



EFFECT4buildings

Toolbox for energy efficiency in buildings

EFFECT4building final conference, 8 th December 2020

Marit Ragnarsson, County Board of Dalarna, Sweden

"Next Generation EU" - EU recovery plan

750 bilion Euro to:

Recovery and Resilience Facility (RRF)

-large-scale financial support to reforms and investments to make economies more sustainable, resilient and better prepared for the challenges posed by the green and digital transitions.

Just Transition Mechanism

- investments in green transition, leaving no behind

REACT-EU

- Investments in green, digital, and growth-enhancing investments

→ Large-scale investments are planned and give us a unique opportunity!

Context

40 % of energy consumption and 36 % of CO₂ emissions in the EU relates to buildings.

Investments in energy efficiency are not currently happening at the rate needed.

Building managers and building owners are core actors!

- often knowing action on energy efficiency is needed and often profitable
- not having knowledge on latest technology or lack trust in new technology
- not having a lot of time and money,
- having competing investment priorities
- not allowed to take high risks
- lack of split incentives
- having to convince decision makers that this is a safe and good investment.

Many of these barriers can be overcome with well-designed financial tools and instruments!

Together with complementary measures like policy, regulations, awareness-raising and improved business models for energy efficiency solutions, a sustainable long-term impact will be reached.

Financial tools and instruments for implementation of more energy efficiency measures in buildings

EFFECT4buildings



EFFECT4buildings partner team

County Board of Dalarna, **Sweden**

Environmental office of Lappeenranta region, **Finland**

Inlandet county council, **Norway**

Vidzeme planning region, **Latvia**

Gate21, **Denmark**

Foundation Tallinn Science Park Technopol, **Estonia**

State Real Estate Ltd, **Estonia**

Sustainable Building Cluster in Dalarna, **Sweden**

Association of Communes and Cities of Malopolska Region, **Poland**



FINANCIAL CALCULATIONS



EFFECT4building calculation tool

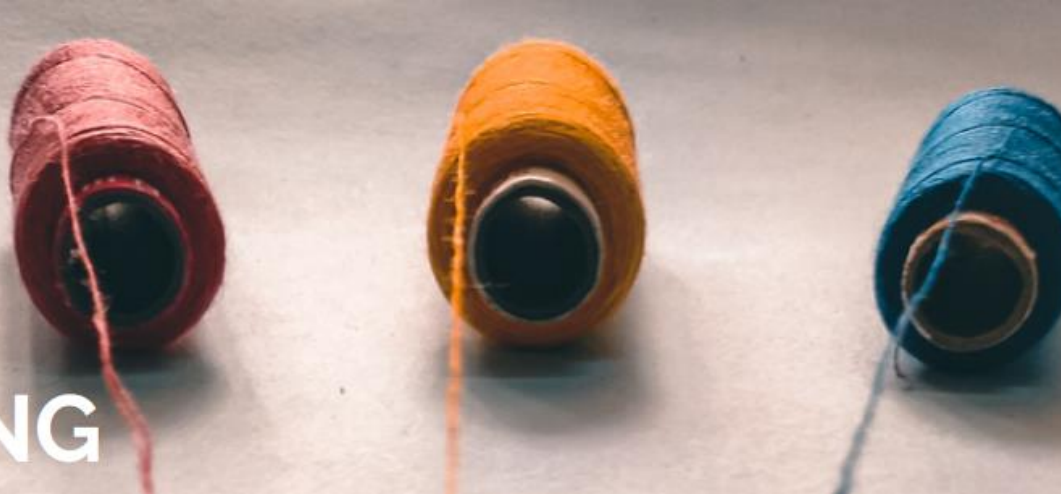
92% of building managers stated that financial calculation methods are extremely important when justifying energy investments, but few of them found it easy to do or even to understand them.

Most common way for calculations of energy measures is still only pay-back-method, but it does not take aspects of technical lifetime and profitability demand in consideration.

Calculations with **Net present value** and **Internal rate of return**, investments with longer lifetime will benefit and many more measures will be profitable.



