



LESSONS FROM 10 YEARS POLICY DESIGN IN THE ENERGY EFFICIENCY SECTOR

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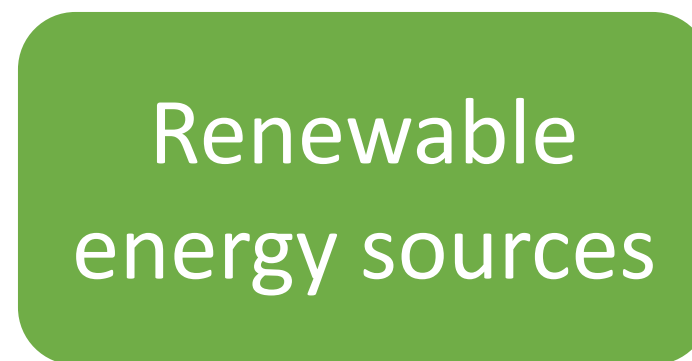
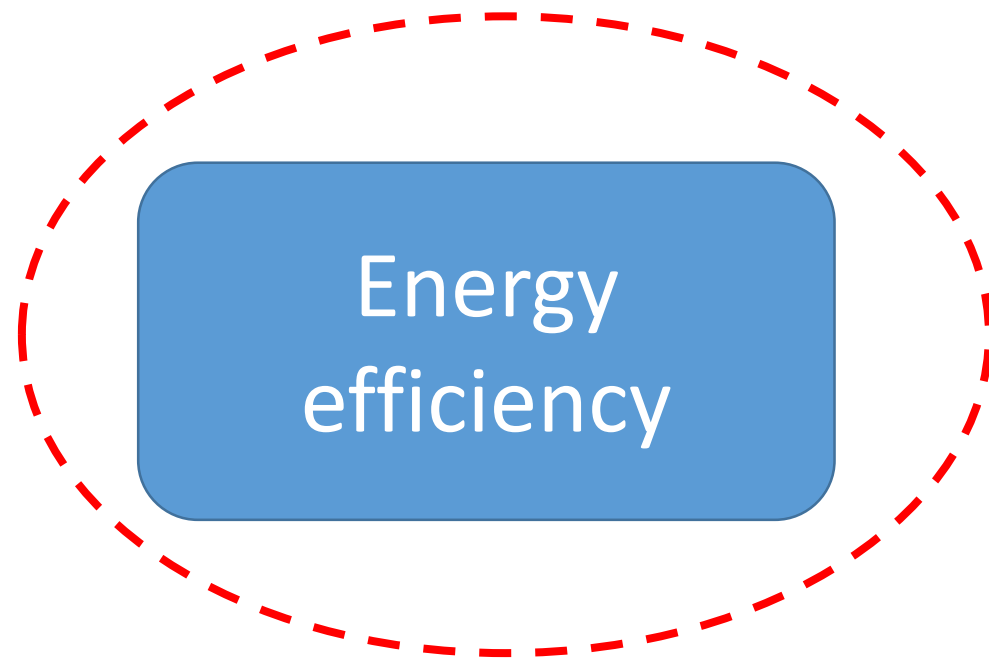


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ASSESSMENT AND ANALYSIS OF ENERGY EFFICIENCY POLICY

National Energy and Climate Action Plan

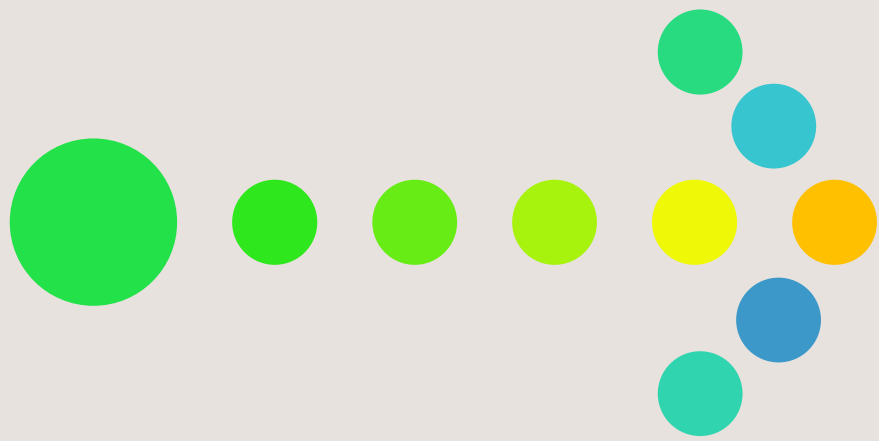
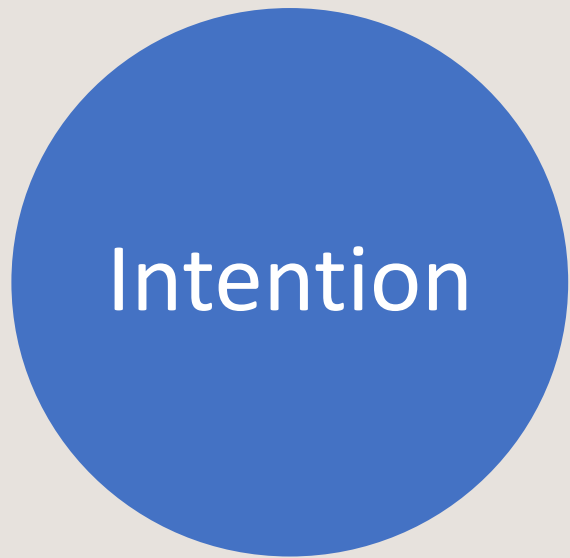


Multi family buildings: Latvia

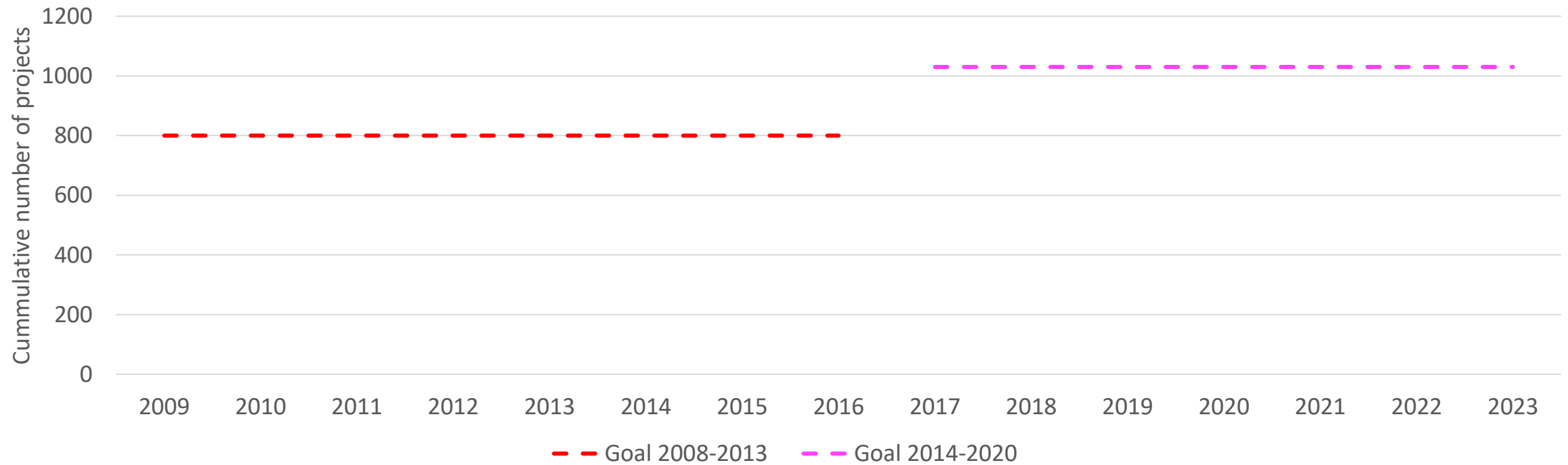
- 85% of population lives in this building stock
- Most of it is built more than 40 years ago
- High energy consumption
- Apartments owned by inhabitants
- On average 30 apartments per building
- At least 75% of apartment owners have to agree to take loan for renovation and energy efficiency improvements



