Magdalena Jóźwicka | 24/11/2017| EEEN Forum, Edinburgh

Reporting and *ex post* evaluation of energy efficiency policies in the building sector

Outline of the presentation

- Reporting of climate change mitigation polices and measures – EEA PaM database

- Single policy evaluation – energy efficiency in buildings

- Policy mix – energy efficiency in buildings

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Main messages: Reporting on climate policies supports policy evaluation

- Information on 1500+ national policies/measures are available and regularly updated
- Significant amount of policies/measures promoting energy efficiency in buildings
- Quality of reported information has improved but completeness and evaluation remain challenging
- Barriers for better reporting on effects of policies (especially ex post) remain unclear
- Reported information support policy evaluations
- Evaluation should not only focus on impacts of single instruments but on mixes of policy instruments

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All 28 EU countries reported information on 1500+ policies and measures

Available at: http://pam.apps.eea.europa.eu/

Significant number of PaMs (250) implemented to improve EE in buildings

Implementing entity

Entity	Percentage
Government	85%
Regional	15%
Other	12%
Companies	9%
Local	5%

Instrument type

Type	Percentage
Economic	44%
Regulatory	41%
Information	21%
Education	8%
Fiscal	7%
Planning	6%
Other	4%
Voluntary	3%
Research	2%

Source: (EEA PaM database, 2017)

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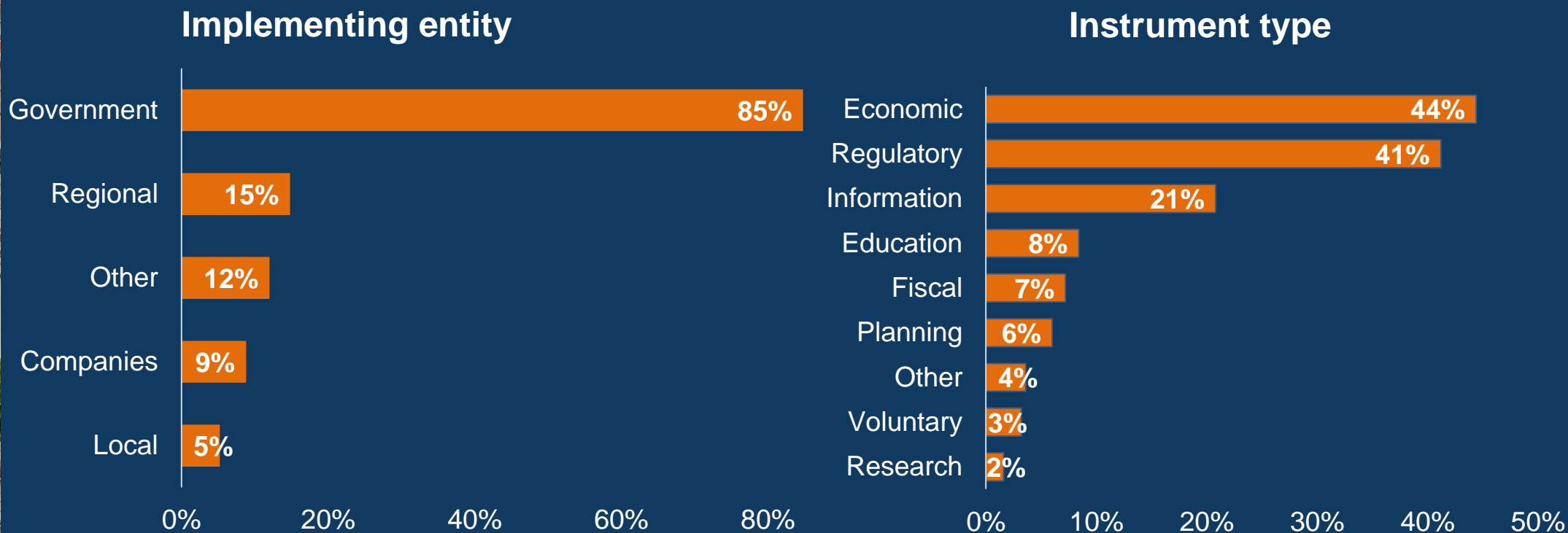
2014 key year for implementing PaMs to improve EE in buildings

