



Smart Readiness Indicator under the revised EPBD



REVISION OF THE EPBD.

A STRENGTHENED DIRECTIVE



Entered into force **on 9 July.**



Stronger long term renovation strategies

- Decarbonisation by 2050,
- Solid financial component.



Promotion of smart technologies

- Requirements on automation and control (e.g. BACS),
- Smart readiness indicator,
- Requirements on electromobility recharging infrastructure.



Enhanced transparency of **energy performance calculation** and requirements.

19.4.2018  Official Journal of the European Union L 104/73

DIRECTIVE (EU) 2018/844 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 30 May 2018
amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU
on energy efficiency
(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL, OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 194(2) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee⁽¹⁾,

Having regard to the opinion of the Committee of the Regions⁽²⁾,

Acting in accordance with the ordinary legislative procedure⁽³⁾,

Whereas:

(1) The Union is committed to developing a sustainable, competitive, secure and decarbonised energy system. The Energy Union and the Energy and Climate Policy Framework for 2030 establish ambitious Union commitments to reduce greenhouse gas emissions further by at least 40 % by 2030 as compared with 1990, to increase the proportion of renewable energy consumed, to make energy savings in accordance with Union level ambitions, and to improve Europe's energy security, competitiveness and sustainability.

(2) To reach these objectives, the 2014 review of the Union's energy efficiency legislative acts combines a reassessment of the Union's energy efficiency target for 2030 as requested by the European Council's conclusions of 2014, a review of the core provisions of Directive 2012/27/EU of the European Parliament and of the Council⁽⁴⁾ and Directive 2010/31/EU of the European Parliament and of the Council⁽⁵⁾, and a reinforcement of the financing framework, including the European Structural and Investment Funds (ESIF) and the European Fund for Strategic Investments (EFSI), which will ultimately improve the financial conditions of energy efficiency investments on the market.

(3) Directive 2010/31/EU required the Commission to carry out a review by 1 January 2017 in the light of the experience gained and progress made during the application of that Directive, and, if necessary, to make proposals.

(4) To prepare for that review, the Commission took a series of steps to gather evidence on how Directive 2010/31/EU had been implemented in the Member States, focusing on what worked and what could be improved.

(5) The outcome of the review and the Commission's impact assessment indicated that a series of amendments are required to strengthen the current provisions of Directive 2010/31/EU and to simplify.

(6) The Union is committed to developing a sustainable, competitive, secure and decarbonised energy system. To reach the goal, Member States and citizens must measure that can to reach the emission goal and that decarbonise the building stock, which is responsible for approximately 40 % of the Union's greenhouse gas emissions. Member States should seek a cost-efficient expansion of energy supply and reducing final energy consumption. To that end, Member States



SMART READINESS INDICATOR (SRI).

MOTIVATION



The SRI is intended to:

- **raise awareness** about the benefits of smart technologies and ICT in buildings (from an energy perspective, in particular),
- **motivate consumers** to accelerate **investments** in smart building technologies and support the uptake of technology innovation in the building sector.



The SRI could:

- Contribute to enhancing **energy efficiency**, **comfort** and **well-being** in buildings,
- Improve **policy linkages** between energy, buildings and other policy segments, in particular in the ICT area,
- contribute to the **integration** of the buildings sector into future **energy** systems and **markets**

SMART READINESS INDICATOR.

POLICY MAKING STATUS

- ✓ *“An optional common Union scheme for rating the smart readiness of buildings”*
(Article 8(10) revised EPBD)
- ✓ Establishment thanks to:
 - A delegated act for **definition and calculation methodology** and;
 - an implementing act for **implementation modalities**
- ✓ The indicator is being **developed by the EC**, with the support of **technical studies**:
 - 1st technical study: March 2017 – August 2018.
 - 2nd technical study: start October 2018 (TBC).
- ✓ Status of the **policy making process**:
 - The formal process has **just begun** with entry into force of the revised EPBD.
 - The conclusions of the 1st study are only a **starting basis**.
 - Further investigation and discussions are needed to ensure a **wide consensus** on the SRI.

SMART READINESS INDICATOR.

WHAT IT MUST BE

- ✓ “(...) *The rating shall be based on an assessment of the capabilities of a building or building unit to **adapt its operation to the needs of the occupant and the grid** and to **improve its energy efficiency and overall performance** (...)*”

Article 8(10) of the revised EPBD.

