RAP™ Energy solutions for a changing world

Efficiency First – Will the Winter Package Deliver?

eceee Summer Study

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What is Efficiency First?

Efficiency First is a guiding public policy principle :

- applied to energy sector policies, plans, and investments
- that chooses and requires investments in demand-side resources*
- whenever they **would cost less, or deliver more value**, than investing in energy fuels and supply-side infrastructure.

Departures from this rule are permitted only for clear, compelling reasons (e.g., system security)

*Including both **end-use efficiency** and **demand response resources**

Efficiency First for the Energy Union

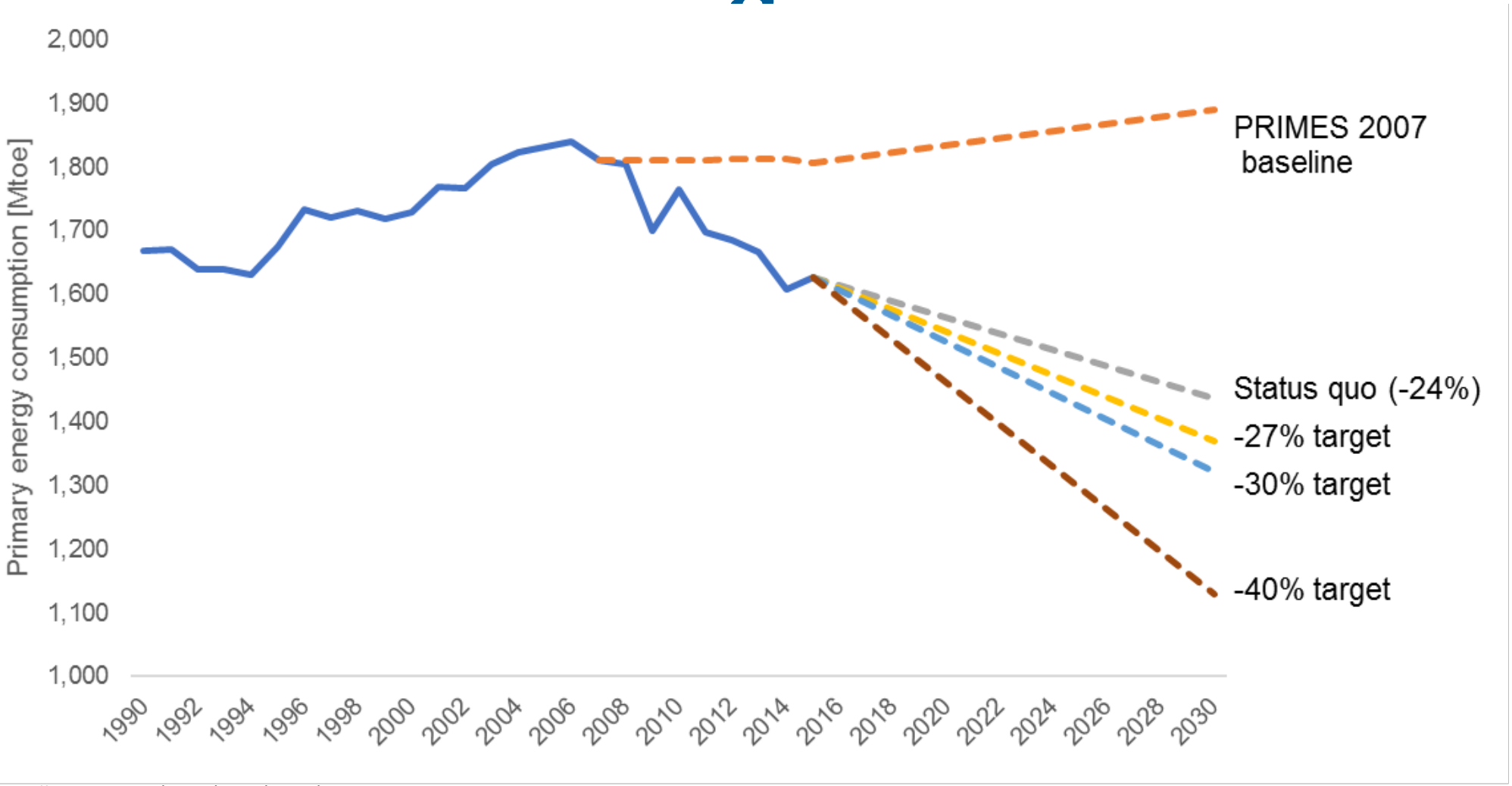
…the energy we do not use is the cheapest, most sustainable and most secure energy there is. The EU is already a world leader here; but I think we can do so much more. It starts with taking "efficiency first" as our abiding motto.

