

A view from within

advocating for EU citizens right to act collectively at community scale

(an individual exploratory proposal in need of collective comments and contributions)

12.30–14.00 (parallel session)		
PANEL 2.		
Session I: Looking back and ahead: lessons learned and introduction of future concepts and approaches		
2-002-21	What have we learnt and what have we missed?	Hans Nilsson
2-116-21	Demanding, distributing and selling energy flexibility: How dynamic tariffs transformed the Danish electricity market and what to do next	Anders Rhiger Hansen
2-011-21	Data Center Infrastructure and Energy Gentrification	Frans Libertson
2-199-21	A view from within: advocating for EU citizens right to act collectively at community scale	Nelson Silva Brito





Guideline

- Problems:
 - (...) European citizens: enlightened, or paying spectators?
- EPCs: celebrating 20 (or 50?) years of “status quo”
- The rise and stall of a neighborhood proposal: **one of many?**
- On a “Critical Path” for replicating what works
- Dialogue: a new action role for eceee?



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1. Problems:

- 1.1 Upgrading a building to NZEB is viable, but expensive
- 1.2 Community scale potential is wide and holistic
- 1.3 Bureaucratic individualism limits applied innovation
- 1.4 European citizens: Enlightened, or paying spectators?



1.1 A problem at home: costs

- Upgrading a building to NZEB is viable, but expensive



- A “deep investigation” reduces useless costs



- but implies significant costs!

Maintenance costs: = €; = €€€; = €€€€€; = eceeee ?



1.3 Bureaucratic individualism

A metaphor: PV
(photovoltaic panels)



You think you buy:	100% Wp
after 1st use:	90% Wp
Orientation: no solar tracking?	< 80%
0.02m shadow line	< 10%

1.3 Bureaucratic individualism

- Online click

Transport 0: boat

Transp. 1: Truck

Transp. (n): Truck

Transp. (n): Van

- **Offline shadows**

City hall permits: 6 M

Police permits: 1 w

Installation: 1 d

Network: 1 h

MAINTENANCE

.





1.3 Bureaucratic individualism: building

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MAINTENANCE

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PANEL 2 . Policy innovations to ensure, scale and sustain action
SESSION I- Looking back and ahead: lessons learned and introduction of future concepts and approaches

A NEW REALITY

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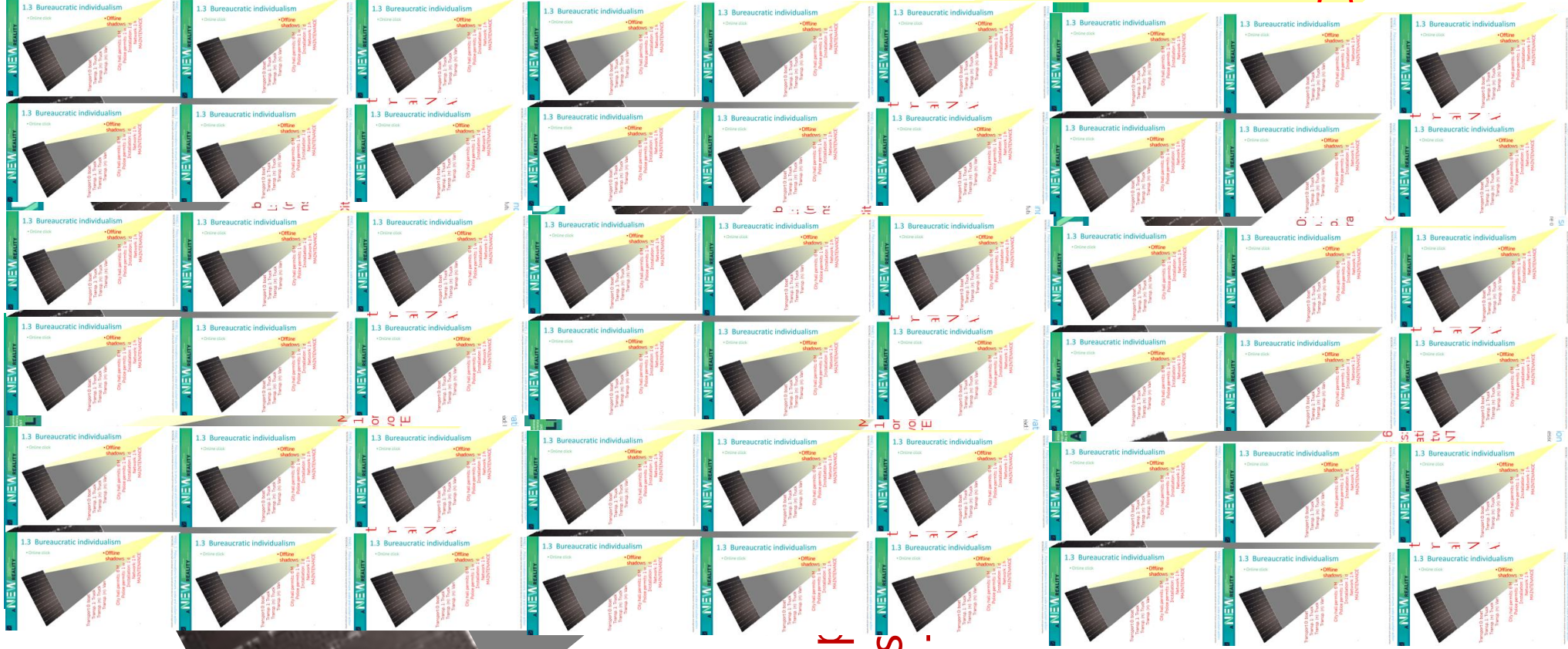
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A NEW REALITY