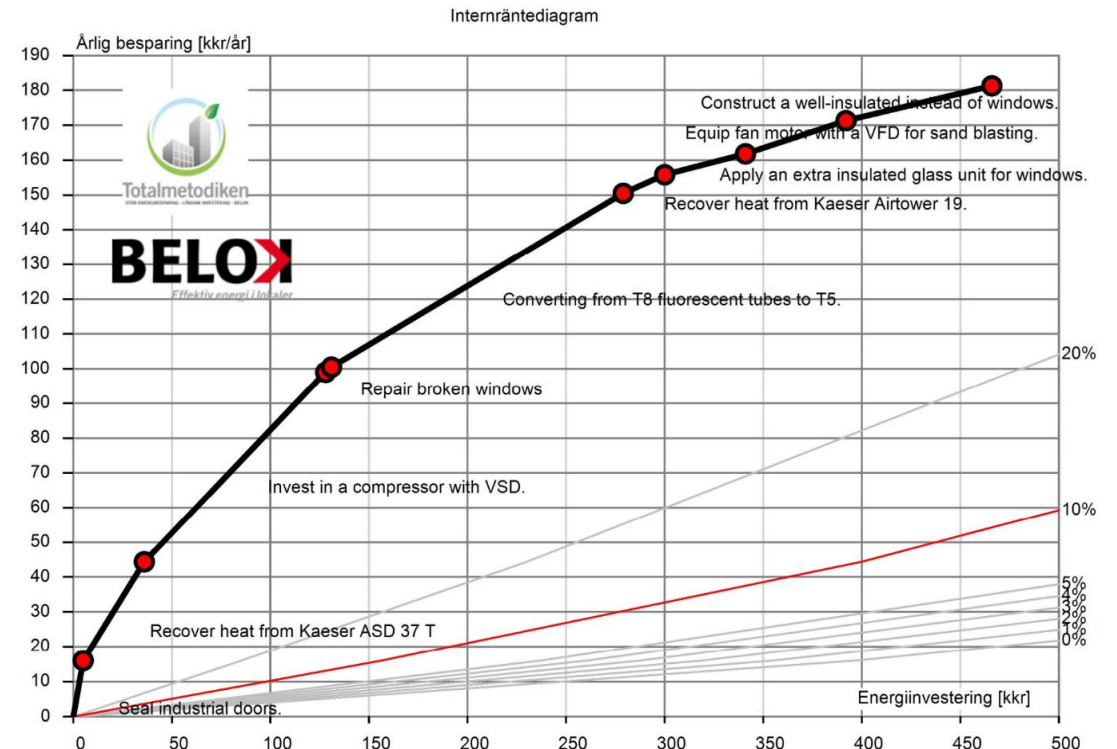
BUNDLING



Total concept method

When bundling several measures into a larger **investment package** less profitable measures will be covered by the more profitability, making it possible to implement more energy efficiency measures in total.

Making energy efficiency measure package **bankable**.





Funding possibilities

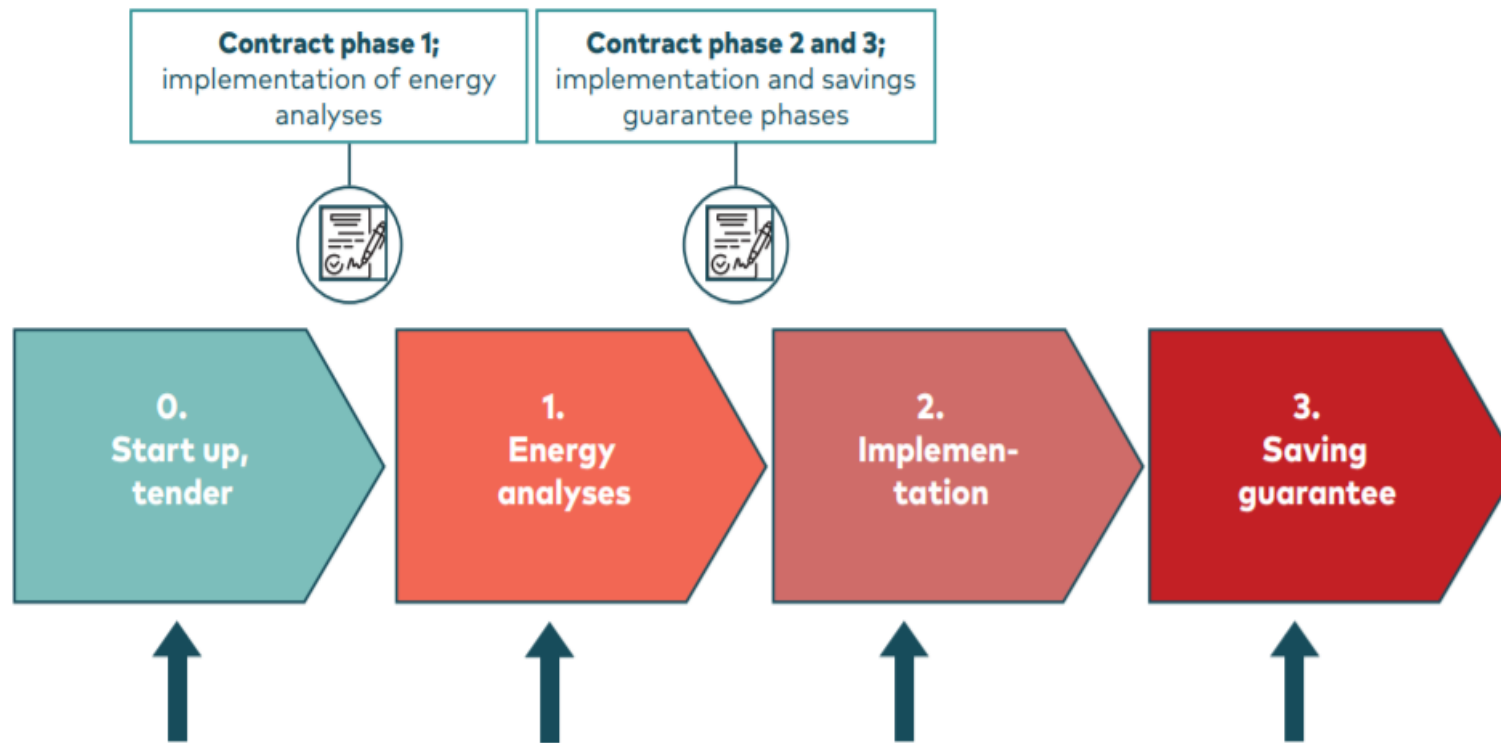
- List of **public funding**, sources and mechanisms possibilities
- Analysis of **non-public sources** and mechanisms (ESCO, commercial bank offers)
- Mapping and analysis of **Green Loans**
- Model guideline and policy recommendations:
 - Energy efficiency projects financed by European Regional Development Fund
 - Program for grants to SME for energy efficiency investments



