Evaluation into Practice to Achieve Targets for Energy Efficiency

EPATEE

EPATEE – Austausch zu Evaluationen im europäischen Rahmen

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Der Wert von Evaluationen

*"**Policies** are **living creatures** and need to be adjusted periodically to take into account changes in context, markets, policy priorities, etc. A timely **evaluation** can provide the necessary basis for this"*

*"One may have **fear** to do an ex-post impact evaluation, because it may show smaller results than expected. However this increases the robustness of the results and therefore the **confidence** in the policy"*

"The biggest difficulty is to justify the efforts (time and budget) needed to collect the energy-related data"

"It was really worth the efforts needed to collect data and perform the evaluation"

"Empirical verifications represent a small budget compared to the whole scheme. Our experience with the ex-post impact evaluation is that it is worth it"

Der Mehrwert von Evaluationen

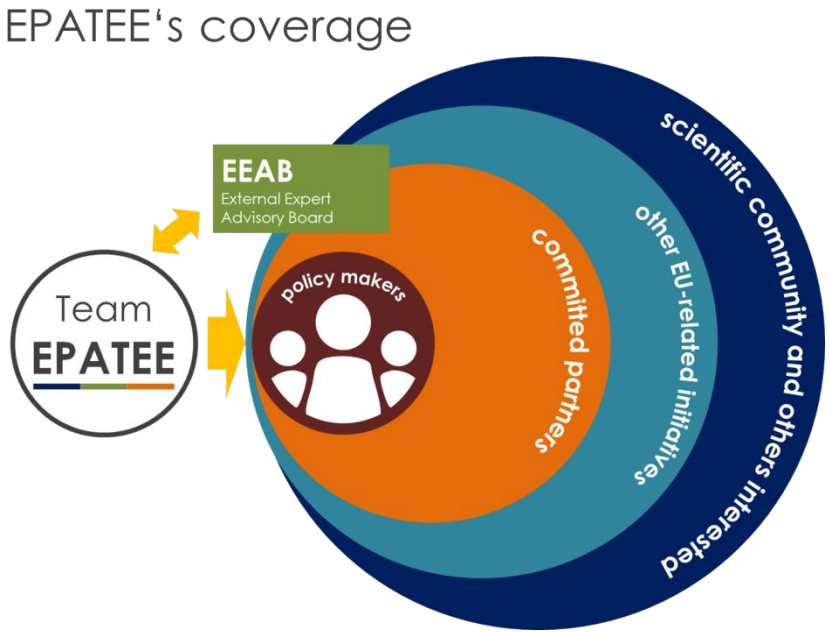
Allgemein

- Evaluationsergebnisse = notwendige Informationen, um Anrechenbarkeit zu berichten (z.B. Energieeffizienzrichtlinie)
- Empfehlungen = Wichtiger Input für zukünftige Politik-Gestaltung

Speziell

- Zielsetzungen verbessern: Anreize, Anforderungen an Projekte etc.
- Anforderungen anpassen: Zusätzlichkeit, Qualitätssicherung etc.
- Verstehen (und/oder Quantifizieren) spezieller Fragestellungen wie z.B. Unterschiede zwischen geschätzten und beobachteten Ergebnissen, Rebound-Effekte
- Verstehen, was ein Instrument attraktiv/erfolgreich macht: Administrative Abläufe, Kommunikation etc.
- Quelle für neue Ideen: Flexibilitäten, Kriterien um langlebige Maßnahmen zu fördern, Qualitätslabels etc.

Einbindung der Stakeholder



- Interviews mit Stakeholdern
- Umfragen
- EU Peer-Learning Workshops
- Nationale Peer-Learning Workshops
- Webinare
- Direkte Unterstützung
- EPATEE Newsletter https://epatee.eu/subscribe-our-newsletter

Projektziele

Grundlagen für verbesserte Evaluationen schaffen, um die Anzahl und den Gebrauch von Ex-Post Evaluationen von Energieeffizienzpolitiken zu erhöhen

- Analyse der Bedürfnisse und der bestehenden Praktiken im Bereich der Evaluationen
- Verbessern der Wahrnehmung von Evaluationen als wichtiges Instrument um Politiken und Instrumente effektiver zu gestalten
- Ermöglichen von Erfahrungsaustausch (Workshops, Webinare)

Projektelemente

Ressourcenaufbau

Knowledge Base
(user-oriented database of references)

Empfehlungen und Unterstützung

Case Studies
(about ex-post evaluations)