1.3 Bureaucratic individualism: street



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1.3 Bureaucratic individualism: neighbors



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2. EPCs: celebrating 20 (or 50?) years of "status quo"

- 2.1 “Individualize” to conquer...**what?**
 - One home:
 - 1 Energy Performance Certificate, one “Renovation Passport”
 - 1 loan, financing scheme, contract, ...
 - 1 set of cost-intensive bureaucratic verifications (municipal, state, EU)
 - **50** neighboring homes:
 - **50** Energy Performance Certificates, **50** “Renovation Passports”
 - **50** loan, financing scheme, contract, ...
 - **50** sets of cost-intensive bureaucratic verifications (municipal, state, EU)
- 2.2 EPCs: one solution fits all
 - Comparing apples to oranges
 - Protecting apples with orange peel
- 2.3 Results from 20 years of enforcement
 - ... (not much to see on existing buildings)

all

Comparing apples to oranges

(residential EPCs in PT)

- All residential buildings in PT are compared considering:



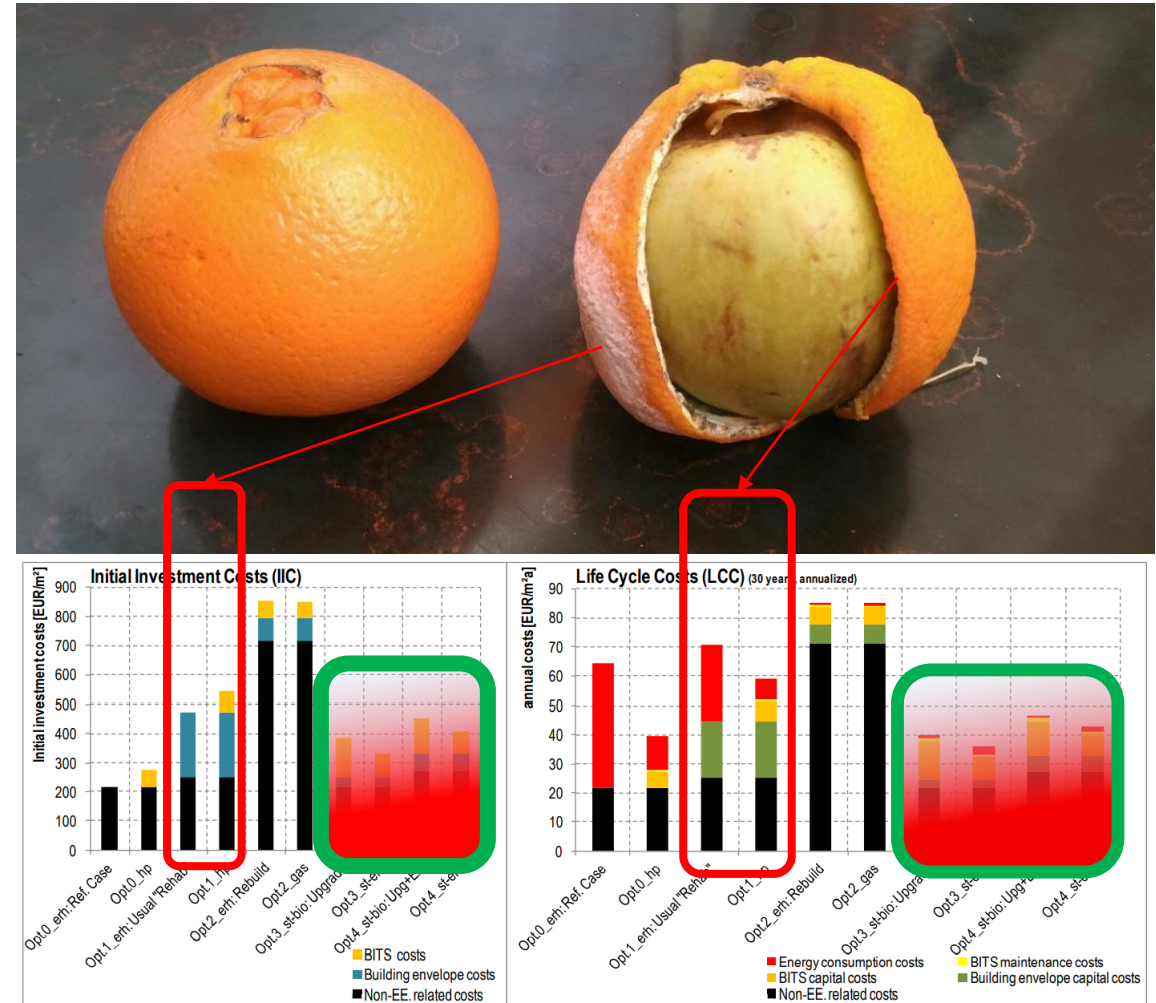
European calibrated orange

Maçã Bravo de Esmolfe (DOP)

2.2 EPCs: one "improvement" solution fits all

Improving apples & oranges (residential EPCs in PT)

- EPCs say the letter is better
 - From "F" to "B"?
 - Real € savings unknown
- Study says the cost is too high
 - **Economic**: too much money, no ROI
 - **Environmental**: check right table & PDF
 - **Cultural**: is the **old world** about oranges?
- EU citizens have "no other way"



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Reductions must be divided with Energy Efficient Equipment requirements