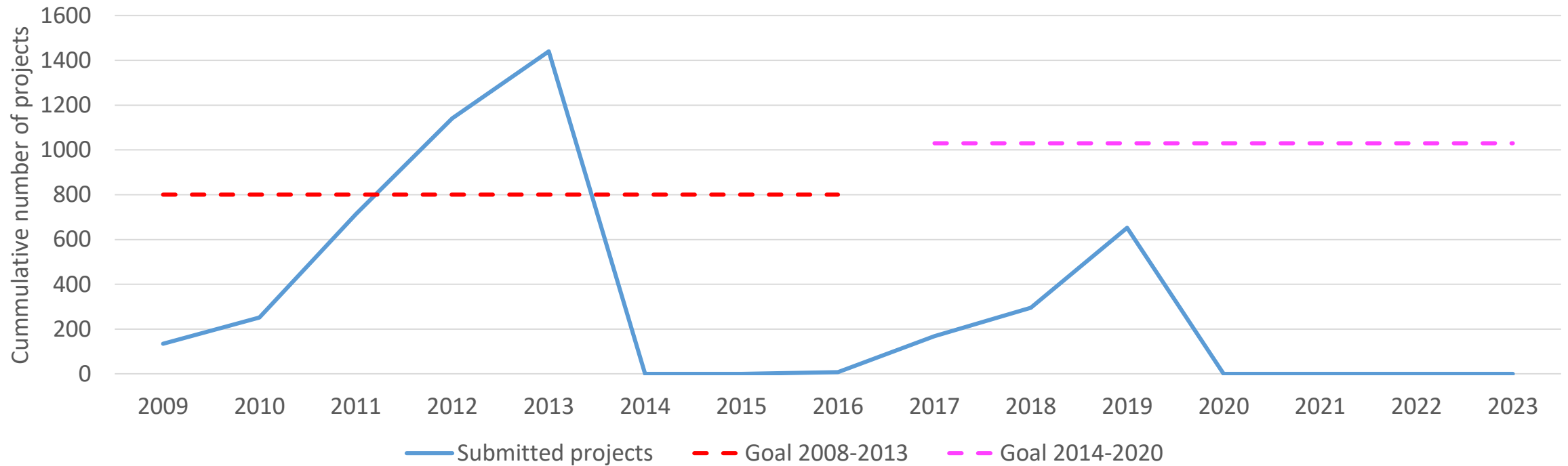
<https://businessnetwork.lv/ievads/izaugsme/daudzdzivoklu-maju-energoefektivitates-programma-52883>