Anwendung

Online toolbox

Erfahrungsaustausch
Workshops, Webinare

Verbreitung
der Ergebnisse

Was Stakeholder benötigen

- Methoden für Measurement, Reporting & Verification (MRV)
- Indikatoren, um die Kosteneffizienz eines Instruments zu bewerten
- Lösungen für Datensammlung und nicht-energetische Effekte der Instrumente (Multiple Benefits)
- Harmonisierung der Ansätze um Vergleiche zwischen Instrumenten und Ländern zu ermöglichen
- Sicherstellung, dass Evaluationen unabhängig durchgeführt werden
- Unterstützung bei der Entscheidung, wie viele Ressourcen in die Evaluation fließen sollen

Knowledge Base

https://epatee.eu/knowledge-base

- Sammlung von Evaluationsstudien
  - Evaluation reports
  - Evaluation papers
  - Evaluation guidelines
  - Meta evaluations
  - Methodological papers
- Ziele
  - Zugang zu Evaluationen erleichtern
  - Bereitstellung von konkreten Materialien und Information
  - Online zugänglich über EPATEE Website
- Inhalte
  - Bibliografische Informationen
  - Informationen über Evaluierungen
  - Methodische Aspekte
    - Datensammlung
    - Berechnungsmethoden
    - Anpassungsfaktoren
    - Energieeinsparungen & zusätzliche Effekte
- Suche
  - Nach Kategorie
  - Erweitere Suche

Search by Categories

Year of publication

1984 — 2017

Language

None selected

Study type

None selected

Type of policy instrument

None selected

Sector

None selected

Geographical scope

None selected

ADVANCED SEARCH

Evaluation type

None selected

Objective of evaluation

None selected

Data Collection

None selected

Calculation method

None selected

Baseline / counterfactual

None selected

Savings data presentation

None selected

Normalisation factors

None selected

Effect adjustments

None selected

Cost data

None selected

Uncertainty analysis

None selected

Other impacts

None selected

Case Study available

None selected

SEARCH

CLEAR ALL

Erweiterte Suche

Search by Categories

Your search returned 9 results

REFINE SEARCH NEW SEARCH

Germany

German
2015

Monitoring der KfW-Energiesparprogramme

IWU et al.
Study type: evaluation report
Geographical scope: Germany
MORE INFORMATION OPEN LINK

Germany

English
2013

Energy efficiency in the German residential sector: a bottom-up building-stock-model-based analysis on the context of energy political-targets

McKenna et al.,
Study type: methodological paper
Geographical scope: Germany
MORE INFORMATION DOI: 10.1016/j.buildenv.2013.01.002.

Germany

German

Ermittlung der Wachstumswirkungen der KfW-Programme zum Energieeffizeiten Bauen und Sanieren

Report zur Knowledge Base

Identifying current knowledge, suggestions and conclusions from existing literature

Work Package 3 – Task 3.1

Project Coordinator: Austrian Energy Agency – AEA

Task coordination: Fraunhofer ISI

August 2018

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Table of content

Case studies

Kurzbeschreibung der Maßnahme	Daten zu Energieeinsparungen	Weitere evaluierte Aspekte
Daten zu Ergebnissen und Zahlen	Details zu den Evaluationsmethoden	Fokus auf Hauptfragen bzw. Ansätze

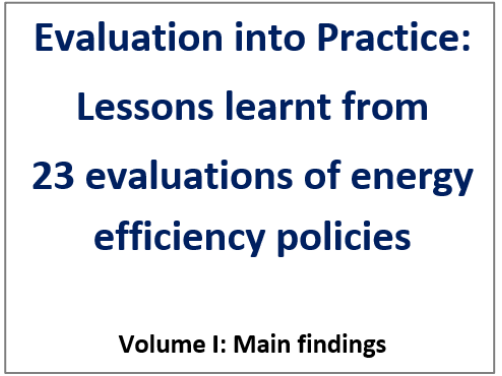
+ Interview(s) mit dem Evaluationskunden und/oder dem Evaluator

23 Case Studies zu konkreten Beispielen

+ 3 thematische Case Studies

+ Analyse der 23 Case Studies → Haupterkenntnisse

Verfügbar aus: **https://epatee.eu/case-studies**



EPATEE

https://epatee.eu/case-studies

[DENMARK] Energy Companies' Energy-Saving Efforts

Energiselskabers Energispareindsats

About the measure

Policy instrument	Sector	Starting date and status
Energy Efficiency Obligation scheme	General (cross-cutting)	[2006] – [on-going]

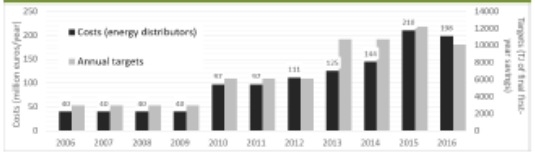
The objective of the scheme is to **promote cost-effective energy savings** that would otherwise not have been realized. It is implemented through an **agreement between the Danish Energy Agency (DEA) and the energy distributors** (electricity, natural gas, district heating and heating oil). Energy distributors are required to achieve **yearly energy savings targets**, and must report each year their achievements to DEA that supervises **random controls**.