2.3 Results from 20 years of EPC enforcement

New "oranges": not allowed

Optimized "apples": not allowed

News title:
 "What is the problem with this rotating house?"

Eceee 2015 exploratory paper & awarded / financeable neighborhood scale proposal



Source: <https://sicnoticias.pt/pais/2019-05-01-Qual-o-problema-desta-casa-rotativa->



Source: <https://www.uc.pt/en/efs/destaques/2016/vinci>

WHY AREN'T ALTERNATIVES POSSIBLE? (uncitable quotes from high-level representatives)

Frequent explanation: "The rules Europe imposes limit significantly what we can do"

Real explanation: "We are issuing 1000 certificates per day, we cannot change things that are working well"



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eceee 2021 Summer Study
on energy efficiency • 7 – 11 June 2021
DIGITAL EVENT

A NEW REALITY

#eceee2021

3.1 The evolution path of a proposal:

2015 eceee Summer Study

Exploratory paper "Residential Buildings as extended territory for ESCOs
Amazing input from participants

2015 VINCI Innovation Awards for "Common Efficacy"

1st prize in Urban Services & the Connected City

2016 ACEEE Summer Study "capitalist" version

Written appraisal from "Energy Efficiency California"

2016 European Joint Research Center, at ISPRA

Invited to the "Financing panel" of Safesust workshop

Presentations in Portugal and Europe

- multiple city halls
- investment funds

3.2 The stall path of a proposal

Financing?

Secured, highly visible approach with good return of investment

Technical complexity?

