



RAP

Energy solutions
for a changing world

Paving the Way Towards an Energy Efficient Europe

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About the Regulatory Assistance Project (RAP)

RAP is a global NGO providing technical and policy assistance to government officials and agency staff on energy and environmental issues. **RAP senior staff are former regulators, government officials or senior energy policy advisors**, and RAP's work is **funded exclusively by foundations and government agencies**.

RAP has worked in more than 20 nations and 50 provinces and states. RAP's European offices are headquartered in Brussels, with a second office in Berlin.

Today

Only cover the residential & tertiary end use sectors – diffuse energy saving potential and arguably the most difficult

What are the best practice energy efficiency (EE) policies? – no silver bullet

EU Energy Efficiency Directive (EED) – complicated Directive - “guidelines “ required to clarify exactly what can count and how value/justify claimed energy savings - one option **Energy Efficiency Obligations** begins in 2014 and has incentives for MSs who use this route to meet their targets

The trouble with energy efficiency removing market barriers to action and investment

ECF Identification of Best Practice EE Policies

Examined EU-15 NEEAPs (2007/8) – particularly those with quantification of savings in the residential and service sectors

Defined a significant policy – one expected to achieve >10% of sector savings by 2016 AND identified as such by more than 1 country

5 common policies in both sectors – plus an additional 1 each in the residential and service sectors

Best Practice EE Policies in residential & tertiary sectors

Building regulations (most widespread)

Government **grants or subsidies**

Energy efficiency obligation on energy companies

Appliance labelling and minimum performance standards (not just EU)

Energy efficiency investment bank providing low interest loans if accompanied with tailored advice

In **residential sector - tax breaks**; in **tertiary – tailored advice plus** other policy measures

Other EE policies are important

No silver bullet – but prudent to have a portfolio with as many best practice programs as possible

UK – largest residential EEO in EU but only 41% of 2016 residential savings come from EEO (36% Building Regulations)

DE – for delivered energy savings in tertiary sector, ~34% from low interest loans and tailored advice, ~40% from Building Regulations and ~12% from appliances

EU Energy Efficiency Directive (EED)

Sets MSs a cap on 1.47 Gtoe (primary) on EU consumption in 2020; MS 's target implying 1.5% new energy savings per year which result in at least 10.5% savings/year by end 2020 (target definition is complicated and can exclude EU ETS & transport sectors)

Other non end use or non new options - allows for **Early Actions** (after end 2008) still producing savings AND efficiency **improvements in transformation, T&D** sectors. Fortunately capped at a **maximum contribution of 25% of the target!**

Energy efficiency obligation on energy companies encouraged but not mandatory

Sets out **principles for how energy savings are determined & requires quality and M&V standards**

EED Article 6 tackles all energy end use sectors

Energy efficiency obligation on energy retailers or distributors

Article 6 incentive in paragraph 5 (c) “allow obligated parties to count savings obtained in (2020) as if they had instead been obtained in any of the 4 previous or 3 following years” *i.e. can bring forward energy savings from 2021, 2022 and 2023 to meet 2020 target*

Alternatives to EEOs include **energy efficiency fund** or **energy/CO2 taxes** or **fiscal incentives** or **standards beyond EU minimum requirements** or **training and education activities** (quantification of savings for last option?)