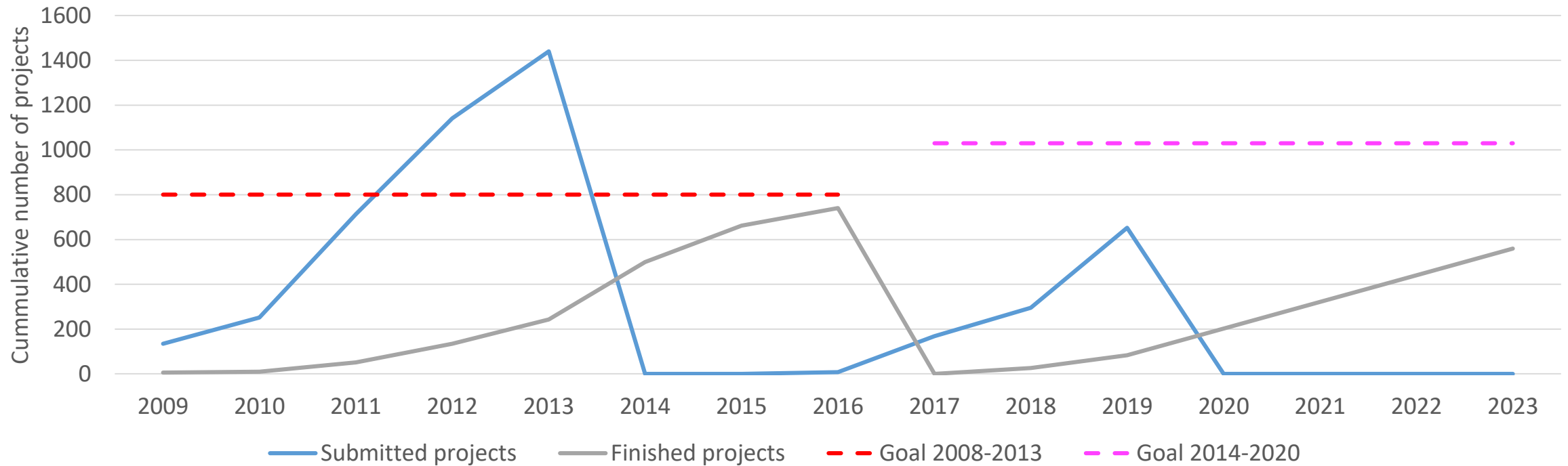
Energy efficiency goals



Goals vs actual situation



Goals vs actual situation



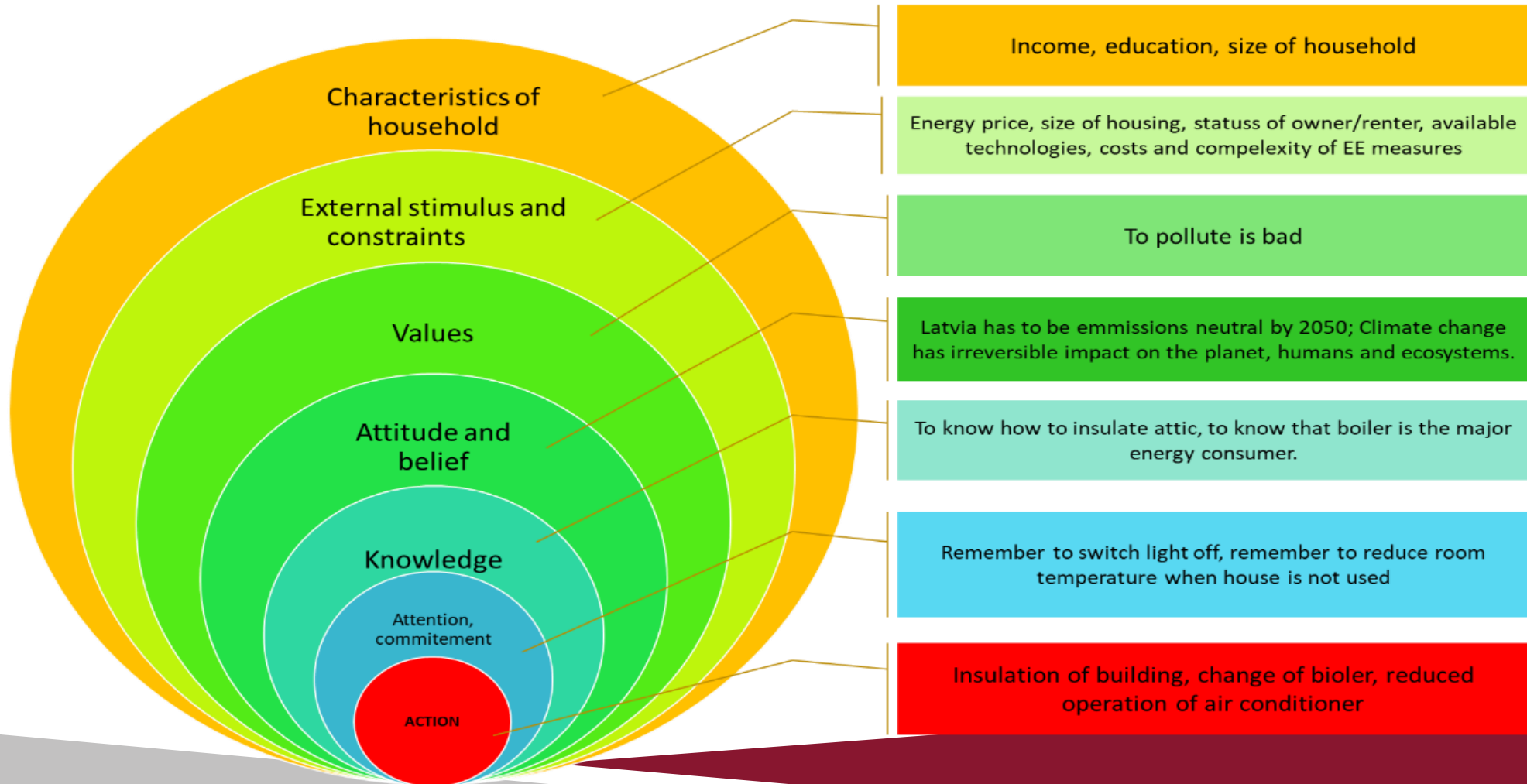
The goal of this study

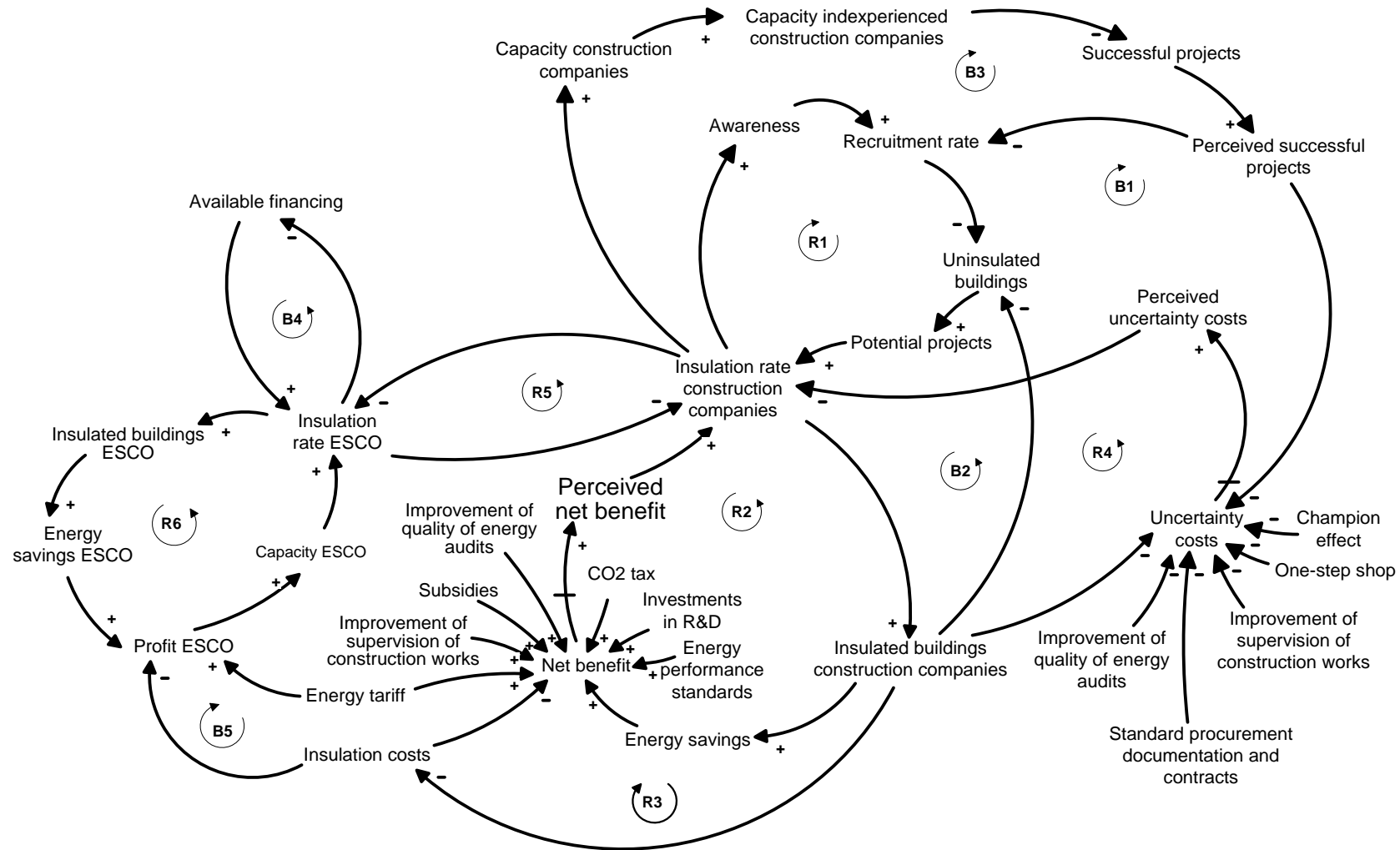
To take closer look on the behavior of the real system and by means of the system dynamics model carry out analysis of the structure and behavior of the system to understand why energy efficiency goals set by the government were not met.

Previous research and models

- Blumberga A., Zogla G., Moxnes E., Davidsen P., (2011) Residential Energy Efficiency Policy in Latvia: A System Dynamics Approach, 29th International Conference of the System Dynamics Society, p.373-396.
- Blumberga, A., Blumberga, D., Bažbauers, G., Žogla, G., Laicāne, I. (2014) Sustainable Development Modelling for the Energy Sector. Journal of Cleaner Production, Vol.63, 134.-142.

Underlying theory: Attitude -behaviour-context model (Stern and Oskamp)



