

10 June 2021

Can “metered savings” support the EU Renovation Wave?

eccee 2021 Summer Study

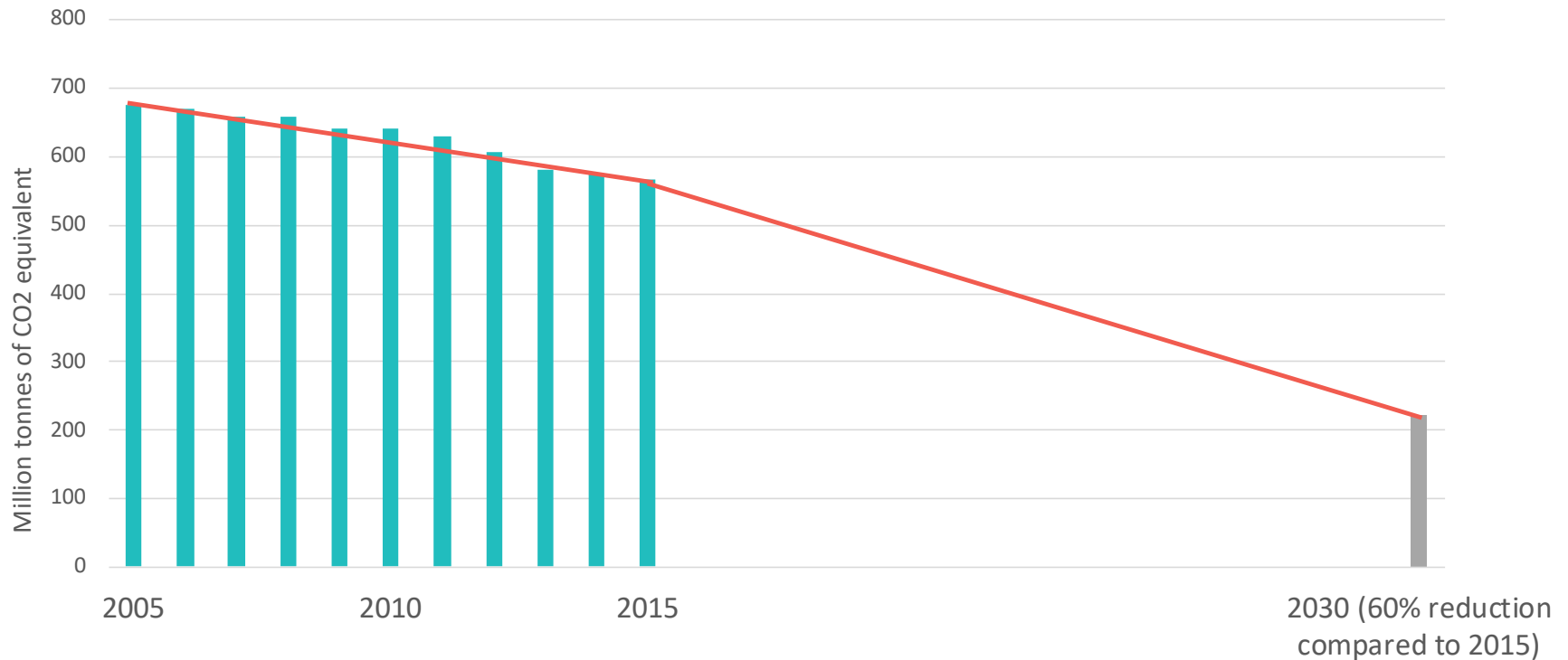
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55% 2030 climate goal: acceleration of building decarbonisation



Residential/tertiary sector GHG emission cuts

Source: RAP (forthcoming) Five year rolling average.

Data source EEA (2019), Greenhouse gas emissions aggregated by sector

The 'Renovation Wave'

European Commission's strategy

Aims to:

- ✓ double annual energy renovation rates in the next ten years
- ✓ renovate 35 million inefficient buildings by 2030



"A Renovation Wave for Europe – Greening our buildings, creating jobs, improving lives"

**Member States can (...) scale up
(...) pay-per-performance public
support schemes (...) to attract
private intermediaries and
aggregators.**



European Commission

Renovation Wave communication

European Commission. (2020). *A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives.*

What are pay-for-performance (P4P) schemes?