Improved EPC model

Contract-based partnership for the analysis phase.

Results are guaranteed by the Energy Service Company (ESCO), making sure that energy savings cover the costs of the investments.



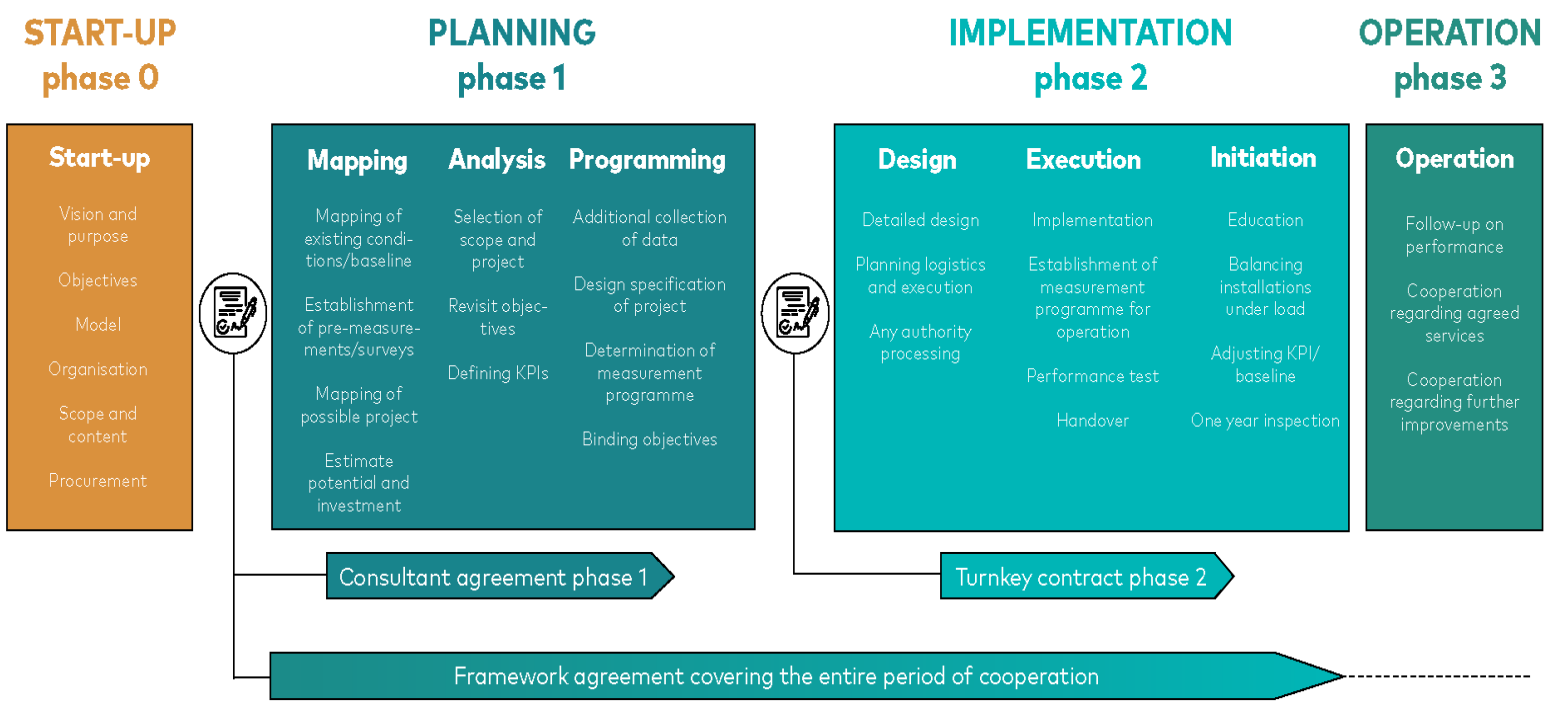


MULTI SERVICE CONTRACTING

Planning model for adding co-benefits Guide for indoor climate in schools

Adding co-benefits as light, air quality, acoustic, esthetical values and well being.

Making investments more effective, lowering the risk of suboptimization and giving more value for money spent.