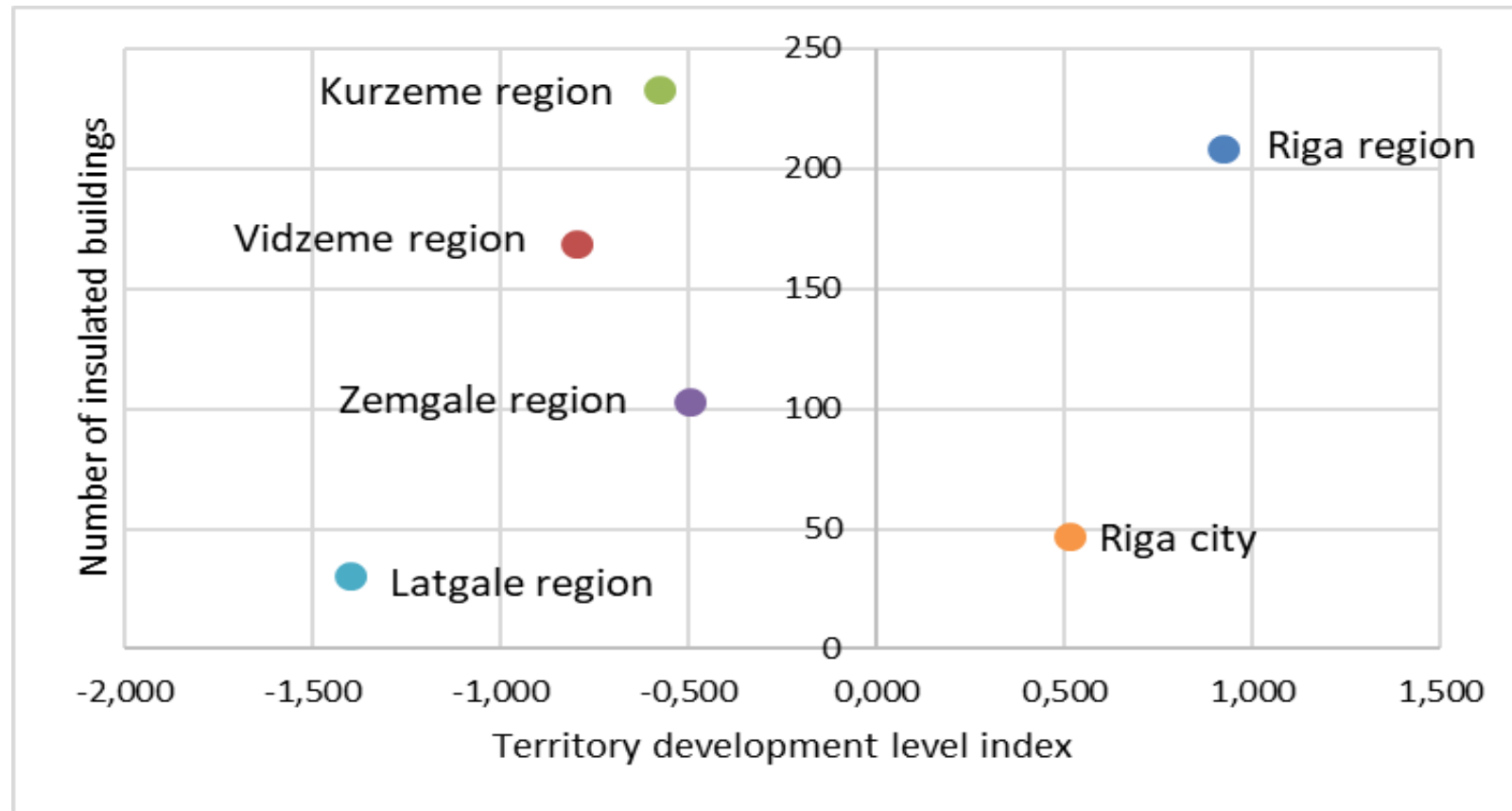


Policy tools 2008-2020

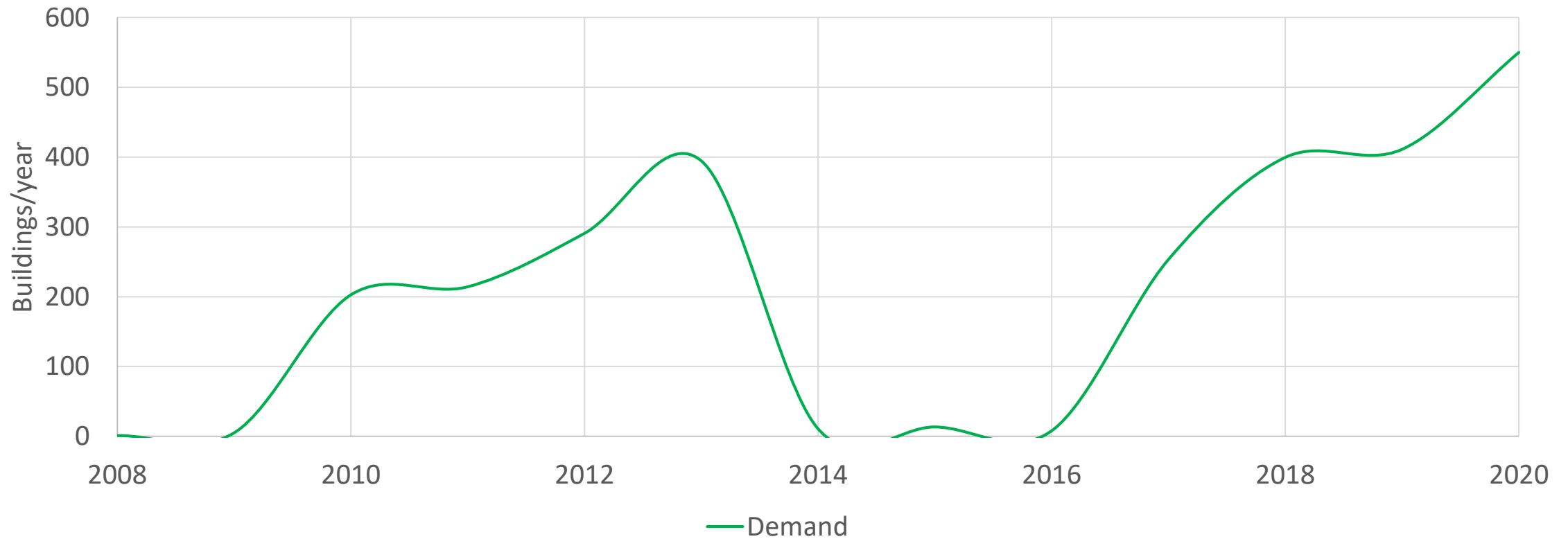
- EU funds for energy efficiency projects as 50% subsidy:
 - 1st round 2008-2013
 - 2nd round 2016-2020
- Information campaign based on locally organised workshops and seminars by team of 2-3 persons