Number of PaMs linked to improving EE in buildings per start year

Source: (EEA PaM database, 2017)

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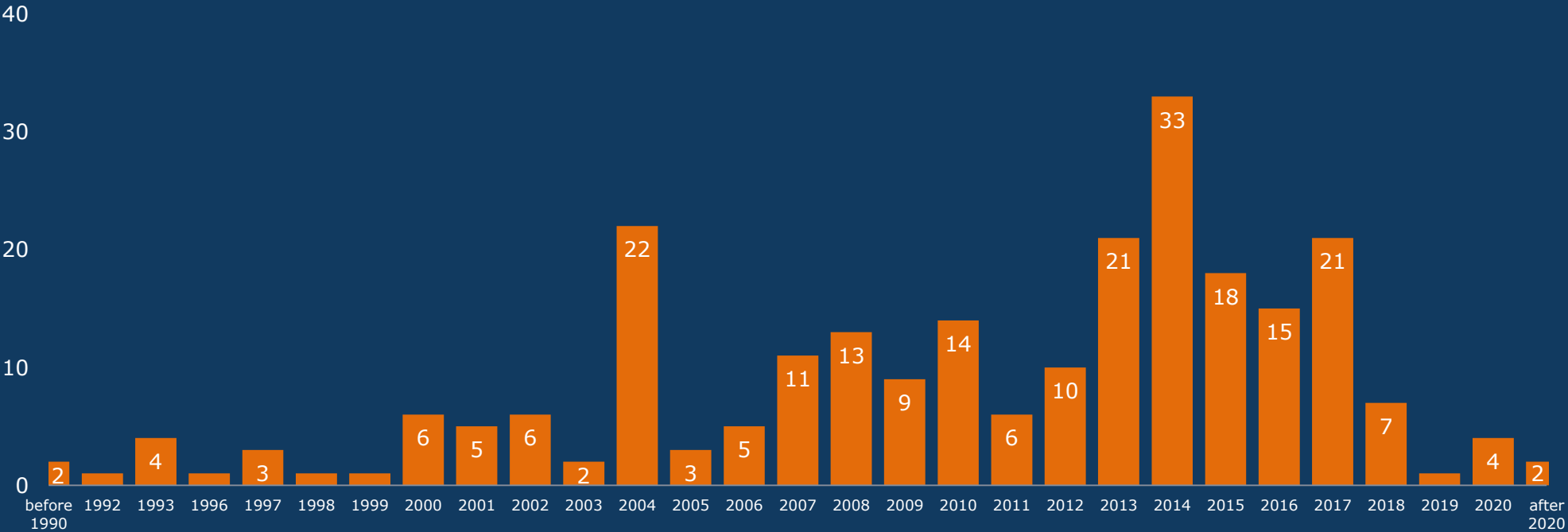
Majority of PaMs have been related to EED or recast of EPBD

PaMs not related to Union Policy 27%

PaMs related to Union Policy 73%

Directive	Percentage
Energy Efficiency Directive (EED)	39%
Recast of Energy Performance of Buildings Directive (EPBD)	36%
Energy Services Directive	15%
Effort Sharing Decission	11%
Renewable Energy Sources Directive (RES)	10%

0%   10%   20%   30%   40%

Source: (EEA PaM database, 2017)