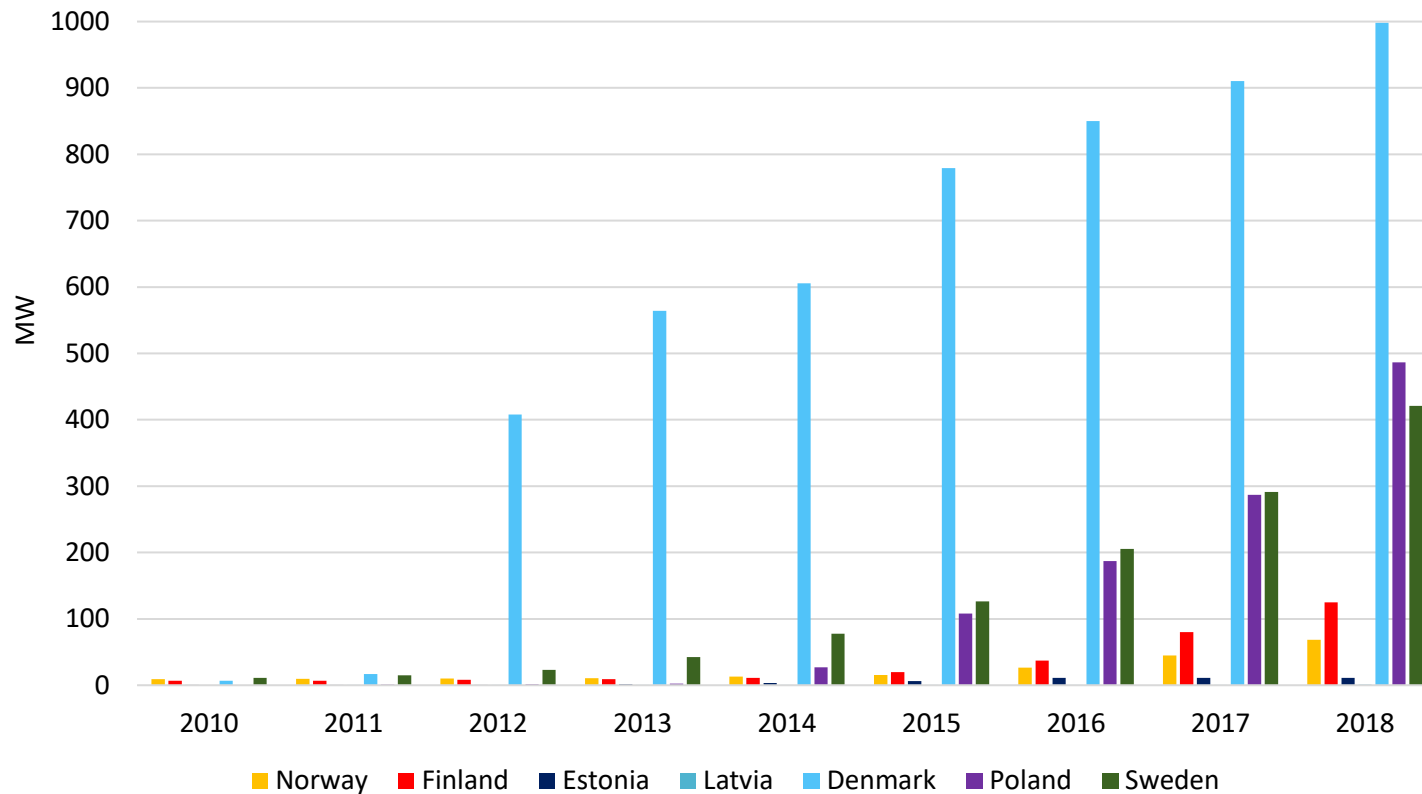
Guidelines and contract models

Buildings	Scope	Cross sectorial	Energy/Peaks	All/part Electricity	Period
Buildings may need different contracts.	Incentives in a contract can be informative and/or economical.	Contracts can include other environmental aspects, e.g., recycling and water use.	Contracts can lower energy, electricity and energy peaks.	Contracts can include part of or all electricity in the real estate, e.g., car heaters and charging stations for cars.	Contracts can vary in their timelines, depending on their goals.

Types of green lease contracts

Split incentives for building owners and users.

Owners and tenants of buildings cooperating in increased sustainability.



Guidelines

Calculation tool

Templates

- Step-by-step guide
- **Solar energy calculator** for financial calculation and planning optimal size of PV plant.
- Manual and templates for PV procurement
- Tools for mapping and evaluation of solar panel ground areas.



Solution catalogue Experiences and testing



- Experience from building managers
- Technology seminars
- Evaluation from testing
- Guidelines and templates for procurement
- Monitoring systems



CONVINCING DECISION MAKERS

Hints and success factors
How to argue
Golden rules
Films



Policy recommendations



For the 9 tools and instruments

→ EU and BSR level

→ National and regional level

EFFECTIVE TOOLS AND INSTRUMENTS FOR ENERGY EFFICIENCY IN BUILDINGS

INTERNATIONAL MAGAZINE FOR BUILDING MANAGERS

FINANCIAL TOOLS FOR IMPLEMENTING MORE ENERGY EFFICIENCY MEASURES IN BUILDINGS



THE ENERGY EFFICIENCY PLAN

IN VIDZEME, 21 SCHOOLS TESTED THE GREEN LEASE CONTRACT

Author: Baiba Šelkovska, Rūta Ročāne, Vidzeme Planning Region, Latvia

FOLLOW-UP HELPS ACHIEVE AND MAINTAIN SAVINGS AND IMPROVEMENTS IN RENOVATION PROJECTS

Author: Sofie Hougaard Nielsen, Gate 21, Denmark