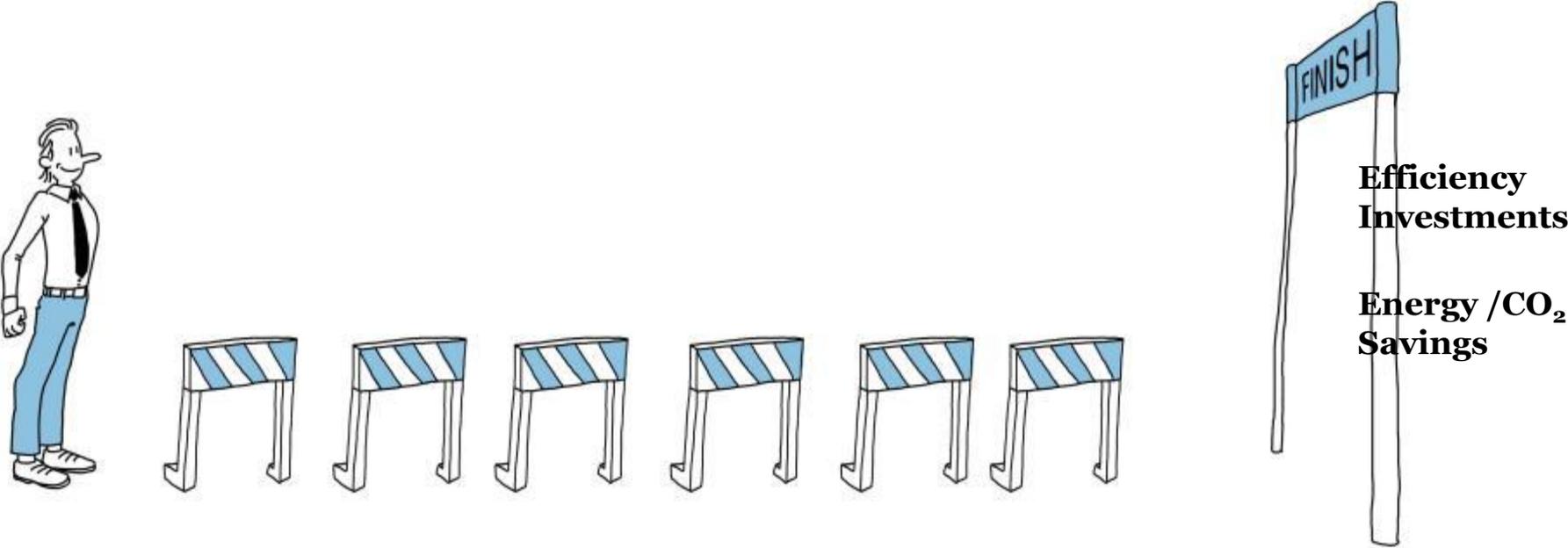
But investment in EE does not happen to the extent a “rational economist would expect” and currently a lack of policies which coherently removing market barriers

Market barriers

- **Lack of personalised information**
- **Upfront costs**
- **Financing: Payback periods very short = high implicit discount rate**
- **Consumer inertia: Hassle factor, timing mismatches**
- **Split incentives (e.g., builder/buyer; tenant/landlord)**
- **Unpriced externality costs**
- **Uncompensated benefits to energy system– eg reduced system losses, avoided new plant**

30 years of experience shows: barriers are globally similar, addressing single barriers is not sufficient; also stable budget-independent funding required and clear responsibility for someone to deliver the energy savings

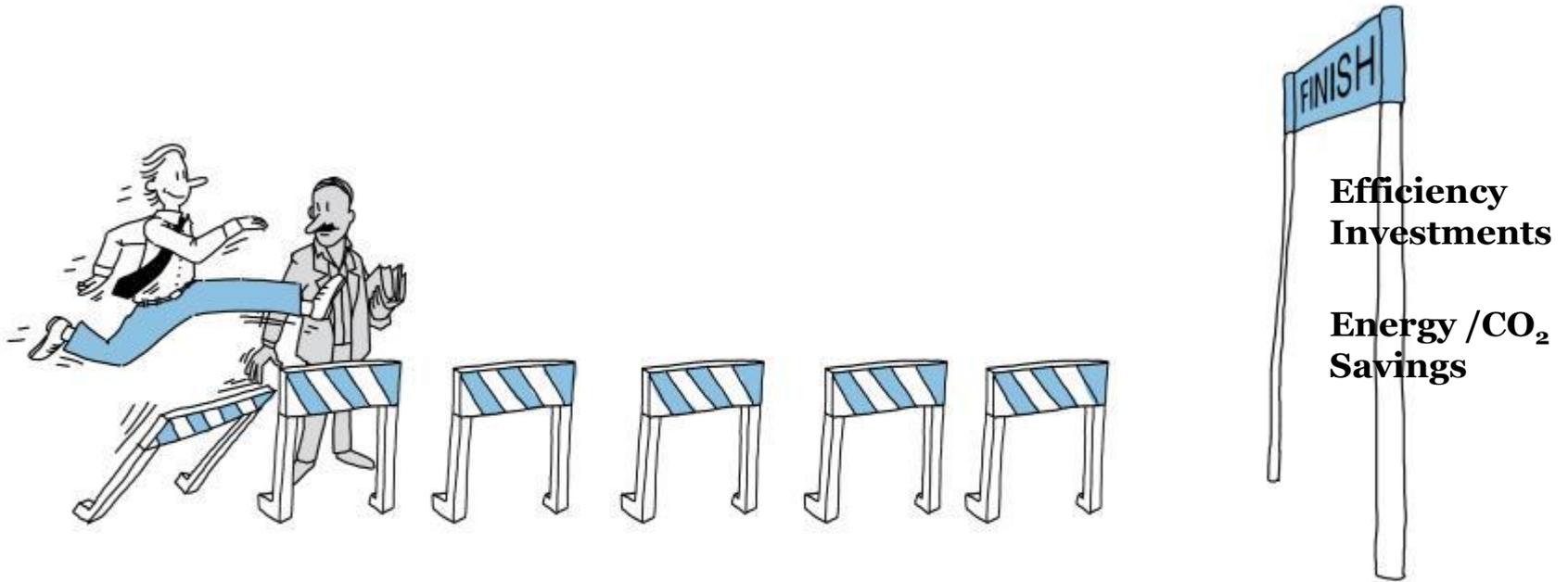
Policy Must Address All Market Barriers to Succeed