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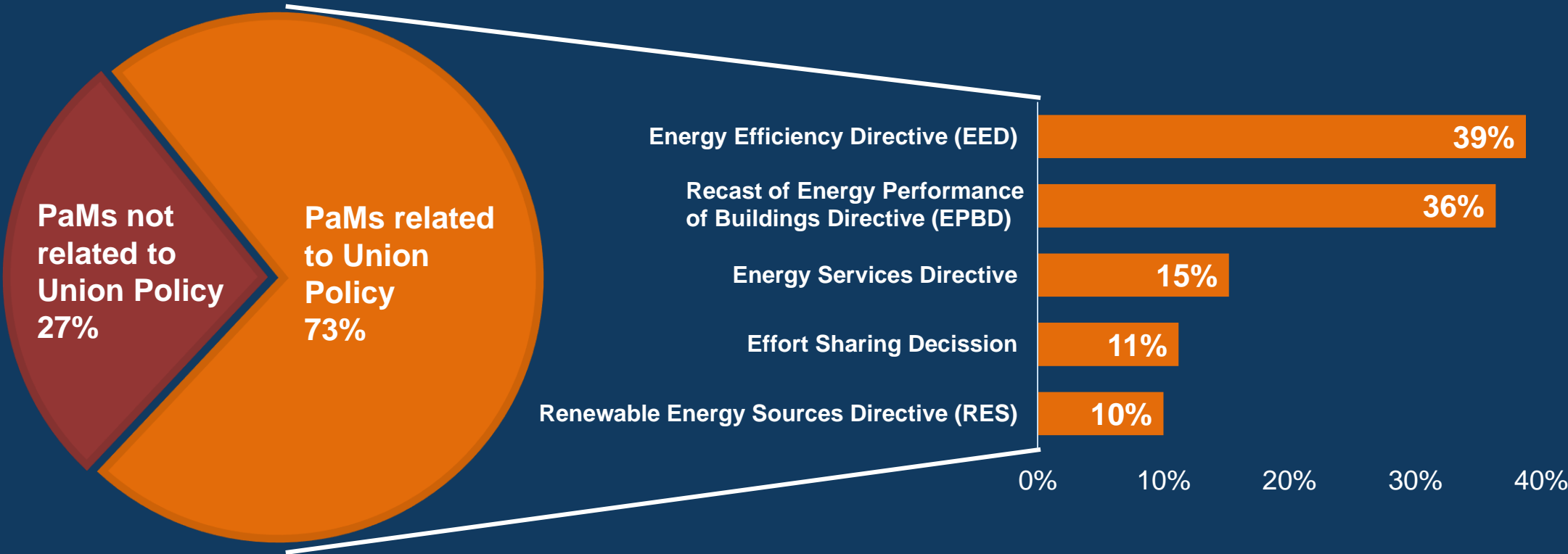
Incompleteness - key issue undermining the quality of the analysis at EU level

- Critical observation: 8 MS reported *ex post* results
- Barriers for reporting on PaMs effects remain unclear:
  - No interest in evaluation by policy makers
  - Interest is there, but lack of resources
  - Resources are there, but lack of expertise or appropriate tools
  - Results are there, but too sensitive to be reported
  - Results are there, but reporting too burdensome/complicated

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What works, what does not and why?

Benchmark of the EEA database on climate mitigation policies and measures

Contribution of the information reported under the MMR to the evaluation of national PaMs

ETC/ACM Technical Paper 2016/9
September 2016

Tom Dauwe, Kristien Aernouts, Justin Goodwin,
Elisabeth Kampel, Michaela Titz, Katrina Young

European Topic Centre
on Air Pollution and
Climate Change Mitigation

The European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM)
is a consortium of European institutes under contract of the European Environment Agency
RIVM Aether CHMI CSIC EMISIA INERIS NILU ÖKO-Institut ÖKO-Recherche PBL UAB-V VITO 4Sfera

- Recognizing the importance of policy evaluation in the policy cycle

- Expanding use of PaM reported information (EEA PaM database)

- Validating the usefulness of this for *ex post* policy evaluation

- Building upon EEA earlier work

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'Classic' evaluation framework used for selected policies/measures

Relevance

Coherence

Effects

External factors → Impacts (long term)

Needs

Other policies → Results (short term)