RESULTS

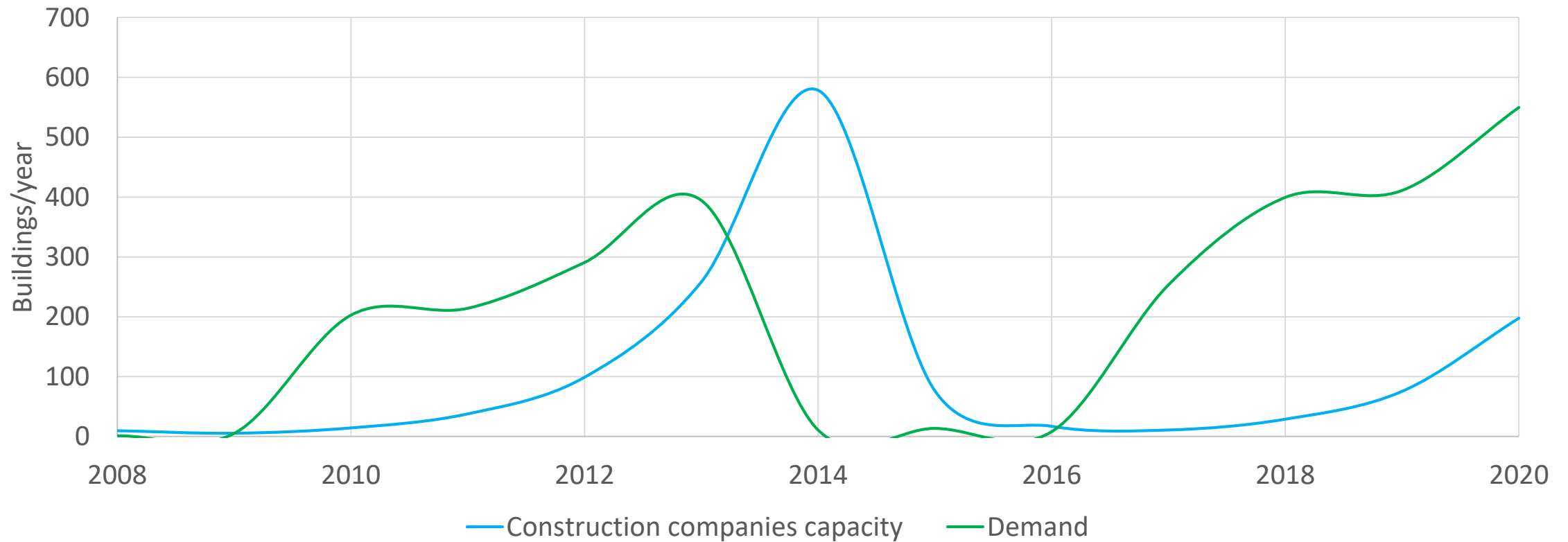
Wealth and energy efficiency



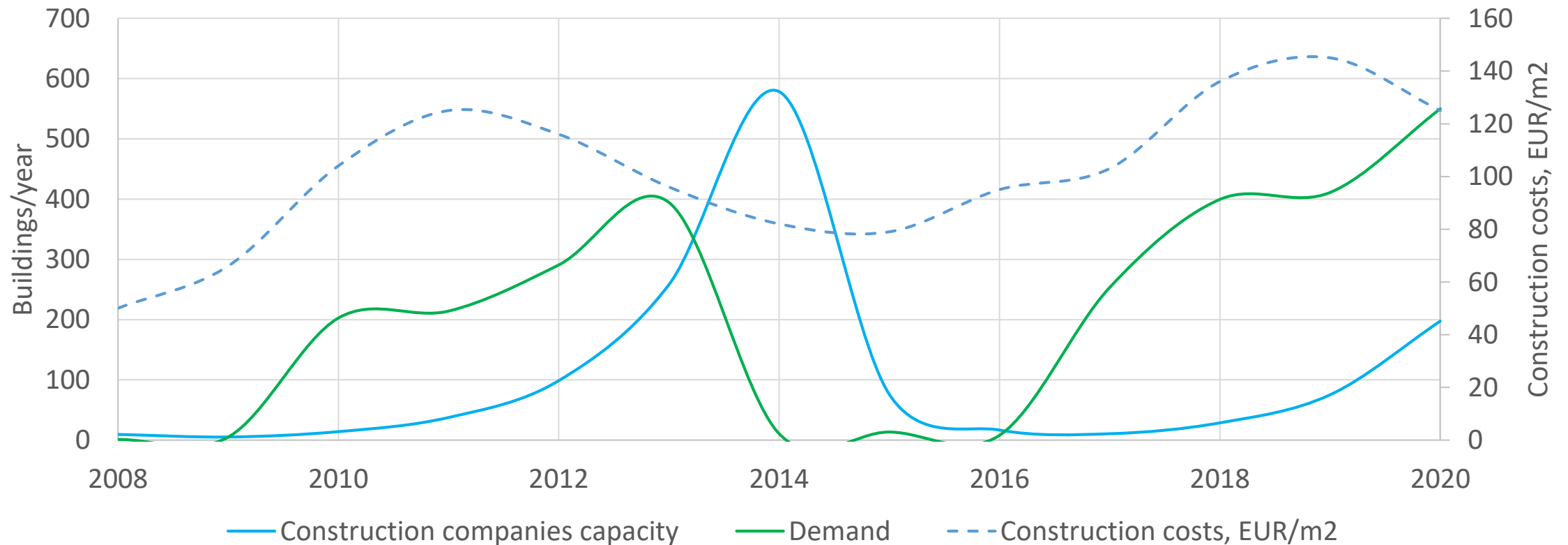
Funding discontinuity



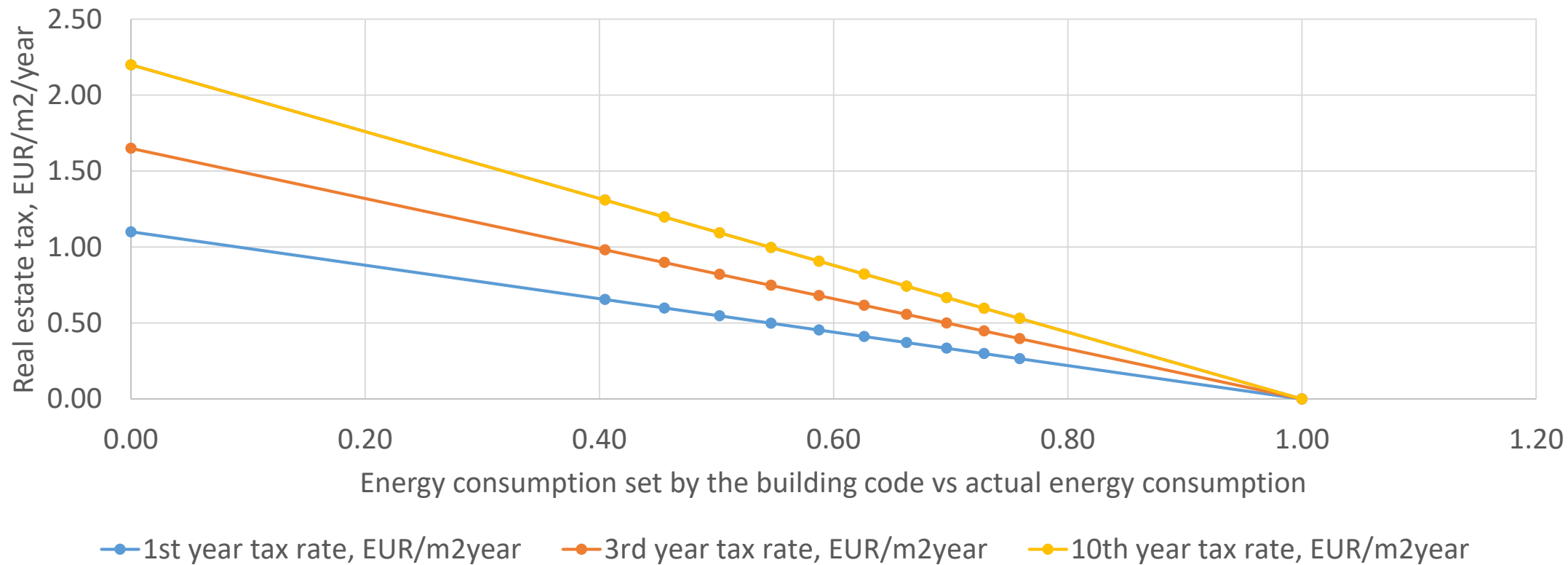
Funding discontinuity



