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Interactions between energy efficiency policies in the household sector in Austria

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In brief

This working document highlights the interactions between energy efficiency improvement policies at the federal and provincial government levels in Austria, as part of a larger task on identifying and mapping climate change mitigation policy interactions. Austria has implemented the EU's Energy Efficiency Directive in 2015 via the Energy Efficiency Law, which joins previously-existing policy measures at multiple governance levels. The effectiveness of the new and current policies is difficult to ascertain, but the case study concludes that overlaps between the two levels of government subsidies are unavoidable, possibly implying that government funds are used inefficiently, and the federal government has taken steps to avoid future overlaps. One possible avenue to mitigate such overlaps is to design a new target-oriented policy mix that is not entirely based on subsidies, but enables a combination with energy or environmental standards.

The CARISMA Project started in February 2015 and received funding from the European Horizon 2020 programme of the EU under the Grant Agreement No. 642242. CARISMA intends, through effective stakeholder consultation and communication, to ensure a continuous coordination and assessment of climate change mitigation options and to benefit research and innovation efficiency, as well as international cooperation on research and innovation and technology transfer.

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1 Introduction

In Austria, overall final energy consumption has resumed its increase after a sharp decline in 2009, which was due to the financial crisis and corresponding economic recession. To address this trend, Austria's Energy Strategy, the National Renewable Energy Action Plan (NREAP) and the Energy Efficiency Law have set a target value for primary energy consumption of 1,050 petajoules in 2020 (compared to 1,120 PJ in 2013, see Figure 1). Nevertheless, and despite a range of measures currently in place, it will be difficult to reach the target without additional efforts. Therefore, Austria has implemented the EU's Energy Efficiency Directive (EED) in 2015 via its Energy Efficiency Law, which has added additional financial means to the existing policy framework.

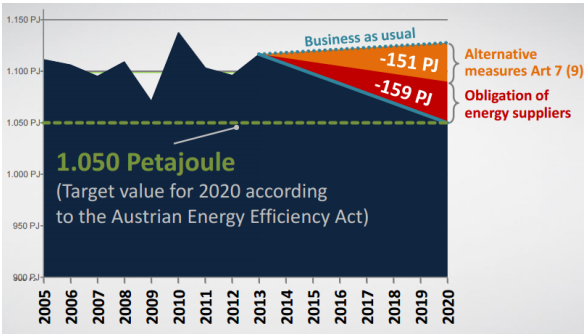

Figure 1. Final energy consumption in Austria 2005-2020

Source: Thenius (2016)

However, these additional policy measures aimed at reducing energy demand come on top of already-existing policies such as, among others, the Energy Efficiency Law, which increases the risk of possible overlaps with existing policy instruments.

2 Background and policy context

Policy frameworks at the EU level, relevant for the Austrian policy instruments for energy efficiency improvement, consist of the EU Renewable Energy Directive (RED), the Energy Performance of Buildings Directive (EPBD) and the EED.

2.1 The Energy Efficiency Directive (EED)

In October 2012, the European Commission adopted the Energy Efficiency Directive (EED) with a clear orientation towards achieving a total energy efficiency (EE) target of reducing consumption of primary energy by 20% by 2020. The EED establishes a common framework of measures encouraging EE within the EU with a view to reaching 2020 targets and leading to further EE goals beyond 2020. It constitutes the final piece of the Climate and Energy Package of 2009, after the Renewable Energy Directive and the EU ETS (though the latter already existed at that time). The main objective of the EED is to foster the implementation of additional measures required to achieve the 20% energy efficiency improvement objective by 2020. The EED shall contribute to a total primary energy savings of 20% by 2020, compared to a baseline business-as-usual scenario, which was set as an objective in the overarching "20-20-20" framework, as it was becoming increasingly apparent that Europe was not on track to achieve it (Altmann et al., 2010).

Contrary to legally binding renewable energy and CO_2 targets, the energy

efficiency objective remains only indicative under the EED. At Member State level, national targets, considering both the headline EU objective of 20% and national circumstances (including for instance GDP forecasts, the energy saving potential, the energy mix and the export-import balance), will have to be adopted and communicated to the European Commission, which will undertake progress assessments and recommend further measures, if and where appropriate (Article 24 of the Directive).

In particular, the European Commission will monitor the impact of the EED on the EU ETS "in order to maintain the incentives in the emissions trading system rewarding low carbon investments and preparing the ETS sectors for the innovations needed in the future". Monitoring will also focus on industry sectors subject to carbon leakage, in order to ensure that they are not negatively affected by implementation of the directive. This provision is directed in particular at several sectors listed in the Decision 2010/2/EU on carbon leakage (EC, 2009).