Reduced, same as a small hotel, street works needed

FAILURES:

The author

(Hobie Cat 16 sailor: you may know where you want to go, but can rarely predict how you will get there)

Municipal engagement and legal viability

Not understood: there is **not enough knowledge inside municipalities**

Partial transposition of DIRECTIVE (EU) 2018/2001 on the promotion of the use of energy from renewable sources (only photovoltaic considered)

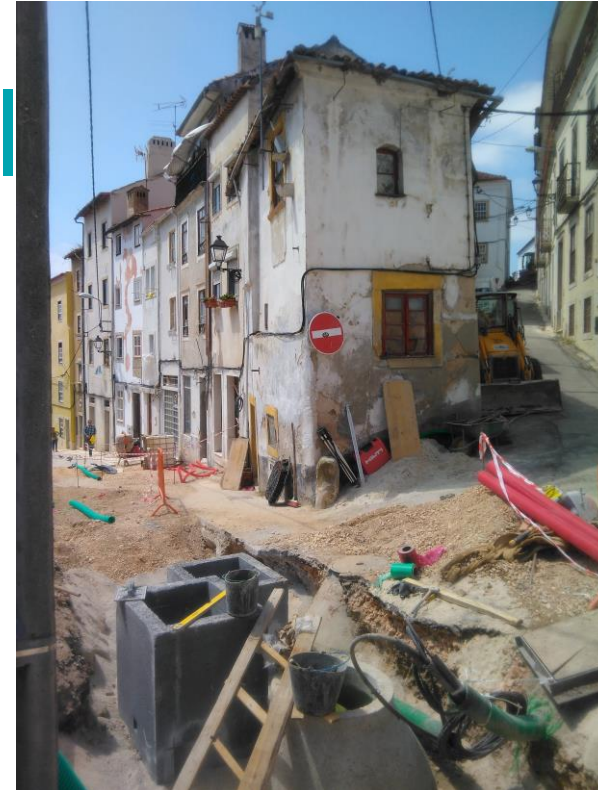
Undisclosed monopolies

Passing pipes in streets requires municipal (political) authorization

A "district heating" requires legislative changes:

Sharing energy in Portugal requires extreme bureaucracy and cost

Only one in Portugal, in Lisbon Expo 98 area (huge condominium statute)



3.3 Imagine it was great: replication path "elsewhere"

- 2022: imagine "Common Efficacy" WORKING WELL
 - 2023 One year of operation
 - 2024 First visits to site
 - COST actions,
 - Covenant of Mayors,
 - motivated "scientific" tourism
- 2025: start replication path in 10 "elsewhere's"
 - 2026 Start of design process
 - 2027 Legal process, discovery of legal barriers (7 drop-outs)
 - 2028 Public contracting process (3 processes)
 - 2029 Implementation (1 successfull)
- 2030 WORKING WELL in 1 "elsewhere"



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Source: <https://friendsandfoes.com/>



4.1 A "Critical Path" for what works?

Identifying European-wide proven/viable solutions

District heating, neighborhood scale renovation, ...

- Include templates for design, specification, contracting, ...

Renewable energy building integration rules defined

- Rules for RE panels, exterior heat pump units, solar shadings, (...)
(In PT these are often interpreted as "façade alterations" requiring licensing)

Enforcing European convergence on minimum solutions (with mandatory dates)

European city and community scale action plans

- published and evaluated publicly;

"Fast track" for renewable energies integration in neighborhood

If limited by municipal or national legal barriers:

- a citizen could pay his/her share of the investment on proven European goals;
 - EU would guarantee monthly restitution by best performing equivalent solutions?
 - (blocking other EU funding until solved, or assisting EU citizens in legal proceedings)?
- Maybe positive incentives would be a better way, but not much is changing...



