ALDREN
ALliance for
Deep energy
RENovation in buildings

A step forward to the
European Voluntary Certification Scheme (EVCS)

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CEE CLIMATE POLICY FRONTIER, First regional stakeholder WS
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and ALDREN team
8 European partners are working together to increase the building energy renovation rate and quality

(CertiveA)

(Politecnico di Milano)

(Research)

(REHVA - Federation of European Heating, Ventilation and Air-conditioning Associations)

(Verco)

(EnBee - Environment & Building Energy Efficiency)

(Aldren - Alliance for Deep Renovation in Buildings)

(certification)

(application)
Why ALDREN ?

ALDREN (ALliance for Deep RENovation in Buildings) is the extended development and implementation of the Common European Voluntary Certification Scheme (EVCS) based on the EPBD Art. 11 (9) and on CEN/ISO standards.

Building professionals are asking for:

- comparability,
- transparency,
- reliability,
- quality.

ALDREN objective is to create a European quality benchmark based on the Energy Performance Certificate (EPC) and CEN standards.
« European » transposition is key for the building professionals

Analysis of **conformity** to Annex 1 of EPBD (calculation methodology) of the **34 !!! national and regional transpositions** (Study for DG ENER in 2014)

Only an European transposition will allow

- the possibility to work on the "other side of the border",
- the “level playing field” (fair competition) for products,
- to get common databases, common information.

Why ALDREN?

- **Policy support** for EPBD implementation
  - improvement of calculation methodology
  - improvement of certificates – link to subsidies
  - building stock observatory,
  - cost effective approaches,
  - building passport,
  - evidence based of expected energy savings,
  - wider benefits, Health + Wellbeing
**An example: the contribution of the ALDREN project to the transposition of EPBD amended by Directive 2018/844**

<table>
<thead>
<tr>
<th>Art 1 Amendments Directive 2010/31/EU</th>
<th>T2.1 Overall integration</th>
<th>T2.2 Certificate EVCS</th>
<th>T2.3 Measured energy</th>
<th>T2.4 Health Wellbeing</th>
<th>T2.5 Financial evaluation</th>
<th>T2.6 Building passport</th>
<th>T3.2 Training</th>
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</thead>
<tbody>
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<td>‘(2) Article 2a Long-term renov. Strategy</td>
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**ALDREN outcomes are related to 17 paragraphs of EPBD amendments**
Why ALDREN?

- only about 1-2% of the building stock is renovated each year,
- only around 15% of building refurbishments incorporate significant energy efficiency improvements (energy savings are not the trigger)

one of the major barriers to improve building renovation numbers is the absence, of a holistic strategy to:

✓ design,
✓ finance,
✓ implement renovation protocols,
✓ the lack of a strong relationship between the different stakeholders.

- ALDREN work out a common language describing the holistic approach in renovation (how a thermal bridge can talk to a banker)?
The ALDREN outcomes / results

6 tasks for consolidation and adaptation of an EVCS (European Voluntary Certification Scheme) based on the ALDREN common language

T2.1 Overall integration of components in the EVCS based language

T2.2 Energy rating & targets

T2.3 Addressing the gap between calculated & actual EP

T2.4 Addressing health & wellbeing

T2.5 Linking EVCS to the financial valuation

T2.6 Rendering of the collected data and results in a building passport
VOLUNTARY COMMON EU CERTIFICATE (EVC)

- Common template, scale
- Common EP indicators and energy class
  - non-renewable primary energy balance (export)
  - non-renewable primary energy (auto-consumption)

Additional indicators (EPBD)
- The entire building’s overall energy use
- Total PE, delivered energy, CO2,
- energy production, share of renewable energy
- Measured energy (optional)
- Wellbeing indicators (optional)
- Energy class after recommended improvements,
- Potential energy savings
- Recommendations for improvement → link with the building renovation passport

EVC - can stand alone or can be included in other existing scheme
Focus on ALDREN T2.4 Addressing health & wellbeing

TEMPERATURE AND PERFORMANCE OF OFFICE WORK

Source: Seppanen et al. (2005)
T2.4 Addressing health & wellbeing

ALDREN Classification: TAIL-score (under development)

THE HEALTH & WELLBEING INDICATORS
(Optional)

Overall quality of indoor environment

Quality of T-A-I-L

T – Thermal environment
- Temperature
- Relative humidity

A – Acoustic environment
- Noise level

I – Indoor air quality
- Ventilation
- Carbon dioxide
- Formaldehyde
- Benzene
- Particles (PM2.5)
- Radon
- Relative humidity
- Visible mould

L – Light, visual environment
- Illuminance
- Daylight factor
ALDREN Framework: Link between energy renovation actions to economic benefits via ALDREN health + Well-being indicator

Energy renovation actions → Change in indoor environmental quality (IEQ) → Improved work performance → Economic benefits

IEQ: Parameters describing indoor air quality, thermal, acoustic and visual environment
Conclusion

One common holistic European Voluntary Certification Scheme is better than 34 national / regional different Certification Schemes.

The ALDREN outcomes are a step forward in this direction towards the European Voluntary Certification Scheme (EVCS)
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