2.2 The Renewable Energy Directive (RED)

The Renewable Energy Directive (2009/28/EC) focuses on the promotion of the use of energy from renewable sources (e.g. biomass, geothermal, hydrothermal and -power, ocean energy, landfill gas, sewage treatment plant gas, biogases, biofuels, solar and wind). Based on the mandatory target of a 20% share of renewable energies in the EU framework by 2020, this directive was implemented to achieve the aforementioned target.

The scope of this directive includes renewable energy sources in a plethora of sectors, such as the building sector[1] (both including new and renovated buildings) and the transport sector (using biofuels, by boosting the use energy efficiency technologies, etc.).

2.3 The Austrian context

The transposition of the RED in Austria has taken place via the National Renewable Energy Action Plan, according to which Austria must increase its share of renewable energy in gross final energy consumption to 34% by 2020. This target is not very ambitious, as the share of renewables in Austria had already reached a level of 29% in 2008. Under the EPBD, all new buildings in Austria must fulfil a near zero-energy standard by the end of 2020 (for public buildings, this requirement needs to be met by the end of 2018). Finally, the EED requires Member States to use energy more efficiently at all stages of the energy chain, from production to final consumption. Following the transposition of the above EU directives into domestic legislation, the following policy instruments have been formulated for energy efficiency in the household sector in Austria, which are – except for the

1 Many countries have already included a renewable energy quota for use in buildings: http://www.rehva.eu/eu-regulations/renewable-energy-sources-directive-res.html

Federal law on energy efficiency – mainly subsidy schemes:

- **Renovation check ("Sanierungs-check")**, a subsidy provided at the *federal government* level in the form of a unique and non-repayable grant, which private households obtain for the refurbishment of dwellings older than 20 years, such as through insulation of outer walls and ceilings, replacement of windows and doors and change of conventional heating systems to renewable systems.
- **The Federal Housing Subsidy Law ("Wohnbauförderungsgesetz")**, which includes general conditions for the *provincial* governments for energy efficiency improvement measures in the built environment, such as thermal insulation and space and water heating measures (MURE, 2015). Allocation of the subsidies is regulated by provincial law and each province has a measure of freedom to determine subsidy amounts and set their own conditions and limitations, given the general federal conditions. Subsidies in the scheme are provided mainly in form of soft loans. Potential applicants are private persons, non-profit making housing associations, municipalities and other legal entities.
- **Subsidies of the Austrian Energy and Climate Fund**, which can both be focused on energy conservation and greenhouse gas emission reduction measures, such as investments in energy efficient stoves in households.
- **Federal law on energy efficiency ("Energieeffizienzgesetz")**, which obliges energy suppliers to initiate and implement energy efficiency measures corresponding to at least a 0.6% reduction of their total energy supply to energy end users in Austria in the preceding year. At least 40% of these required efficiency measures have to be implemented by energy suppliers at the household level. Based on reported plans, 40% of the intended measures relate to lighting, 30% to kitchen devices and 20% to heating and warm water. As part of the energy efficiency law, a monitoring institution was created to support companies in complying with the law and to evaluate proposed measures.

As can be concluded from this overview of energy efficiency enhancement plans, Austrian energy and climate policy is characterised by a dense landscape of subsidies, including investment incentives and subsidised loans for the adoption of energy-efficient technologies. The subsidies are provided mainly at the federal level but also at provincial level.

3 Analysis of energy efficiency policies at different government levels

The effectiveness of the schemes is difficult to determine precisely. For example, the total electricity consumption of Austrian households has increased, but this was largely due to an increase in the

number of households in Austria,[2] which offset the decrease in average household electricity consumption (by 230 kWh per year during the period 2008 to 2012).

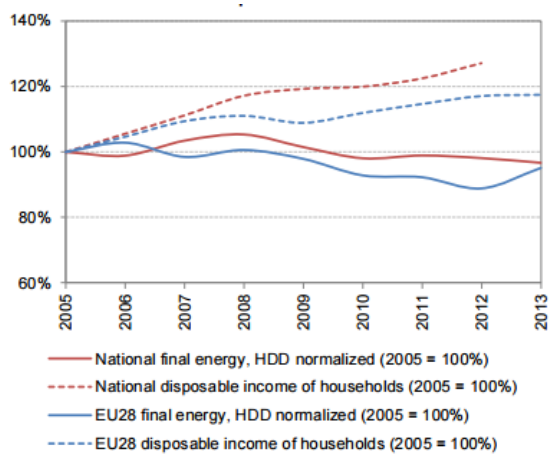

Figure 2. Energy consumption and disposable income in households in Austria and the EU (European Commission, 2015)

Moreover, as shown in Figure 2, Austria's energy consumption in the household sector over the past ten years have been above the EU average, but in terms of energy per unit of GDP, it has been around or below the EU average. Austria has also managed to continue the trend of decreasing energy consumption in households over the past few years, while the EU average trend has shown an increase in energy consumption since 2012. According to stakeholders consulted for this case study (from government, business and research), the overall decrease in energy demand in households cannot clearly be attributed to the existing energy efficiency policy instruments, as the influence of mild winters in Austria for the past few years may also have been an important explanation for lower household-level energy consumption.

