TOWARDS A TYPOLOGY TO ANALYZE THE SUCCESSFUL IMPLEMENTATION OF CLIMATE MITIGATION POLICIES IN URBAN AREAS

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PRESENTATION OUTLINE

- Welcome
- Environmental energy policy implementation in cities
- Research aim
- Typology
- Research design
- Four case studies
- Results
- Discussion
RELEVANCE

- 34% of domestically CO₂-emissions caused by built environment. 56% of this figure caused by housing.
- Existing stock large potential to reduce GHG emissions.
- Opportunities in large-scale urban renewal and district revitalization projects.
- Stakeholders: national government, local governments, house owners (owner-occupiers and housing associations), tenants.
- Benefits occupiers/tenants: lower energy costs -> lower living costs.
- Benefits owner: qualitative improvement dwelling -> longer usage of dwelling.
- However, many barriers in perceptions stakeholders -> lack of market demand.
- No restrictive policies (standards). Only small incentives and information.
- Energy impact assessments on voluntary base.
- Study on decision-making processes in local projects to adopt innovative energy systems (IES).

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RESEARCH AIM

To further understanding in factors that influence the adoption of innovative energy systems (IES) in urban areas.

To present a typology that supports the analysis and understanding of processes concerning the implementation of policies that stimulate the adoption of climate mitigation measures in urban areas.
THEORY

- Theories deriving from the discipline of Policy Studies.
- Institutional complexity.
- Environmental policy integration (EPI).
- Governance of complex networks.
- Project management.
TYPOLOGY

- Two dimensions
- Institutional complexity
- Project management
RESEARCH DESIGN AND METHODOLOGY

- Research design: comparative analysis of case studies
- Data collection: 27 interviews, project documents
- Data treatment: case histories, coding on indicators
- Data analysis: scores on scales, and locate cases in 2x2 matrix typology.
- Aim: to test hypotheses in search of confirmation.
CASE STUDY 1: TANNHAUSER

- City: Apeldoorn
- Number of apartments: 100
- Initial objective: city heating from biomass plant
- Realization: conventional measures taken (insulation, individual high yield condensation boilers).
CASE STUDY 2: Hogewey

- City: Weesp
- Number of apartments: 258
- Initial objective: Several options considered
- Realization: Fleece wall and HRe-condensation boilers (decentral cogeneration).
CASE STUDY 3: PRINSENHOF

- City: Leidschendam
- Number of apartments: 1628
- Initial objective: Several options considered; 40% reduction in energy consumption.
- Realization: conventional measures taken (insulation, individual high yield condensation boilers).

From: www.dhv-bouw.nl
CASE STUDY 4: EUROPAREI

- City: Uithoorn
- Number of apartments: 635
- Initial objective: Solar heating system (thermal)
- Realization: Solar heating system (thermal) and air heat pump, solar PV (on the long run)
RESULTS

- Location cases in graphical chart typology.
RESULTS

- Hypothesis confirmed.
- Goal achievement of IES in urban areas remains difficult.
- External events may destroy constructive process
- Energy impact assessments: although voluntarily, effective to a certain extent; IES put on the agenda, sometimes to the end, and influential on outcome of project (IES adoption).
- Identification of necessary conditions.
NECESSARY CONDITIONS TO SUCCESSFUL PROJECT OUTCOMES

- Clever project management.
- Professional leadership.
- Learning capacity
- Motivated, experiential, large actor-network.
- Subsidies (and supporting comm. instruments).
- Low degree of competing (urban renewal policy) project plans.
- Assessment of alternative energy packages (report) to initiate process.
DISCUSSION

THANKS FOR YOUR ATTENTION

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