, 24 September). EU ETS post 2020: How to use auction revenues and the Modernisation Fund [Presentation (Prague)]. Retrieved from https://ec.europa.eu/clima/events/technical-workshops-eu-ets-funding-mechanisms-modernising-energy-sector-including_en

¹⁷ The Building Renovation Strategy 2017 considered five scenarios: 1) Business as usual, 2) fast but shallow renovation, 3) slow but deep renovation, 4) fast and deep renovation and 5) the ideal hypothetical, which sees 3% of the building stock renovated from 2017. The scenario models major state intervention leading to the use of the full absorption capacity of energy-saving construction. By 2040, the scenario predicts the renovation of all nonrenovated and partially renovated buildings. Cumulative investments to 2030 for single-family buildings of 16,766 million euros and 8,367 million euros for multifamily buildings, minus investment to 2020 of 4,588 million euros and 2,263 million euros respectively, results in investment over the period 2020 to 2030 of 18,282 million euros or 18.3 billion euros (p195). See Ministry of Industry and Trade, 2017.

¹⁸ Holub, 2018.

Lessons

- Absorption of funds is a challenge across a number of Czech energy efficiency programmes. Increasing the delivery of projects and take-up of funding available is necessary to achieve the energy saving targets.
- Long-term commitment to the funding programme enables design revisions to improve effectiveness, builds public awareness and confidence. This then results in increased take-up and private investment. For example, changes enabling do-it-yourself delivery of projects (with professional sign off) and streamlining the application process in 2018 increased the application rate significantly.
- Extended funding periods, in which subsidies are available for multiple years, avoids a stop-start availability that can hamper demand.
- Further proposed measures to increase take-up of the programme include a broad information campaign, targeted awareness raising and high-quality, efficient technical assistance.¹⁹
- Mechanisms to enable access to private finance are needed to expand the programme and increase uptake rates. Proposals are in place to create a bank guarantee scheme to assist with the private finance element of the project costs and to help buyers of high performing new apartments.
- Continued political support will be essential to maintain levels of ringfenced funding at adequate levels to scale up the programme (covering plans to include all multifamily buildings across the country, beyond Prague from 2021) and service the increasing demand.

Primary resources

- Chance for Buildings <https://sanceprobudovy.cz>
- Chance for Buildings Renovation hub <http://www.renovujdum.cz>
- RAP briefing: [Carbon revenues for a just transition](#)
- RAP report: [Carbon leverage: Investing Europe's carbon revenues in energy efficiency](#)
- RAP report: [Carbon caps and efficiency resources: Launching a "virtuous circle" for Europe](#)

¹⁹ Ministry of Industry and Trade of the Czech Republic, 2019.



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