- ✓ “(...) **Three key functionalities** relating to the **building** and its **technical building systems**:
 - (a) *the ability to **maintain energy performance** and operation of the building through the adaptation of energy consumption (...);*
 - (b) *the ability to **adapt** its operation mode **in response to the needs** of the occupant (...), maintaining **healthy indoor climate conditions** (...); and*
 - (c) *the **flexibility** of a building's overall electricity demand (...)*”

Annex Ia of the revised EPBD.

SUPPORTING TECHNICAL WORK.

AN ONGOING PROCESS

SUPPORT FOR SETTING UP A
SMART READINESS INDICATOR FOR BUILDINGS
AND RELATED IMPACT ASSESSMENT
FINAL REPORT

1st technical study: March 2017 – August 2018.

<https://smartreadinessindicator.eu/>

Final report / **executive summary** available.



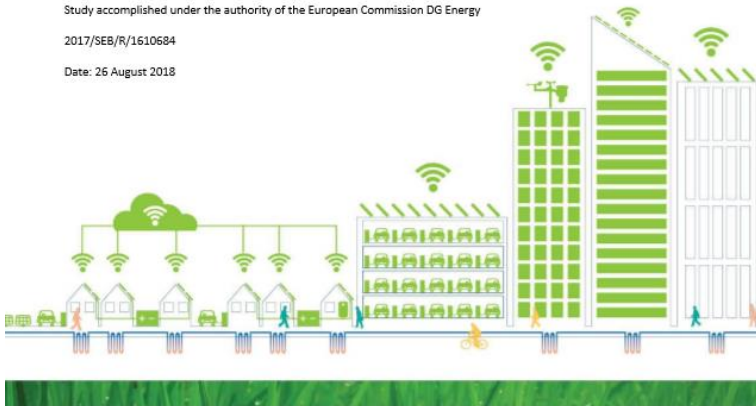
VITO: Stijn Verbeke, Yixiao Ma, Paul Van Tichelen, Sarah Bogaert, Virginia Gómez Oñate
Waide Strategic Efficiency: Paul Waide
ECOFYS: Kjell Bettgenhäuser, John Ashok, Andreas Hermelink, Markus Offermann, Jan Groezinger
OFFIS: Mathias Usler, Judith Schulte

2nd technical study: from December 2018
(TBC).

Study accomplished under the authority of the European Commission DG Energy

2017/SEB/R/1610684

Date: 26 August 2018



Inclusive and collaborative development:

- Publication of intermediary results;
- Stakeholder meetings;
- Written comments.



RESULTS OF THE 1ST STUDY ON THE SRI

SCOPE OF INVESTIGATION

Investigation of the **scope of the SRI**,

Identification of services / functions that can have an impact on building smart readiness: **smart-ready services**,

Development of a **draft calculation methodology** to derive a score from the identification and assessment of available services,

Streamlining of the draft methodology to facilitate practical assessment of the SRI,

Initial **tests** of the proposed SRI calculation methodology on **theoretical and real buildings**,









First quantitative evaluation of possible **impacts** of the SRI.

RESULTS OF THE 1ST STUDY ON THE SRI

THE PROPOSED CALCULATION FRAMEWORK (1)


1. Assessment of available **smart-ready services**: what services are available and their smartness level.

2. Derivation of **individual impact scores** of smart-ready services along proposed impact criteria.

service A								
Functionality 0	0	0	0	0	0	0	1	0
Functionality 1	1	1	0	1	1	0	2	1
Functionality 2	2	2	1	2	1	0	3	2
Functionality 3	3	3	1	3	2	0	3	3

3. Aggregation of individual service impact scores into **domain impacts scores** (heating, controlled ventilation, etc.)

CALCULATION OF THE DOMAIN SCORE



heating

y%

A domain score is based on the individual scores for each of the services that are relevant for this domain.

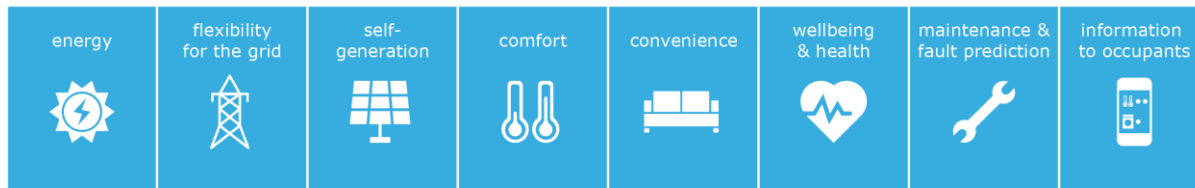
domain services	A	B	C	D	E	F
impact score (a)=	2	0	2	2	/	1
max. building score (b)=	3	3	2	2	/	3

RESULTS OF THE 1ST STUDY ON THE SRI

THE PROPOSED CALCULATION FRAMEWORK (2)

4. Aggregation of domain impact scores into **total impacts scores** (energy, comfort, etc.): **weighted sum** of the domain impact scores.