--EU Climate Action and Energy Commissioner Arias Canete, February 2015

Will the Winter Package Deliver EE 1st?

1. **EED** - Energy Efficiency Directive
2. **EPBD** - Energy Performance of Buildings Directive
3. **IEM** - Internal Energy Market (Directive & Regulation)
4. **Governance** Regulation

How ambitious is a 30% savings target?



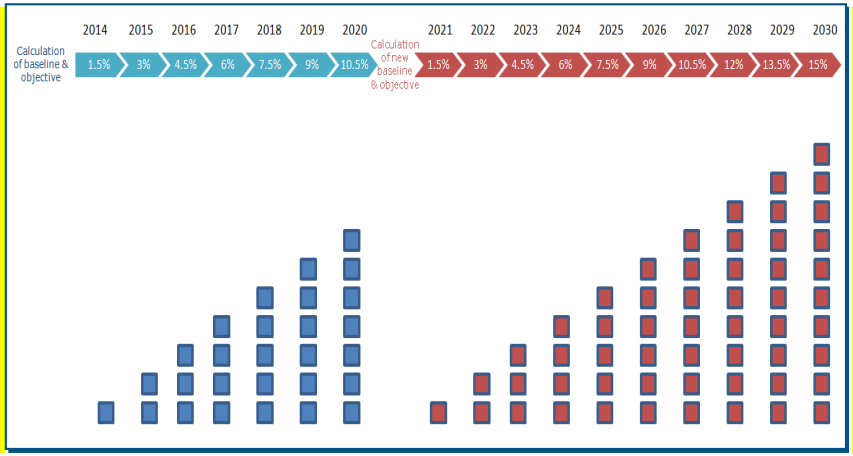
Quelle: Eurostat (2017), EC (2016)

The Energy Efficiency Directive - 2017

	Commission Proposals	Observations
2030 energy savings target	30% binding energy savings target by 2030, instead of the 27% initially discussed in the 2030 Energy Strategy	Increase target to 40% in line with cost-effective potential
Exemptions and exclusions	keep exemptions at 25% continue to allow for transport to be excluded from the target calculation	take out exemptions include transport in the target calculation
Additionality and buildings	all renovations can fully count towards Article 7 no clarity on how energy savings from new buildings can be counted towards Member States' targets	keep clarification for renovations for new buildings, only allow Member States to count energy savings additional to national building codes or exclude from scope of EED
Sunset clause	extend sunset clause to 2030 and potentially for another 10 years	ensure periods 2014-2020 and 2021-2030 are aligned maintain ambition levels across periods
Treatment of savings from old measures	Member States cannot count savings from old measures as if they were new savings in 2021-2030	See next slide

Presidency Proposals – (1) treatment of long-lived measures

COM Proposal:



Problems:

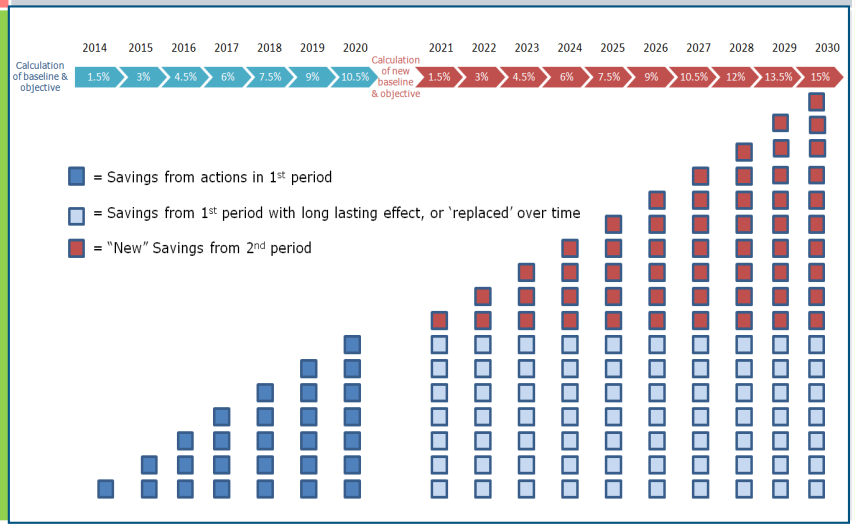
- **Merely replacing eroded savings counts as "new"**
- **Does not encourage long-lived measures**

Presidency proposal

Member States **can** count savings from long-lived measures (>23 years) as if they were new savings in 2021-2030

This could cut total savings by 36% between 2021-2030

Better approach: continuous progress across periods



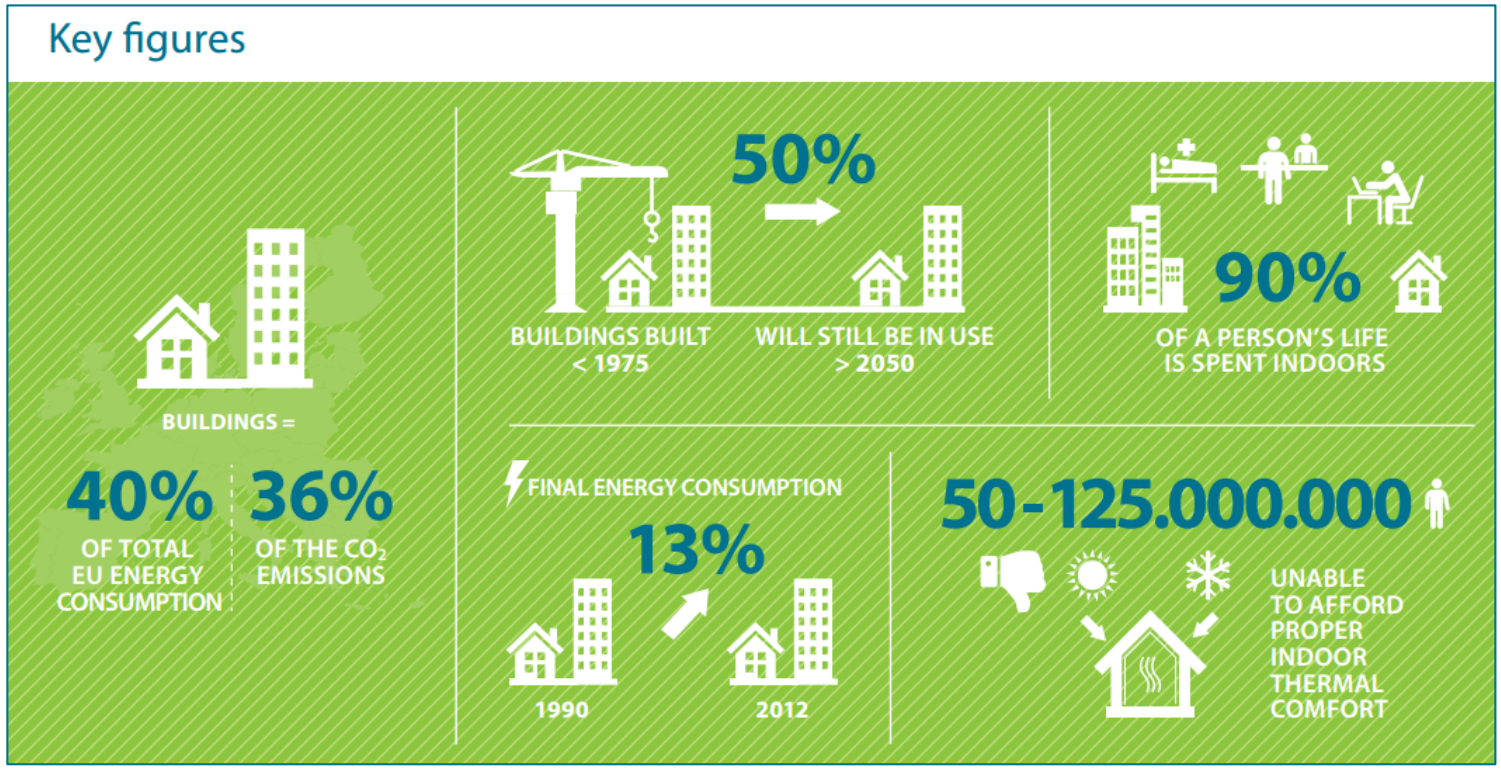
Solutions:

- **All measures earn their savings across all periods**
- **Encourages long-lived measures**
- **No erosion of overall goals**

Presidency Proposals (2) counting on-site renewables as EE

	On-buildings RES	Observations
Commission proposal	Member States can credit on-building RES as "energy savings" only within the 25% basket of exemptions in Article 7	No additional erosion of savings requirements.
Presidency proposal	Member States can "take into account energy savings from **renewable energy generated** on or in buildings for own use to satisfy their **energy savings** requirements."	• **Energy supply is not a form of energy savings.** • **Double-counting renewables as RES & EE** • **In some MS –e.g., Germany - on-site RES is a large resource, eroding EE delivery.**
Better approach	No credit under Article 7 Energy generation is not energy efficiency	• Europe needs both EE and RES • If RES = EE, why just on-site?

EU Building stock today



- 75% residential buildings
- 64% single family houses
- Average 1% renovations per year
- Construction sector: 3M enterprises, annual output of EUR 1 211 billion, ~10 % EU's GDP, total direct workforce of 14 million

Long Term Vision for 2050

European Commission	ITRE draft report	Presidency 4th compromise
		
• Long term 2050 goal to decarbonise building stock, milestone 2030 • No regular update every 3 years (deleted)	• **Introduction E1st principle** • Long term 2050 goal to ensure a highly efficiency and decarbonised building stock, with milestones for 2030 and 2050	• Long term goal to decarbonise building stock for 2050 goal of reducing GHG emissions by 80-95% • Indicative milestones for 2030 and 2050

Recommendations

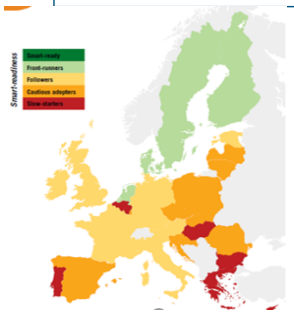
- Define decarbonised building stock (highly efficient, res-supplied, intelligently integrated to decarbonised energy system)
- Clear guidance to MS on national renovation strategies and milestones
- Methodology on measurement and progress reporting of renovation strategies
- Regular update renovation strategies (link w/ Governance)

Stimulating deep renovation

European Commission	ITRE draft report	Presidency 4th compromise
		
• Mechanisms for project aggregation • De-risk investments • Use of public funding to leverage private investment or address market barriers to guide investment decisions • **Contribute** to alleviation of fuel poverty	• Stimulate cost-effective deep renovation • Target all public buildings, worst performing buildings & energy poor households • Trigger points for renovation • Accessible and transparent advisory tools, i.e. one-shop-shops • Promote skills and education • **Set actions to** alleviate energy poverty	• Consider introducing of mechanisms for project aggregation • Reducing perceived risk • Use of public funding to leverage private investment or address market barriers to guide investment decisions • **Take account** of the need to alleviate energy poverty