Policy intervention

Objective → Inputs → Activities → Outputs

Effectiveness

Efficiency

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Source: (EEA ,2016)
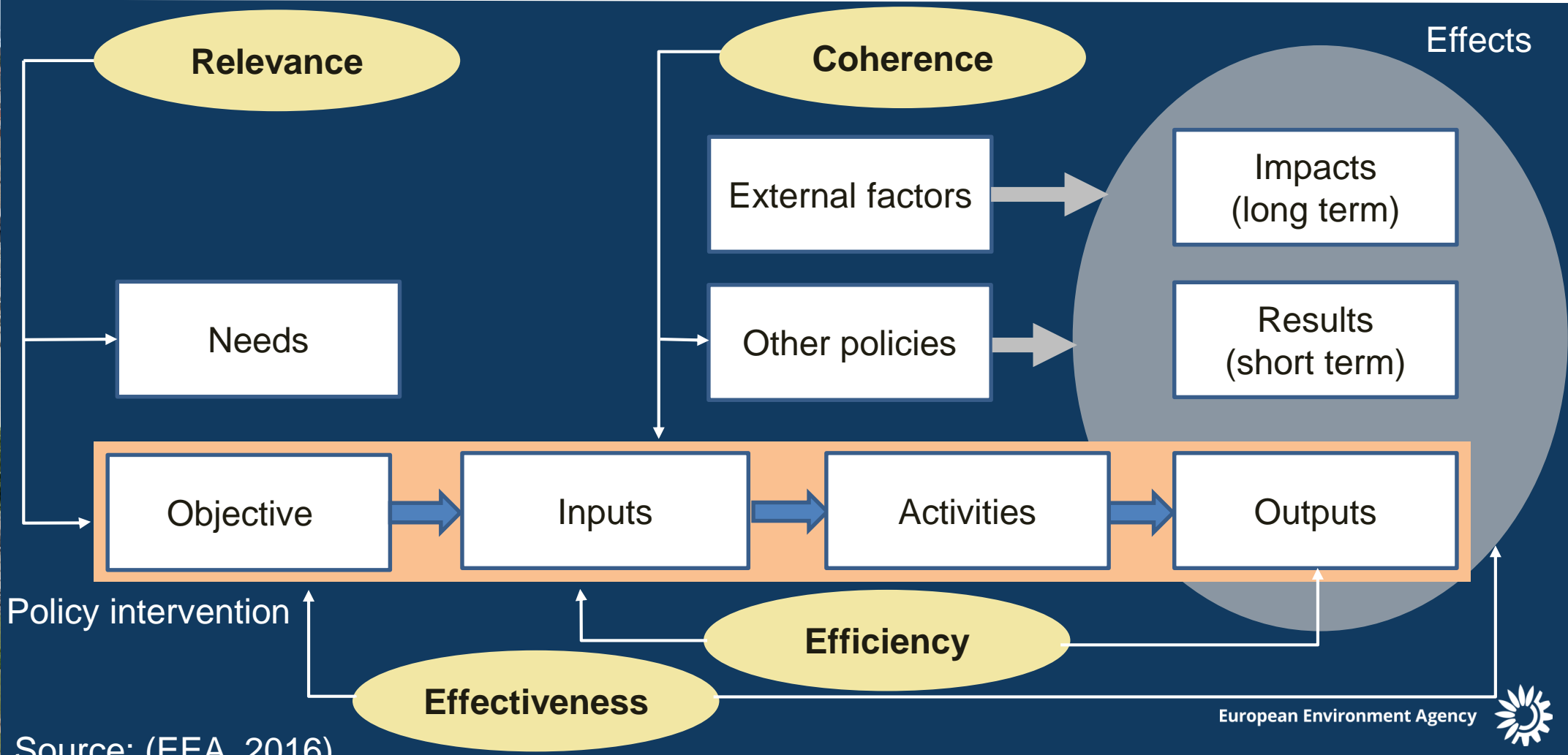
Energy efficiency improvement in public buildings - Estonia

Effectiveness

To what extent did the PaM result in:

- increased renovation of public buildings?
- decreased energy consumption of public buildings?
- decreased GHG emissions?

Efficiency

- To what extent has the policy generated benefits and costs for government?
- Has the PaM been cost effective?

Source: (ETC/ACM, 2016)

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Energy efficiency improvement in public buildings (Estonia) was effective

Needs:
- Modernise public buildings
- Reduce CO2 emissions by decreasing energy consumption in public buildings

External factors:
- Heating demand
- Sale of surplus emissions quota
- Short time period of PaM

Other policies:
- National: none
- EU Energy Efficiency Directive, Energy Services Directive, Energy Performance of Building Directive