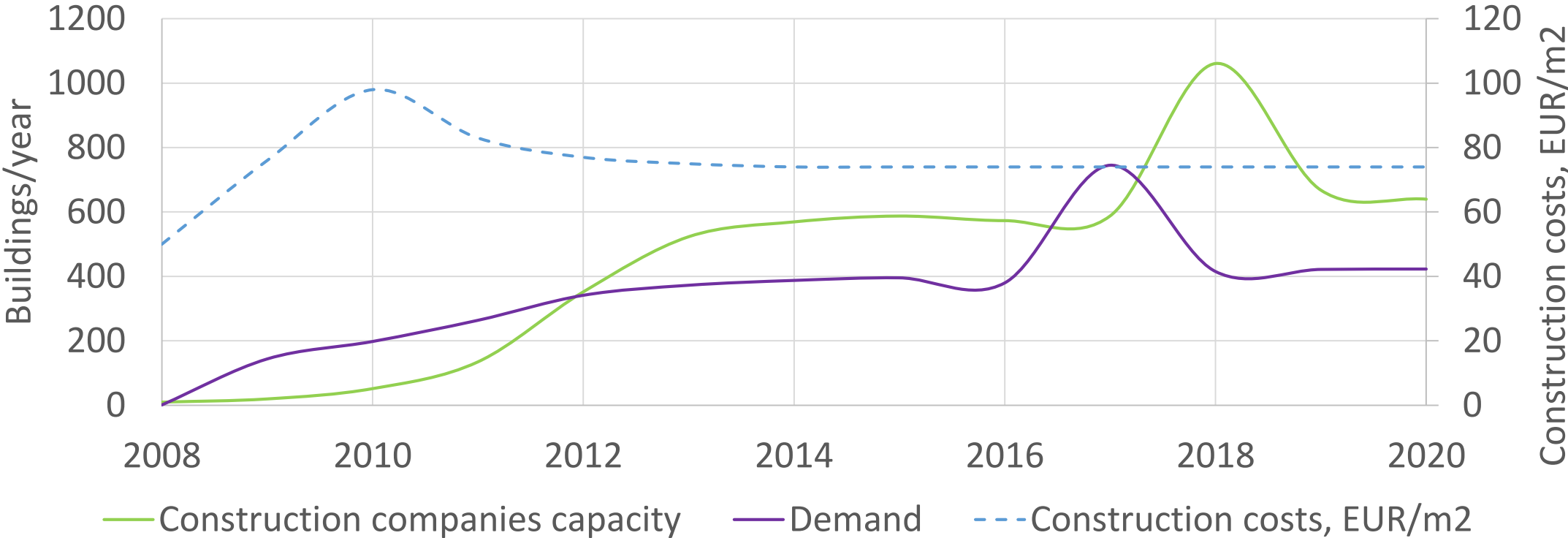
Funding discontinuity



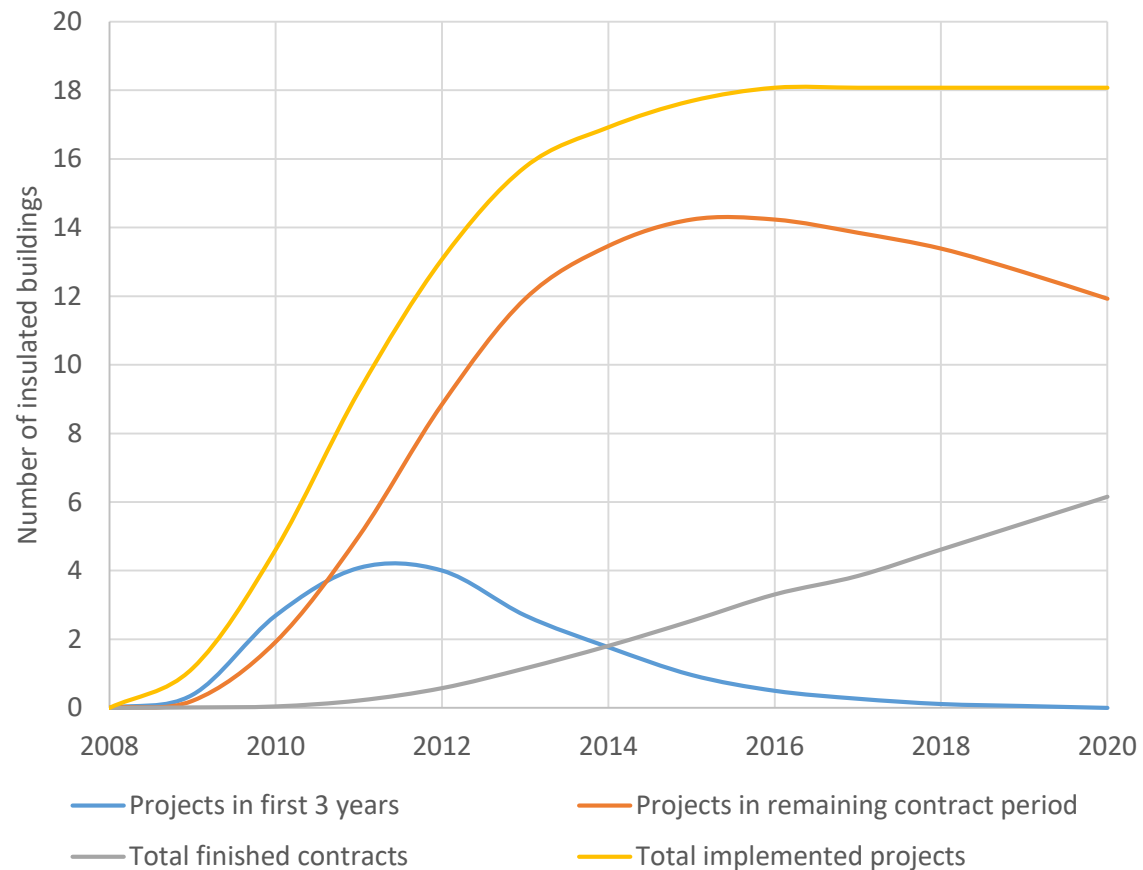
Penalty-reward scheme



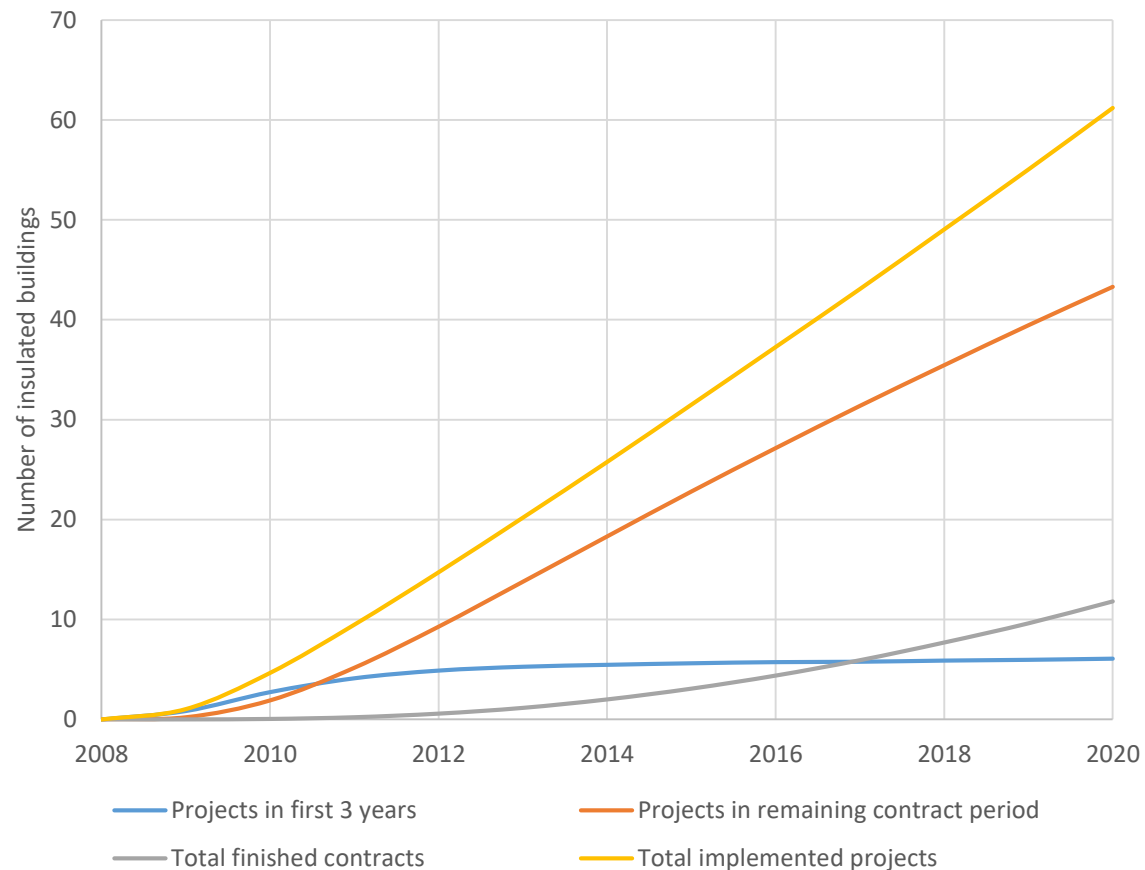
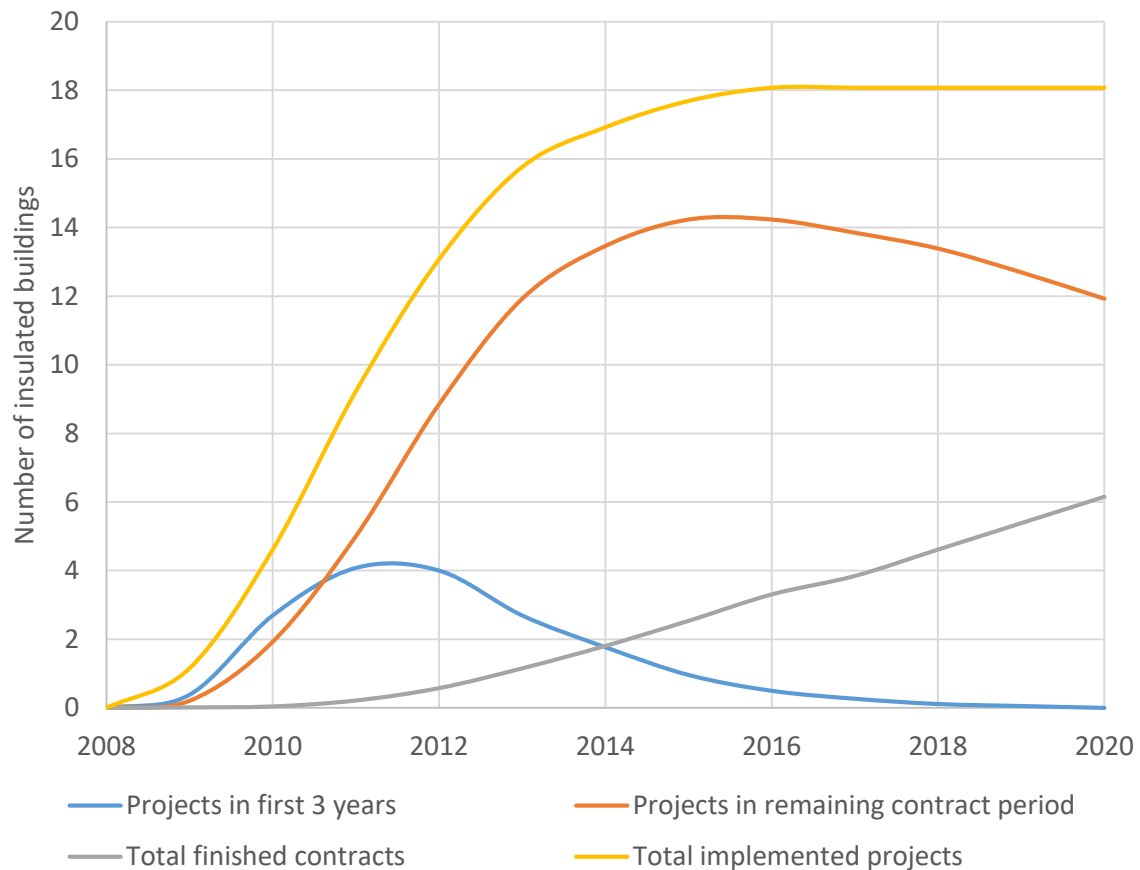
With sustainable funding scheme