Energy distributors may provide advice and information about energy savings, implement energy savings projects on their own grid system, establish agreements with contractors that will implement programmes towards end-users, or provide subsidies to end-users through direct contract.

Actions saving final energy can be done in **all sectors** (+ from 2013, actions on transmission and distribution networks, and solar farms for district heating). Eligibility criteria include **minimum energy performance requirements and rules about additionality** (e.g., CFLs and household appliances were excluded from 2010).

Expected energy savings in 2020	Benchmark
83.9 PJ/year (23.3 TWh/year) in 2020 from actions over 2014-2020 (cumulated annual final energy savings) (source: NEEAP 2014)	**100% of the target for EED article 7** annual target for 2016 = 2.6% of Danish 2014 final energy consumption (excluding transport)

Means and outputs



Exchange rate used: 1 DKK = 0.135 €; note: costs for all energy distributors, except heating oil distributors
Sources: Togeby et al., 2009 ; Deloitte et Grontmij, 2015 ; Rigsrevisionen, 2017)

Figure 1. Annual targets and reported costs for each year (over 2006-2016).

- **Costs reported by the energy distributors** = incentive costs (energy advice, grants to final customers, subcontracting) and administration costs (quality control system, documentation, reporting) for all energy distributors (except heating oil distributors, as they don't recover their costs on the tariffs for energy networks)
- **Administration costs for DEA** (management of the scheme + M&V): **about 540 k€/year** (2015)

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[ITALY] The Italian white certificates scheme

Meccanismo dei certificati bianchi

About the measure

Policy instrument	Sector	Starting date and status
Market-based (Energy efficiency obligation)	General (cross-cutting)	[2005] – [on-going]

The Italian White Certificates (WhC) scheme is an Energy Efficiency Obligation (EEO) scheme in which the electricity and gas distributors with more than 50,000 clients are obliged to reach increasing annual energy efficiency targets. The Ministry Decree of 11 January 2017 set the WhC energy savings target in 2020 to 11.19 million tons of oil equivalent (toe) of primary energy.
WhC is a flexible mechanism, since the energy efficiency savings can be obtained through interventions from market operators. The scheme is managed by the National Agency GSE with the support of other National Authorities (MiSE, AEEGSI) and Agencies (ENEA, RSE, GME). White certificates are used to certify the energy savings and the obliged distributors can buy them from voluntary parties or obtain them directly. Voluntary parties are non-obliged distributors, ESCOs, organizations with an energy management expert (UNI CEI 11339 certified) or with an ISO 50001 energy management system. A very large number of energy efficiency projects in almost all sectors is allowed, with particular emphasis on the industrial sector. The exchange of white certificates between obliged and voluntary parties takes place on a dedicated platform managed by GME (owned by GSE) or with bilateral agreements over the counter.
The WhC scheme can thus work as an incentive for the voluntary parties, even if the WhC price can vary over time and there are no guarantees about WhC sales (no minimum price, no withdrawal if WhC are not sold to obliged parties). Due to a shortage on the market related to challenging targets, in 2017 the price has gone beyond 300 euro per white certificate, after being in the range 90-110 euros/certificate for over five years.

Each certificate corresponds to one ton of oil equivalent (toe) of annual energy savings. The savings are additional, meaning that only savings over a regulatory and market baseline are accounted for, and generate white certificates for a period between three and ten years, according to the Ministry Decree 11 January 2017. Actions that received a national incentive (e.g. tax credit) are not eligible for the WhC scheme.

Expected energy savings in 2020	Benchmark
The energy efficiency target for Italy for WhC is 4.3 Mtoe/y as final energy in 2020 (from actions over 2014-2020), which correspond to 16.03 Mtoe cumulated over 2014-2020 (source: NEEAP 2014).	60% of the national target for EED art. 7 (Italian notification for EED art.7).