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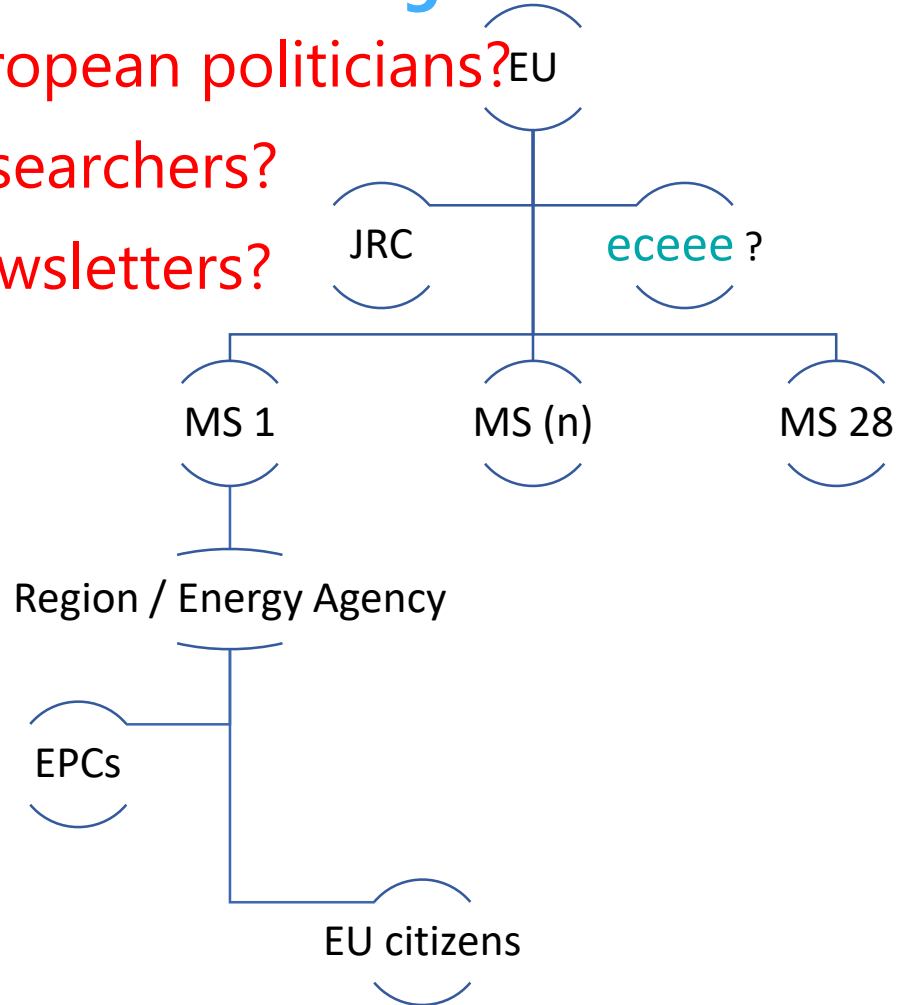


5.1 Advocating for the right to act collectively

- 1) Do EU citizens have the right to act collectively at community scale? If so,
 - should this be advocated using a "citizens' initiative" (Lisbon Treaty, 2012, p. 58),
 - (one million signatures, 7 MS, one year preparation, ...)
 - using existing provisions like
 - "the establishment and development of trans-European networks in the areas of transport, telecommunications and energy infrastructures." (Lisbon Treaty, p.124),
 - or other approaches like scientific papers?
- 2) Should community scale initiatives have EU-wide streamlined pathways to achieve 2050 decarbonization goals?
- 3) How can we make it happen soon?
Is there a new action role for eceee?