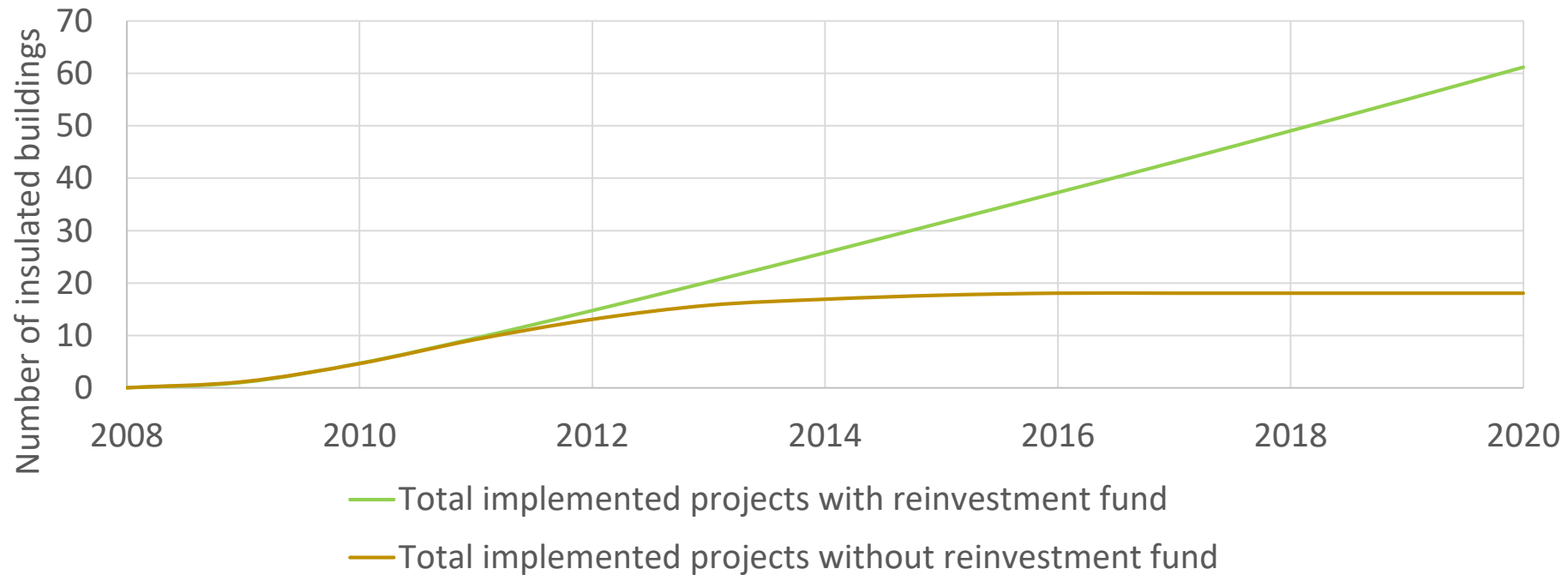
Energy Service Companies



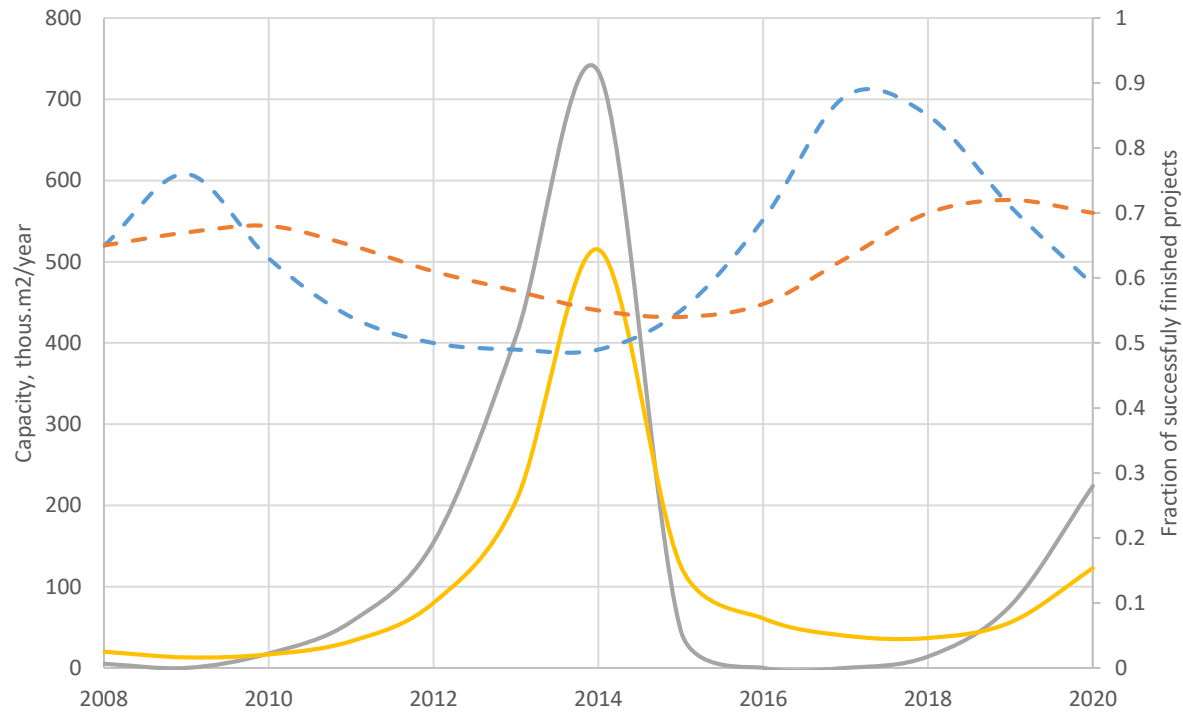
Energy Service Companies



Energy Service Companies

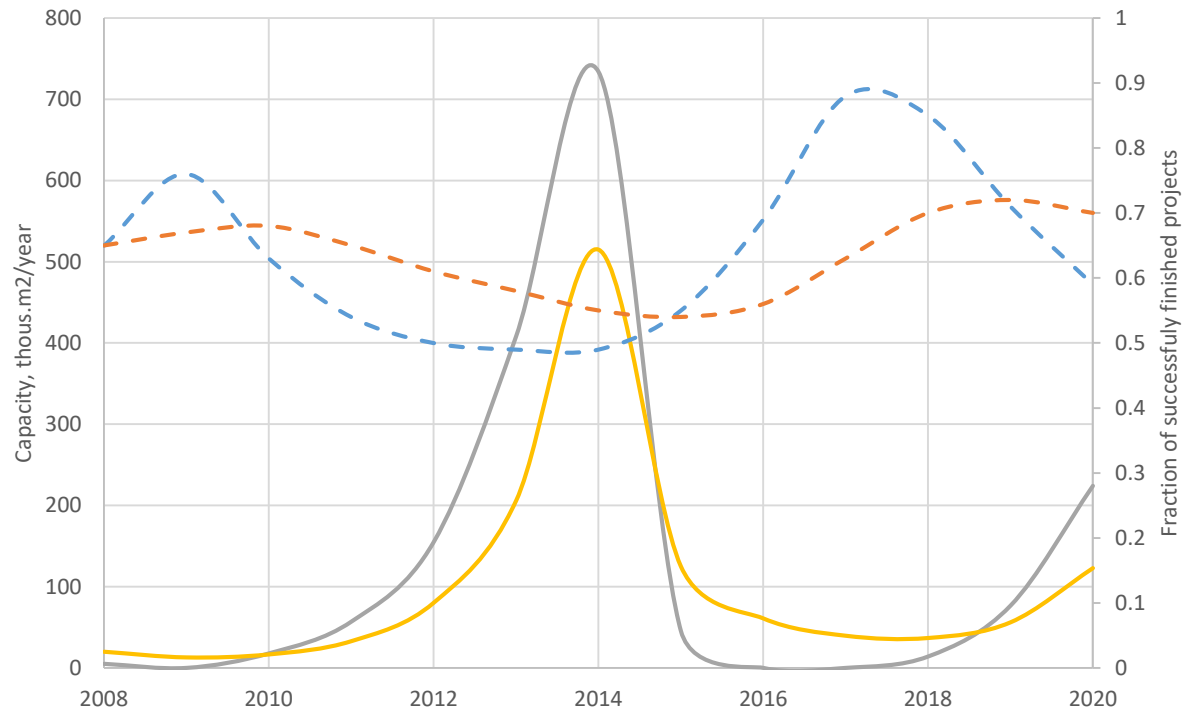


Construction quality

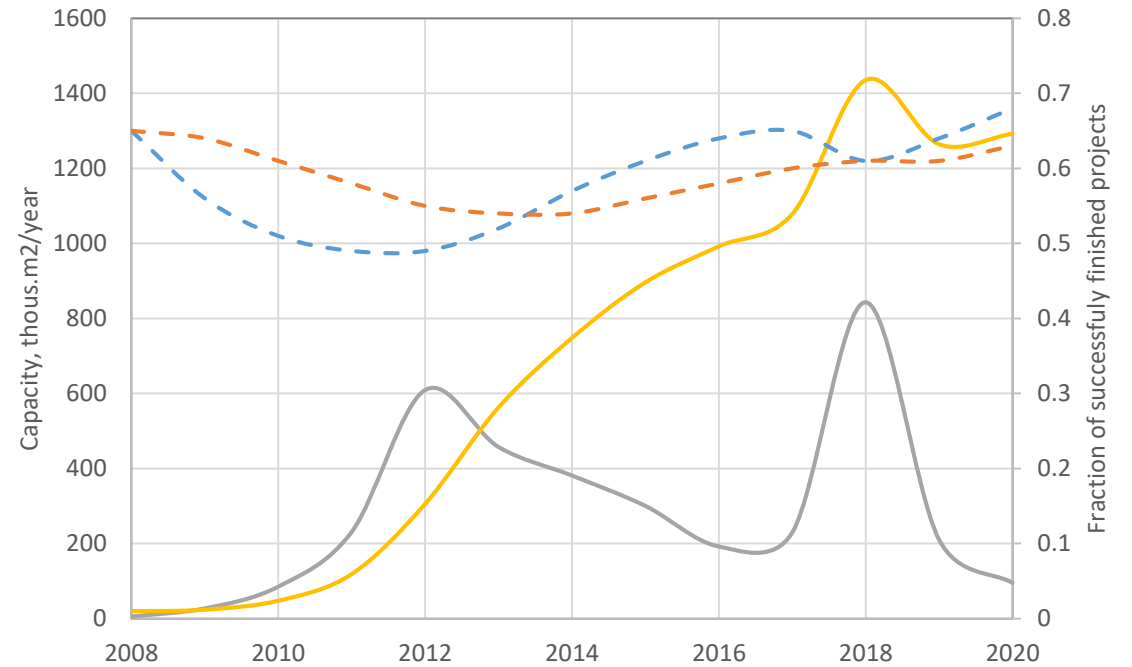


- Capacity of unexperienced construction companies
- Capacity of experienced construction companies
- - - Fraction of succesful recently finished projects
- - - Perceived fraction of successfully finished projects