Results & Impacts:
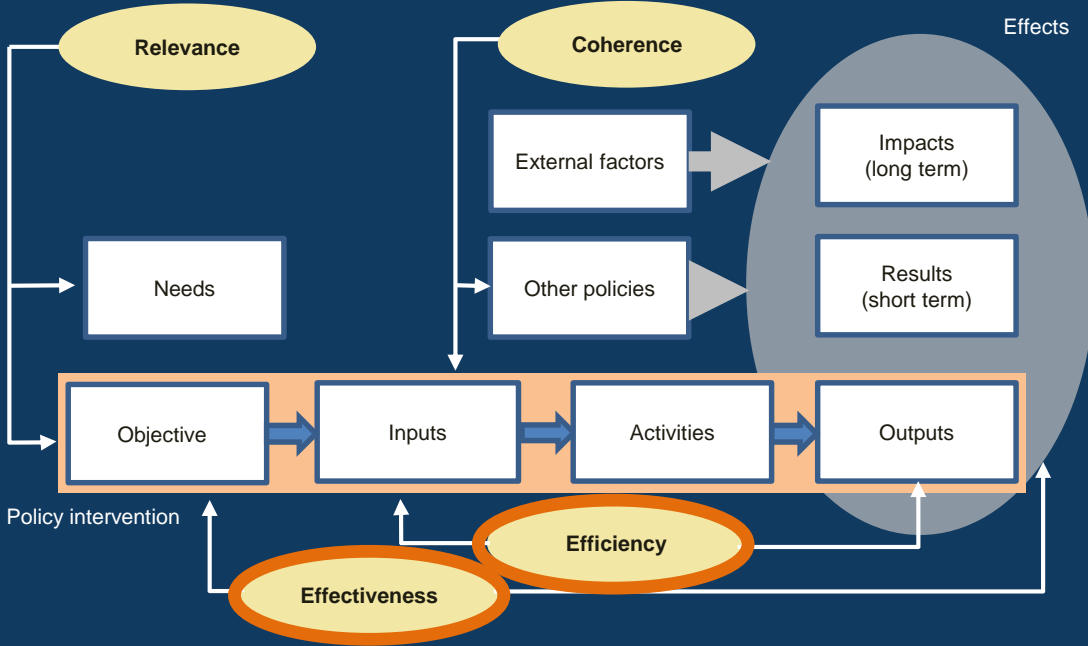- Increased rate of public buildings' renovations
- Reduced en consumption (by improving EE and RES)
- Reduced GHG emissions from heating and electricity consumption in public buildings
- Additional jobs in building sector

Objective:
- Improve EE of public buildings
- Cost effective
- Impact across country

Inputs:
- Green Investment Scheme- financial resources
- Resources to implement and operate programme

Activities:
- Ministry: Developed procedure for project submission, assessment and selection
- State Real Estate: procurement procedure
- Project proposals submitted
- Supervision of Ministry

Output:
- Number of submitted and assigned projects

Source: (ETC/ACM, 2016)

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Harmonizing reporting streams could improve quality information

- Reported information under EU MMR provides a very good overview and starting point

- However:
  - Information is not sufficient for complete/in-depth evaluation of national PaMs
  - Data on ex post GHG emission reductions and indicators largely missing and *ex ante* incomplete. Methods used for estimation are not consistent
  - Reported data is not always harmonised with the wider EU Energy policy reporting (e.g. NEEAP)

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Policy mixes are considered more effective than single instruments (work in progress)

Why to look at policy mixes:

- Polycentric governance of energy efficiency
- Diverse mix of instruments implemented by MS to improve energy efficiency in buildings
- Focussing on impacts of single instruments doesn't show the full picture
- Difficult to understand interactions between instruments -> more holistic approach for evaluation

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Effective and coherent policy mix in the Netherlands – case study

- Cooperation between individuals and business is a general objective

- EE policy package address diverse target audience and have mix of instrument types

- Developed long term strategies help in setting-up a coherent and effective policy mix

- 3 principles for strategy:
  - informing and raising awareness, facilitating, financial incentives

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Conclusions

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- Reported information support policy evaluations
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Thank you!

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References:

(EEA PaM database, 2017) http://pam.apps.eea.europa.eu

(EEA, 2016) https://www.eea.europa.eu/publications/environment-and-climate-policy-evaluation

(ETC/ACM, 2016) http://acm.eionet.europa.eu/reports/ETCACM_TP_2016_9_MMR_Info_Eval_Natl_PaMs/

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