Integrated Energy Systems

An assessment of IES good practices (in PL and NL)

Sustainable Places

29-10-2020

Session: Renewable H&C Solutions – 14:00-17:00 (Room 1)

Eise Spijker
JIN Climate & Sustainability

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Context

"In order to **accelerate the retrofitting and energy performance improvements** in the built environment, the Commission announced, on 14 October 2020, a **Renovation Wave** with the objective to renovate, by 2030, 35 million buildings in Europe which currently have poor insulation (including residential dwellings) (European Commission, 2020)."

- Speed-up & Scale up needed
- Single measures no longer effective
- Integrated approaches require standardization

Our work in RES4BUILD (www.res4build.eu)

"To assess good practices with implementation of Integrated Energy Systems (IES) in buildings"

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IES Theory

- Building envelope + energy installation
- Building-specific (all-e) – collective solutions (DH)
- Retrofit – new build / One-off – gradual transformation

Barriers to IES implementation

Technology	Financial	Social
Standardization	High up-front costs	Complex decision making
Skilled workers	Long pay-back periods	Disturbance during renov.
Compatibility	Inadequate fin. Tools	Low awareness
Safety	Uncertainty / risks	No consensus / dialogue

"An IES needs a robust technology package accompanied by services to minimize social and financial barriers."

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Netherlands: IES good practice example

VVE “De Ellen”, Assen

- Four-storey building, 28 single-family apartments (built in 1965)

Technology

- Highly insulating, prefab façade panels + electric HVAC system integrated under false ceilings (res. Demand 25 kWh/m^2/y)

Financial

- New financial product was developed (“Asser Servicekosten-model”)

Social

- Learning experiences show that dedicated communications staff was needed to manage refurbishment process (pre-, during and post refurbishment)

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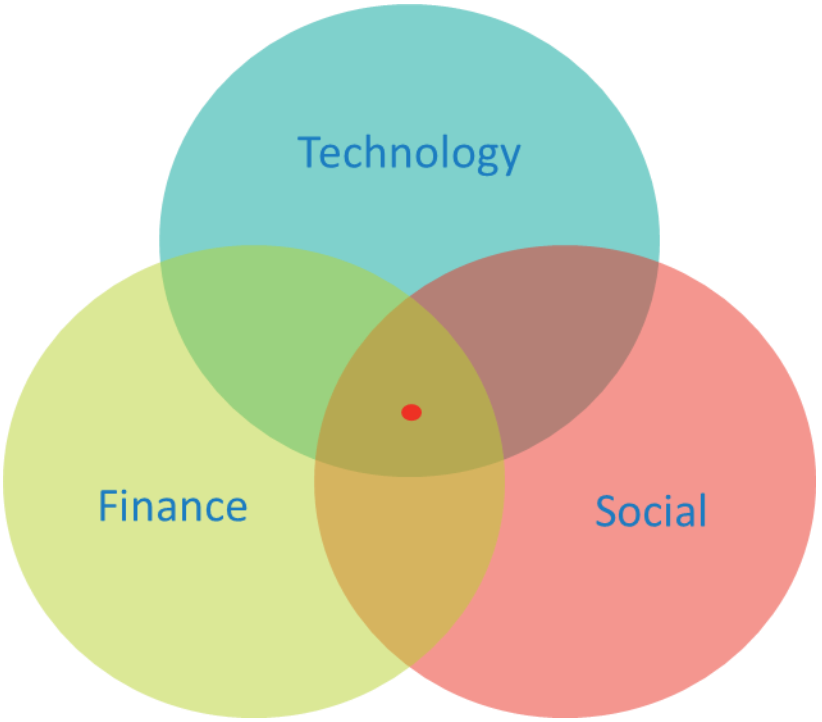
Concluding remarks

For a successful IES implementation, integrate

1. **Technology**: Different technologies into one functional (turn-key) IES
2. **Social innovation**: e.g. SH engagement, communication, co-development, before, during and after renovation, (energy/citizen) cooperatives, public campaigns
3. **Financial innovation**: financial support and/or services: e.g. flexible financing options, transferable loans, robust performance contracts, building-linked finance



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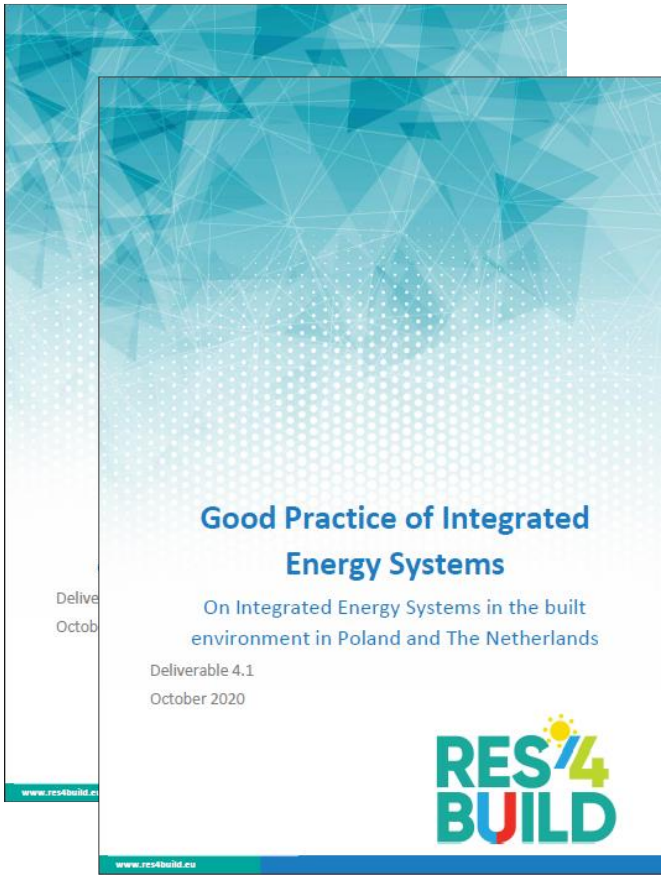
Thank you!

CONTACT US:

eise@jin.ngo

kgrecka@bape.com.pl



Report on IES Good Practices available:

At: https://res4build.eu/results/

Or mail: eise@jin.ngo

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