Construction quality

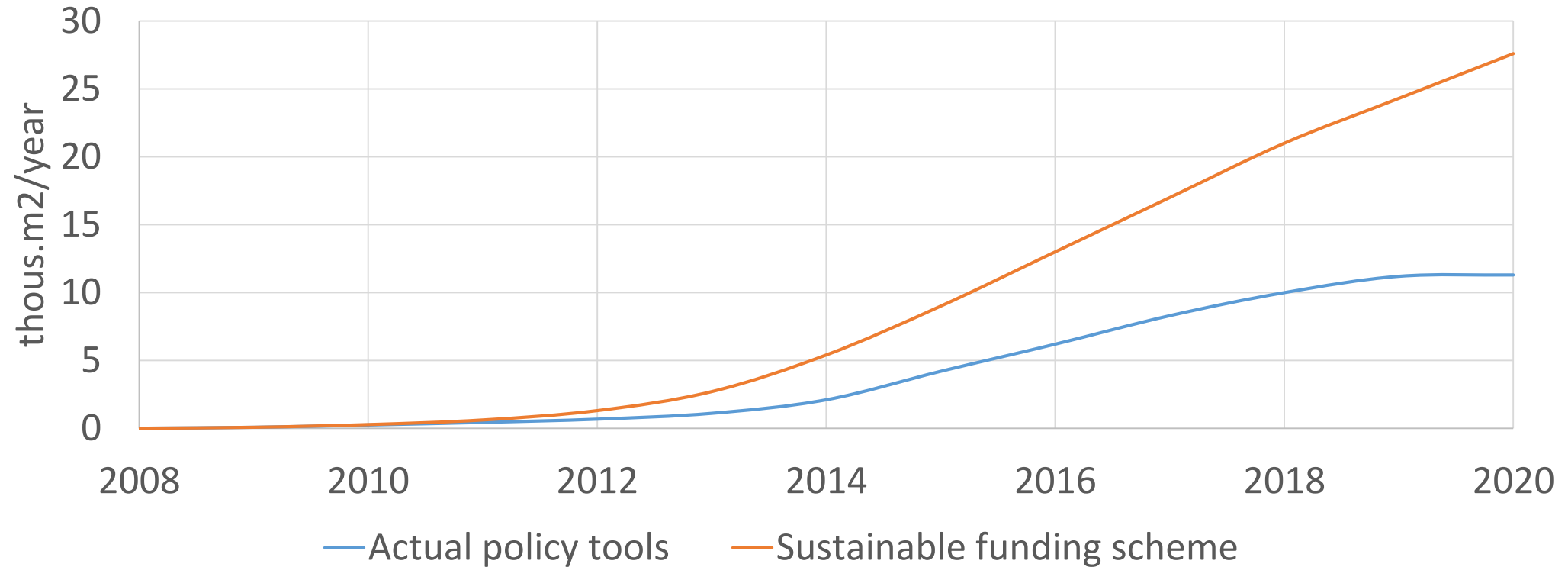


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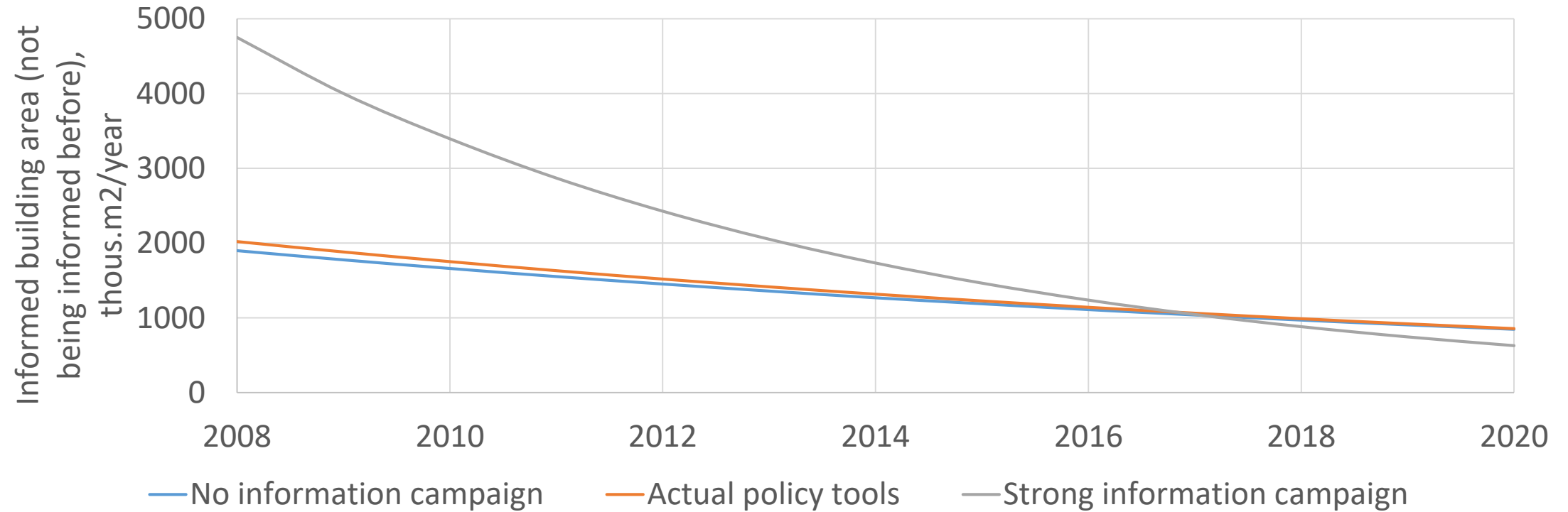


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Word of mouth effect



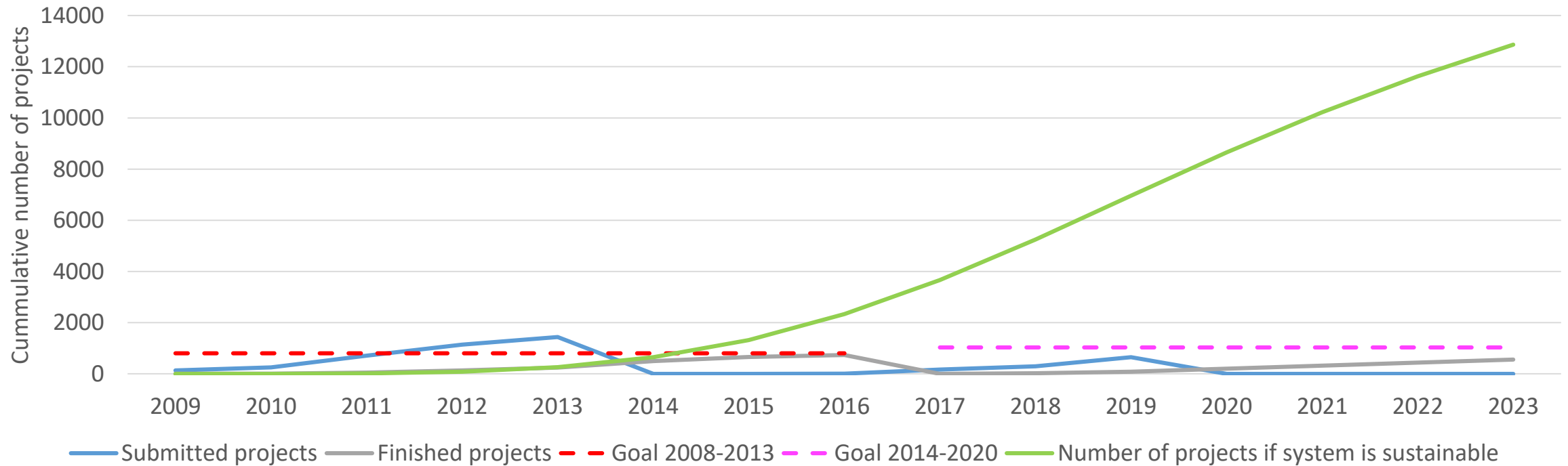
Information dissemination



Trust and insider



Goals, actual and desired behaviour



CONCLUSIONS

Lessons from 10 years policy design in the residential energy efficiency sector show that today's problems arise from yesterday's solutions:

- Policy tools based on rational choice models are oversimplified since decision making is much more complex
- Lack of long term policy planning documents has led to discontinuing financial support that has caused a chain of negative side effects, such as
 - misbalance between supply and demand of construction services causing oscillation of price, pay-back time, net benefits, quality of construction works,
 - addiction to financial support which is based on EU funding,
 - word-of-mouth effect.
- This has led to the situation that government was not able to reach goals set by itself.
- System Dynamics model developed 10 years ago based on experts opinions has proved to be great tool to forecast and explain causes of behavior of the system and different policy interventions.

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