8 IMPACT CRITERIA



5. The **SRI score** is then derived as a **weighted sum** of the 8 total impact scores.

Notes:

- Normalised score.
- Qualitative approach.
- Flexibility (aggregated or more focused scoring, tuning of weights).
- Several possible consolidations points: domains; impact criteria; individual services' impact scores; weights.

RESULTS OF THE 1ST STUDY ON THE SRI

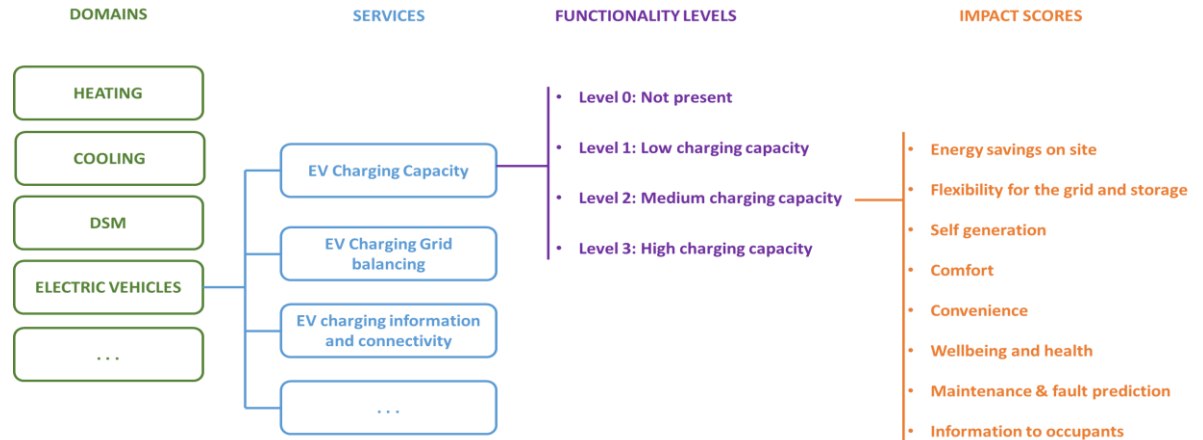
COMPONENTS OF THE PROPOSED SRI CALCULATION FRAMEWORK

1. Smart-ready catalogue

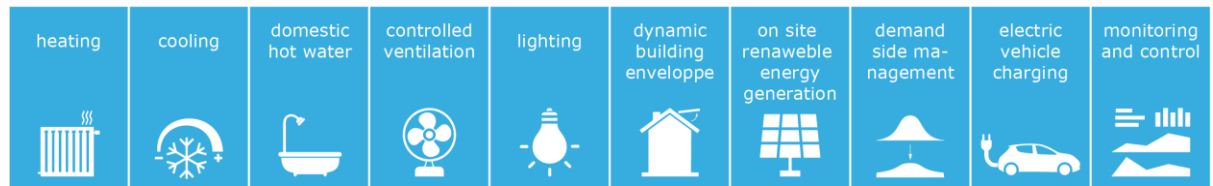
- 10 domains,
- 112 services (52 after streamlining)

2. Multi-criteria calculation methodology

3. Triage process: upfront identification of relevant services to facilitate service assessment.



10 DOMAINS



RESULTS OF THE 1ST STUDY ON THE SRI

OUTCOMES

Generally a good starting basis.

The approach has generally been welcomed by the community, with some caveats, e.g.:

- Towards a more quantitative (performance-based) approach,
- questions of scoring and weighting consolidation...

Many comments from stakeholders along the process, taken on-board when possible.

The calculated impact is significant – by 2030:

- Up to 5.2 Mtoe p.a. savings,
- Up to 140 000 jobs.

Further investigation and discussions needed.



ENERGY UNION



Thank you

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Pau Garcia
Unit Energy Efficiency
DG ENERGY, European Commission

<https://ec.europa.eu/energy/en/topics/energy-efficiency/buildings>