P4P energy efficiency schemes

aim to deliver greater and more persistent energy savings by compensating energy efficiency resources based on a comparison of metered energy consumption and modelled counterfactual energy consumption

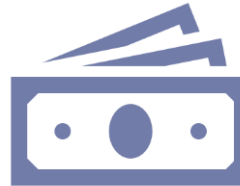


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More information: <https://senseih2020.eu/>

TRADITIONAL SUBSIDY SCHEME



Deemed savings
(assumption about
impact of measure)



One-off payment
(usually upon
installation)

PAY-FOR-PERFORMANCE SCHEME



Savings established
by comparing
metered energy
consumption to
baseline



Payment
proportional to
energy saved,
delivered “as the
savings occur”

ENERGY EFFICIENCY

New Programs Put California's Pay-for-Performance Efficiency Paradigm to the Test

California's utilities are rolling out the first tests measuring the real-world effectiveness of energy efficiency spending.

JEFF ST. JOHN | MARCH 28, 2019

Source: Greentech media <https://www.greentechmedia.com/articles/read/new-programs-test-californias-pay-for-performance-efficiency-paradigm>

In the EU, Article 7 of the Energy Efficiency Directive...

... drives energy efficiency programmes

Member States must trigger a certain amount* of energy savings among energy end users from national policy measures such as energy efficiency obligation schemes, subsidies, etc.

*For the 2021-2030 period, this amount corresponds to new annual energy savings of 0.8% calculated on the basis of annual final energy consumption.

‘Metered savings’ allowed but not widely used under Art. 7

Deemed savings

- Value assigned to a specific intervention
- Based on past studies

Scaled savings

- Engineering estimates
- When measured data is too difficult or expensive

Surveyed savings

- Based on surveys
- Restricted to behaviour change

Metered savings

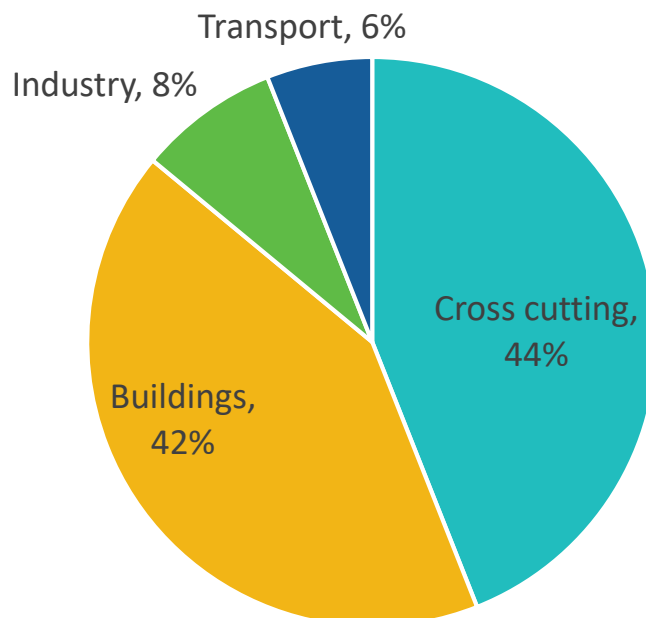
- Tracking energy consumption
- Considering other factors affecting baseline

What the paper does

1. Describes what increased climate goals means for EU building policy
2. Identifies synergies and trade-offs between Art. 7 EED and renovation goals
3. Discusses prospects of using “metered savings” methods and advanced monitoring & verification (M&V) in the context of Art 7 building programmes

Important share of EED Art 7 savings takes place in buildings

Share of savings per sector under
Art 7 EED



Source: Forster, D., Kaar, A. L., Rosenow, J., Leguijt, C., & Pató, Z. (2016). Study evaluating progress in the implementation of Article 7 of the Energy Efficiency Directive. Final Report for DG Energy.

Synergies between Art 7 and renovation goals could be improved



Many Member States are not on track on their Art. 7 obligation

Lack of reliability of energy savings estimates

A role for advanced M&V?

Advanced
M&V



Cutting M&V costs?

Enabled by
development of:

- hardware (e.g., smart meters)
- software (e.g. data process)



Providing finer savings
estimate?

Can it boost the aggregators model?

Public authority
mandating
savings:

- Can deliver performance payments to aggregators
- Can reward time- and location-specific interventions

Energy services
providers:

- Would have lower transaction costs in residential sector
- Can engage customers - including operational savings

eensight

Advanced Energy Efficiency Metering

**No more uncertainties – measuring retrofit performance
across portfolios of buildings**

Conclusion and discussion

- Advanced M&V opens new perspective for building programmes but needs piloting
- At the same time, more evaluations needed increase certainty over deemed values

About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org



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