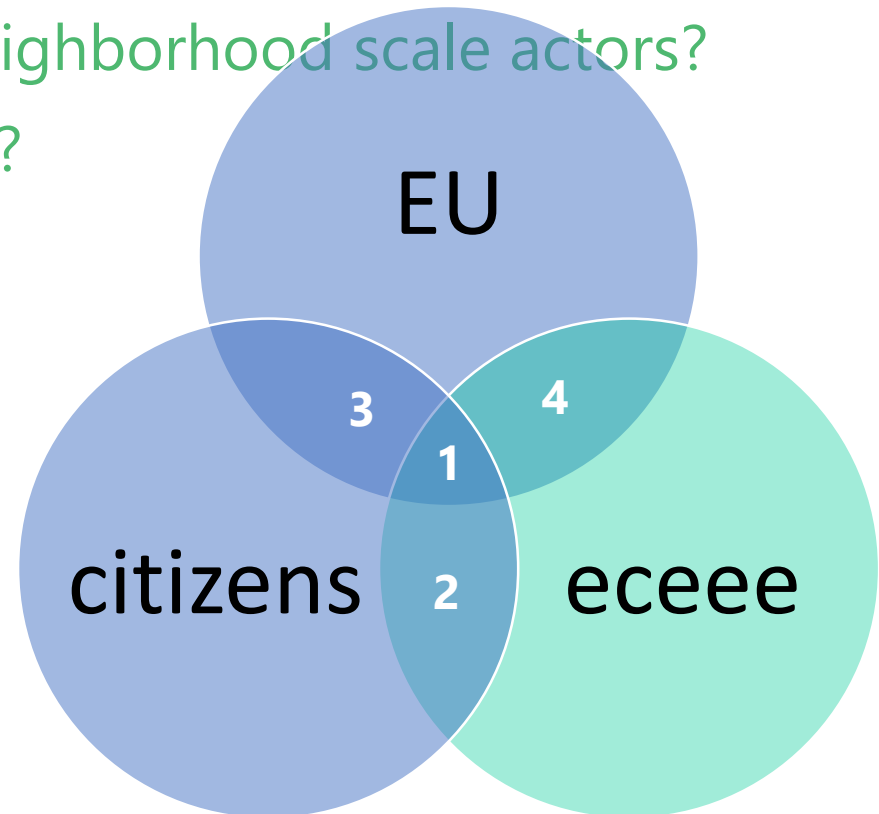
Who are we talking to?

- European politicians?^{EU}
 - Researchers?
 - Newsletters?
- 



Should eceee be focusing on:

1. All: on site applied investigation?
2. European citizens?
3. Neighborhood scale actors?
4. EU?



Thanks for your time, and future help

Contacts



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<https://www.researchgate.net/profile/Nelson-Brito-2>

- HELP NEEDED
 - To convert an “unshining example” into a positive reason to act



Declaration of interests

The author is an architect with initial studies in mechanical engineering, PhD. researcher at MIT-Portugal / University of Coimbra program, author of scientific publications on improving the energy performance of heritage and existing buildings at neighbourhood scale (<https://www.researchgate.net/profile/Nelson-Brito-2>).

As an architect develops applied research in two case studies of high thermal inertia, one in UNESCO urban context (<http://www.iea-annex56.org/Groups/GroupItemID6/12.PT.pdf>) and the other in a rural context, demonstrating the need to understand the operating logic of buildings to achieve almost zero energy needs (NZEB) with low investments.

As owner of these two small buildings, theory and practice are balanced; knowing that existing prescriptive context implies unbearable costs / no return of investment, and that financing mostly accommodates high investments, this author –like many others– waits for a stable context to act.

As a Qualified Expert (PQ00186 / IFRRU) and certified trainer of the National Energy Certification System, and assumed constructive critic, he was part of the "Support Group for Experts" since early times and participates in projects with ADENE as IEA Annex 56, iBroad-energy passports for buildings and specific trainings like Designer of Solar Thermal Systems, Water Efficiency in Buildings, Energy Auditor in Residential Buildings, among many others. From practice the author is aware that many citizens regard certification as just another tax.

Partnerships with public entities facilitate work at other scales, with an emphasis on improving air quality and reducing consumption of heritage buildings, preparing the Portuguese version of Standard EN16883 on "Guidelines for Improving the Energy Performance of Heritage Buildings" and training institutional staff in building decarbonizing. As a former member of the Comfort Energy and Sustainability Working Group of Ordem dos Arquitectos (Architects Association), recently terminated, prepared the basis for responses to public consultations on regulations as "Rehabilitate as a Rule" (2018/08), the transposition of Directive 844/2018 (2019 / 06), the ELPRE-PT Long Term Strategy for the Rehabilitation of Buildings", among other, and a proposal for the transposition of 2018 Directive, later submitted in personal name to known hierarchies: all without success.

The author participates in Construction Industry 4.0 evolution with small-scale experiments to robotized production since 2016, matching BIM, BEM, AAD and Arduino to validate concepts in projects for new and existing buildings and neighborhoods ready to reach (real) NZEB levels.

Contacts and proposed questions

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• HELP NEEDED

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