In terms of policy interactions, the case study has analysed whether energy efficiency improvement policies at the federal and provincial government levels could lead to overlaps and what this could mean for the effectiveness and efficiency of the policies. At the federal government level, several ministries have specific energy-related responsibilities, while at the regional level, the governments of the nine federal provinces have responsibility for policy making, including setting subsidy levels and implementing regulatory control of energy companies.

The case study analysis concludes that overlaps between federal and regional subsidies for energy efficiency are unavoidable as the scope, instruments and target groups of different subsidy schemes are too often similar. As such, this does necessarily lead to problems, as long a detailed fine-tuning of measures takes place in the design and implementation stages. However, in actual practice the fine-tuning of federal government energy efficiency policies with all nine provinces is complicated as the provinces differ from each other in terms of their regional policies and subsidies, based on differing priorities, political coalitions and technological as well as socioeconomic boundaries.

2 http://www.e-sieben.at/en/projects/1206_austrian_electricity_diary.php

An example of such fine-tuning can be found in the implementation of the Energy Efficiency Law. As the law prescribes that 40% of the required energy efficiency measures have to be implemented by energy suppliers at the household level, there is a potential overlap with existing policies, in particular governmental subsidies for stimulating household-level energy efficiency improvements. The Energy Efficiency Law tries to avoid such overlaps by an 'additionality check': measures falling within the scope of the Renovation check and Housing Subsidy Law cannot be accounted for under the new Energy Efficiency Law.

For other measures that energy suppliers want to have accounted for under the law, a combination with existing subsidies is possible, and the accounted savings can be shared among the two funders (the regional or national government and the companies under the energy efficiency law). This requires an agreement between the two funders as to how savings are shared before the measure can be accounted for under the new energy efficiency law. So far, there has been little experience in this regard. Some NGOs have complained that the legal basis to share the accountable savings is too vaguely defined, in particular with those measures that already received federal subsidies in 2014 and 2015.

The federal government has taken steps to avoid policy overlaps by limiting, in some cases, combinations of its subsidy system with other regional subsidies. Moreover, a possible way forward is to design a new target-oriented policy mix that is not entirely based on subsidies. For example, energy saving investments in households that require complex financing models (due to high transaction costs and long payback periods) cannot be induced by subsidies alone. For some measures, standards or a combination of standards with subsidies would be a better way forward.

This would require terminating or changing some of the subsidies. The latter may not be easy though, as subsidies have the highest political acceptance among policy instruments in Austria. Subsidies have been in place for long periods and have been agreed upon in a political process with a range of different interests that needed to be satisfied. Such a 'subsidy lock-in' of a policy system is not easy to change in the short term.

The new monitoring institution in Austria, however, is a step forward as it will:

- systematically assess the measures proposed by entities under the new Law on Energy Efficiency and possible overlaps with other subsidies,
- increase knowledge of the effectiveness and efficiency of energy efficiency measures in Austria, and
- develop national energy efficiency action plans that consider the entire policy mix.

A better understanding of inefficiencies may serve as a suitable basis for improving and fine-tuning the policy mix at a later stage.

4 Findings

Based on the case study on interactions between energy efficiency policies at different policy levels in Austria, the following key findings can be formulated:

(i) *Overlaps between federal and regional subsidies for energy efficiency are unavoidable.* The scope, instruments and target groups of different subsidy schemes are too often similar. This could be avoided through a detailed fine-tuning in the policy design and implementation stages, but in actual practice fine-tuning of federal government energy efficiency policies with all nine provinces is complicated.

(ii) *Overlaps in subsidies and over-subsidisation imply the risk that governmental funds are used inefficiently*. Thus, the observed energy savings in households are achieved at relatively high public costs. Moreover, in terms of policy effectiveness, it is not entirely clear whether the observed reduction in household-level energy demand during the past few years can be fully attributed to the subsidy schemes. On the one hand, in terms of energy demand reduction Austria performs better than the EU-average, but this performance may also have been caused by the relatively warm winters of the last years.

(iii) *A possible way forward is to design a new target-oriented policy mix that is not entirely based on subsidies*, but, for instance, enable combination of energy or environmental standards with subsidies.

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