Ensure future proof buildings

European Commission	ITRE draft report	Presidency 4th compromise
• Introduction of a smartness indicator to enhance the ability of occupants and the building to be active player in energy system • Building automation and energy monitoring system requirements as an alternative to inspections • Additional information to prospective new tenants or buyers	• Smartness indicator to cover enhanced energy savings • 3 main functionalities: **a) Maintain high performance** b) Adapt operations to occupant's needs c) Flexibility of electricity demand	• Voluntary EU scheme for rating the smart readiness • Synthetic and meaningful information to potential owners and tenants (no impact on EPC)



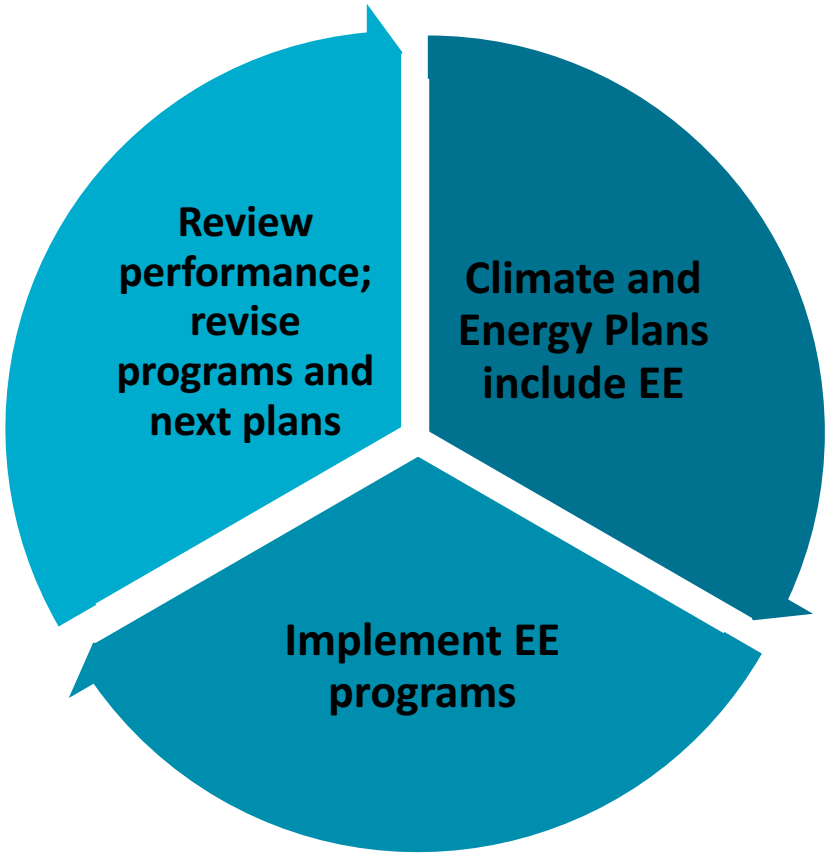
Recommendations

- High building performance, Dynamic operability and Energy system responsiveness
- Reflect smart buildings in the definition of nZEB
- Ensure that the role of smart buildings is recognised in internal-energy market legislation

3. Energy Efficiency in the Internal Energy Market

	Proposals	Observations
Energy efficiency as a reliability resource	All generation, storage and demand resources must participate on **equal footing** in the market Member States must consider several pathways to **addressing resource adequacy concerns**, including demand side measures and energy efficiency	"Consider" is not the same as "act on" Equal footing in **capacity markets** missing – and this is an area where it could be quite valuable
Energy efficiency as a transmission and distribution resource	Member States must design regulatory frameworks for distribution system operation that, among other things, **consider energy efficiency measures that may supplant the need to upgrade** or replace electricity capacity, and that support the efficient and secure operation of the system Member State regulatory authorities must provide **performance incentives** for innovative solutions to distribution system operation, and must introduce **performance targets**, and recognize innovative measures to raise efficiencies, including energy efficiency, of DSO networks as fully **eligible for cost recovery**	Mandate DSOs to undertake demand-side investments where more cost-effective or valuable Performance incentives are useful BUT Energy efficiency for network solutions should include end-use energy efficiency

