

Unlocking the power of energy efficiency: A multi-benefit approach with the referee tool

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Energy efficiency is a cornerstone of the European Green Deal and the European Union's (EU) pathway toward carbon neutrality. With implementation efforts underway across the Continent, the Referee tool stands ready to support decision-makers and stakeholders in their energy efficiency planning, embracing a multi-benefits approach

Energy efficiency unleashed

Energy efficiency has long been championed as a vital tool in the fight against climate change. According to the 2022 IPCC report, energy efficiency in the industrial, ground transportation, and building sectors is the best way to reduce greenhouse gas emissions.

For instance, significant energy efficiency improvements in the building sector (e.g. more energy-efficient heating systems, better insulation) could reduce the energy demand of the residential building stock in the EU by 19.4% in 2030 and by 43% in 2050 compared to 2018 levels.

However, improving energy efficiency isn't just about reducing energy demand or cutting emissions; it's about unlocking a plethora of societal benefits, from bolstering energy security to enhancing economic competitiveness and improving public health. To give some concrete examples, it is estimated that between 17 and 19 jobs are created per million euros invested in energy efficiency.

Perhaps even more telling, if France had met its 2020 renovation targets, the savings would have matched their total Russian natural gas imports.

Energy: A strong rationale and political momentum

With geopolitical tensions and economic uncertainties shaping the energy agenda, the imperative to harness the full potential of energy efficiency should be the top priority on policy-makers' agenda. Understanding the broader non-energy impacts of energy efficiency can thus help policy-makers in making more informed decisions, influencing public and private investment strategies, and shaping the general public debate on the energy transition.

The EU is aware of such potential. In 2018, it introduced an efficiency-first principle, prioritising energy efficiency measures when they are more cost-effective from a societal perspective, thus considering the broader impacts of the energy saved.

When revising the Energy Efficiency Directive as part of the Fit for 55 package five years later, the EU doubled down on this approach, mandating Member States to include the broader, cross-sectoral, and long-term impacts of energy efficiency measures in their policy planning and significant investment

decisions. Nevertheless, several challenges remain to make this vision a reality.

Energy efficiency policy design: An uphill battle

Adopting a multiple-benefits approach to energy efficiency policy design is not without its challenges. Data limitations, methodological complexities, and a lack of awareness pose significant obstacles.

Notably, such assessments require greater financial and human resources than traditional policy evaluation methods. This issue is all the more problematic for regions and cities that are already facing significant administrative, technical, human and budgetary capacity constraints.

According to the European Investment Bank, 69% of municipalities across Europe say that a lack of environmental and climate assessment skills is a barrier to green investments. Even with the proper skills, municipalities need to massively increase their workforce to carry out the necessary climate and energy-related actions, with estimates sometimes pointing to a doubling, or even tripling, of their current human capacity.

To help stakeholders and policy-makers at all levels grapple with these hurdles, developing easy-to-use tools based on robust data and science can be one of the solutions to support policy planning.

Energy efficiency: Introducing the Referee tool

With the Referee tool, everyone can conduct multiple benefits assessments with minimal time and effort. Free and user-friendly, REFEREE quantifies the impacts of various energy efficiency measures, encompassing energy savings and industrial productivity, socio-economic development, wellbeing, environment and climate impacts, among others.

Are you curious about how increasing heat pumps will affect the job market in your country? Are you wondering how phasing out ICE vehicles will improve air pollution in your municipality, or the utilities value added at the national level? REFEREE has got you covered.

The Referee tool can process different types of policy instruments, such as taxes or subsidies on fuels or vehicles, technology or fuel phase-out, mandatory change in the energy mix, increases in the building renovation rate, energy efficiency improvements in building heating systems, and more.

Built on state-of-the-art stock, technoeconomic and macro-econometric models, REFEREE is poised to deliver insightful and reliable data. In addition, thanks to different baseline scenarios available, accounting for various levels of implementation of EU Green Deal policies and future increases in fossil fuel prices, the results provided by the Referee tool will remain relevant over time.

Energy efficiency in a nutshell

Accelerating energy efficiency is urgent for Europe's security, competitiveness and social cohesion. However, the wider non-energy benefits that energy efficiency brings to society are difficult to assess.

REFEREE can make energy planning easier and support national and local policy-makers and stakeholders in quantifying the real value of energy efficiency measures, beyond emission reductions.

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