Means and outputs

Most of the costs incurred by the obliged distributors are recovered through tariff components (electricity and natural gas bills). Every end-user thus contributes to this cost recovery mechanism.
Obliged DSOs obtain a reimbursement when they present certificates to GSE according to their specific targets. The reimbursement is set by AEEGSI and is linked to the WhC market price in the previous year. The following figure shows the annual withdrawals from consumers electricity and gas tariffs through the years 2006-2016, i.e. the yearly cost of the WhC scheme.

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[UNITED KINGDOM] Supplier Obligations

(EESoP, EEC, CERT, CESP, ECO)

About the measure

Policy instrument	Sector	Starting date and status
Market-based (energy efficiency obligations)	Residential	[1994] – [on-going]

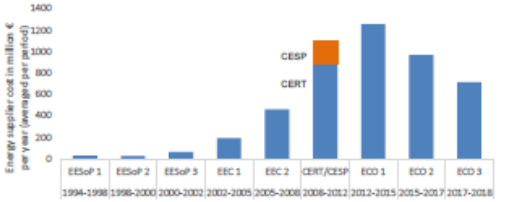
The objective of the scheme is to **help alleviate fuel poverty and reduce carbon emissions**. It is implemented through secondary legislation that provides the Department for Business, Energy and Industrial Strategy (BEIS, formerly DECC) with the **powers to set energy efficiency targets** for energy companies with more domestic customers than 250,000. The scheme is **administered by the energy regulator, Ofgem**. Energy companies are required to **achieve periodic energy savings targets**, and must **report monthly** to Ofgem which carries out audits of the claimed savings.
Energy companies can deliver their targets through a variety of means including direct engagement with customers (their own or any other), contracts with energy efficiency companies (managing agents) and installers and/or together with local authorities.

Actions saving final energy can only be delivered in the **residential sector**. Eligibility criteria include **minimum energy performance requirements and rules about additionality** (for ex., CFLs and household appliances were excluded from 2010 and 2013 respectively).

The scheme has known a number of changes from one period to the other. For more details about its history, see (ENSPOL, 2015; Rosenow, 2012).

Expected energy savings in 2020	Benchmark
4.4 TWh/y (15.8 PJ/y) in 2020 from actions over 2014-2020 (cumulated annual final energy savings) (source: UK 2017 NEEAP and Annual Report)	**7% of the target for EED article 7** **annual target for 2016 = 0.2% of UK 2016 residential final energy consumption** (source: UK 2017 NEEAP and Annual Report and Energy Trends: total energy)

Means and outputs



(exchange rate used: 1 GBP = 1.15 €) (sources: BEIS 2017a; NAO 2016; Rosenow and Eyre 2013)
Figure 1. Annualized energy supplier cost for each obligation period (in M€/year).

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EPATEE | Toolbox

https://www.epatee-toolbox.eu/

Online tool for putting evaluation of energy savings into practice

This website provides practical tools and guides to facilitate the uptake of good evaluation practices according to various needs.
The tools are meant to help step by step both evaluators and users of evaluation results in specifying the evaluation methods and effects, through:
– Providing a smart online toolbox with tools for integrating evaluation practice in the policy cycle.
– Clarification of how tools can be best applied by means of guidelines

Evaluation principles & methods

Select this box if you have questions about evaluation principles, about why and how to plan & prepare evaluations or about cross-cutting issues.

Specific evaluation guidance

Select this box if you have questions related to the evaluation of a specific combination of policy instrument, sector and/or a certain type of evaluation method.

Knowledge base & case studies

Select this box if you looking for practical examples or references to additional information.

Einladung zum Workshop
13. Juni, Brüssel

“The evaluation of energy efficiency policies in Europe”

- Keynote “The importance of evaluation in view of the governance of the Energy Union” – Rados Horacek (European Commission)
- “Work of the European Parliament Research Service on energy efficiency, with particular attention to two European implementation assessments prepared by the Ex-Post Evaluation” – Anna Zygierewicz (European Parliament Research Service)
- The tools of EPATEE
- Selected Member States’ experiences
- Agenda und Registrierung https://epatee.eu/events/4th-epatee-european-peer-learning-workshop

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ADEME
Agence de l'environnement et de la maîtrise de l'énergie

ATEE
Association Technique Energie Environnement

ECN
Energy research Centre of the Netherlands

EIHP
Energy Institute Hrvoje Pozar

FIRE
Italian Federation for Energy Efficiency

FRAUNHOFER
ISI Fraunhofer Institut für System- und Innovationsforschung

IEECP
Institute for European Energy & Climate Policy

LEI
Lithuanian Energy Institute

MOTIVA OY
Finland