4. Governance for EE – the main idea



Governance Regulation

	Proposals	Observations
Integrated national energy and climate plans	**10-year climate and energy plans** including the methodology and policy measures used to achieve EED Article 7 targets and long-term renovation strategy	Keep requirements but ensure detailed reporting on Article 7 and long-term renovation strategy maintained
National objectives and targets	Targets with a **linear trajectory** from 2020 to 2030 Energy efficiency not mentioned with regard to energy security and the Internal Energy Market	**Harmonise with Article 7** requirements that do not require linear trajectory Require examination of potential of energy efficiency to reach Energy Security and the Internal Energy Market targets
Setting Member States' contributions	Requirements for Member States setting their **indicative national contributions** for 2030	Establish mechanism to ensure set of national plans will add up to meeting the Union's energy-savings goals
National policies - methodology	Projections concerning need to be linked to **robust** security of supply, infrastructure and market integration **energy efficiency scenarios**	Introduce mandate to acquire **all cost-effective efficiency**
Reporting and Assessment	Efficiency not mentioned in the sections on reporting for **energy security and the Internal Energy Market**	Require Member States to report on efficiency in the context of energy security and the Internal Energy Market Add option for European Commission to establish a **European energy efficiency fund – or contribute to existing funds to accelerate uptake** if progress insufficient (similar to renewable energy section)

Efficiency First Logic Chain

Efficiency gains are not automatic – It takes a **systematic "hard look,"** finance, & mandates.

1. Rules for **planning** – EE and DR treated as energy resources
2. Rules for assessments in **particular cases**
3. **Decision rules** and mandates:

4. Provide **financing** pathways
5. **Monitoring,** verification, **Enforcement**

RAP® Energy solutions for a changing world

About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power sector. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at www.raponline.org

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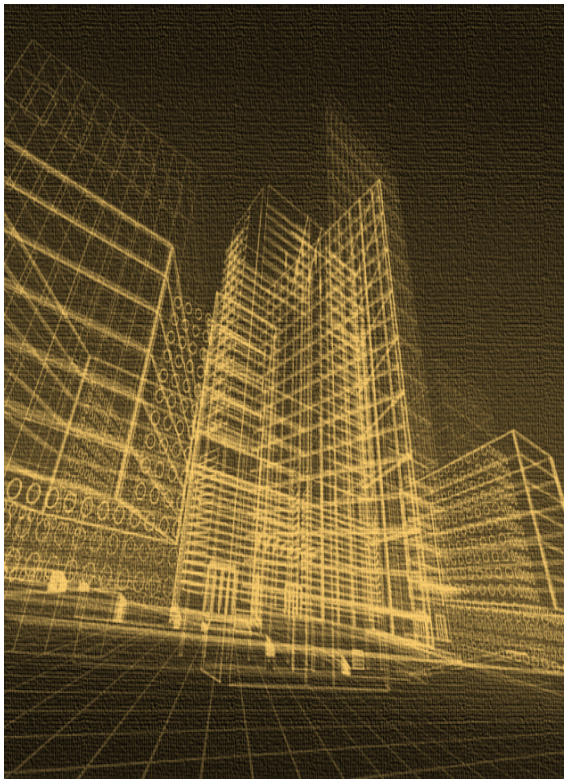

BPIE

The Buildings Performance Institute Europe is a European not-for-profit think-tank with a focus on independent analysis and knowledge dissemination, supporting evidence-based policy making in the field of energy performance in buildings. It delivers policy analysis, policy advice and implementation support.

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