RESULTS FROM MAPPING OF INDOOR CLIMATE IN DALARNA

Author: Hans Ahlin, County Board of Dalarna, Sweden

How can we build smart and keep both energy efficiency, our health and well-being in mind? A key factor is awareness and knowledge among...

...rna therefore decided to...

...for the participating...

...knowledge when we next year will...



ENERGY USE AND MONITORING - WILL IT HELP KEEP ENERGY COSTS UNDER CONTROL?

Author: Mikk Maivel, State Real Estate Ltd, Estonia

A SUCCESSFUL, CAREFUL RENOVATION

Author: Benny Magnusson, Sustainable Building Cluster in Dalarna, Sweden

REORGANIZATION OF OPERATIONS PAVES THE WAY FOR EPC IN HAMAR MUNICIPALITY

Author: Liv Randi Lindseth, Contracted by Inland County Council, Norway

Hamar is a growing city, the infrastructure around it is strengthening and making the city a natural centre in the region. Hamar municipality wants to follow up on this development by taking the climate challenges of our time seriously. The municipality has implemented several good energy and climate measures already and wants to continue to achieve the goal of a 40% reduction in greenhouse gas emissions by 2020. At the same time, the municipality is working to...



"This is the reason why we have chosen to postpone an EPC project. When we are to engage an external actor in the form of an EPC supplier, our operating personnel will play a crucial role in achieving good results. Now that new routines and a more efficient organization of operators are in place, we should be well prepared for this. The idea is to start the process of putting in place an EPC project in the new year," says Arnesen.

Energy efficiency investments

Implemented investment or decisions on investments during the project

6 004 000 euro

4 450 000 kWh/year in energy savings

www.effect4buildings.se

Thank you!

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