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- personalised information
- upfront costs
- financing
- trusted installers
- hassle factor
- split incentives (e.g. tenant/landlord)
- uncompensated benefits

Policy Must Address All Market Barriers to succeed



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personalised information

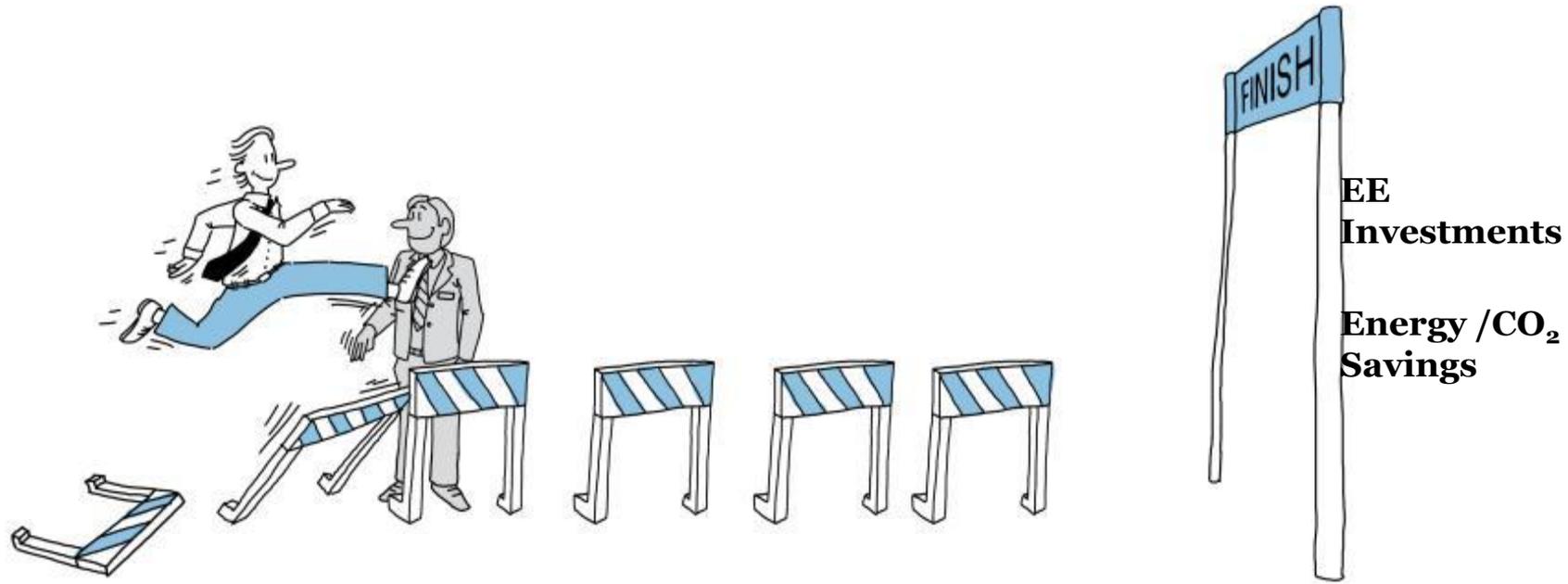
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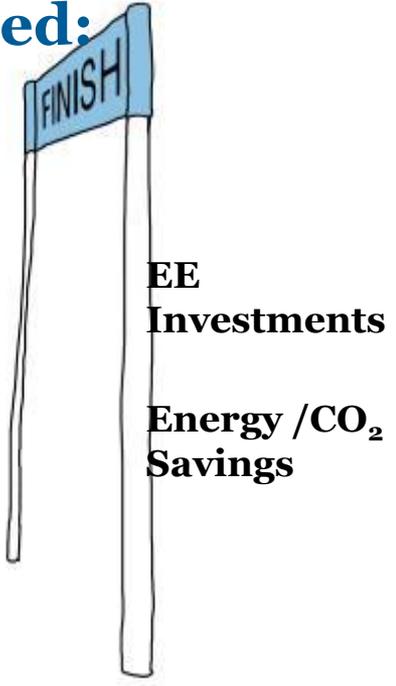
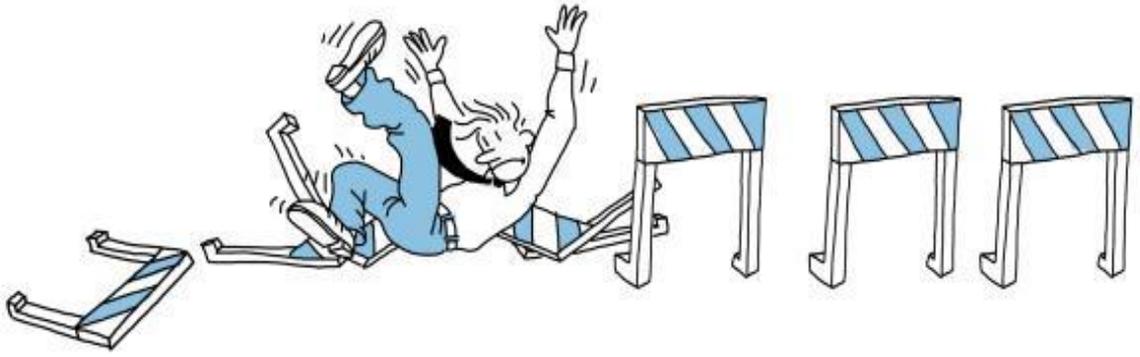


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Policy Must Address All Market Barriers to Succeed:

Key Lessons: single-barrier programs or approaches that are not responsive to market feedback = limited success



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EEOs & Market Barriers

Market barrier	How overcome
Personalised information	Advice delivered in home by energy company or its agent
Financing/upfront costs	Subsidies and loans
Trusted installers	Energy company brand well known and often trusted
Hassle factor	Energy company or its agent arranges multiple EE trades
Split incentives (landlord/tenant)	Put loan on electricity bill so all future tenants pay and benefit
Uncompensated benefits (electricity system)	NE USA evaluations show these are nearly as large as cost of energy saved

Conclusions on EU EED and increasing EE

EED offers a genuine opportunity – can only hope MSs move from resisting every Article and seize the opportunity EED affords

Energy efficiency obligations on energy providers are a timely opportunity – well designed EEOs can tackle many of the barriers to EE investment; not dependent on public expenditure & typically 2-4% of fuel bills; guarantee EE industry greater continuity in funding than annual Government budgets; require energy providers or appointed organisations (if EE funds) to deliver the required energy savings; look to have incentives for MSs who pursue this route to meet 2020 targets

Conclusions on EU EED and increasing EE

EEO design is varied to suit local circumstances e.g. retailer/distributor/EE utility/white certificate market place etc.

Issues have to be addressed and have been overcome include small vs large energy providers; higher energy unit charge but lower energy bills for end users; abuse of market power by energy providers on small EE installers etc.

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 and natural gas sectors. 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.raonline.org

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