Agency of cities in energy transition

Dr. Thomas Hoppe
Delft University of Technology
T.Hoppe@tudelft.nl

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Cities and climate change

- Cities form the key context within which social, economic and environmental challenges for sustainable development will manifest in the years to come.
- City governments are confronted with the challenge of designing and implementing workable policy strategies.

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Key roles of cities in sustainable transitions

- First, cities (or rather city governments) can be viewed as primary actors enacting transition processes.
- Second, cities can be viewed as seedbeds and locations for testing, experimenting with and developing radical innovations in the early phases of transition (e.g. via Urban Transition Labs and demonstration pilots).
- Third, although there clearly is a role for cities (here, city governments are meant) in transitions, it should not be overestimated for it is limited compared to the influence of market dynamics and other actors.

Source: Geels, F. (2013) The role of cities in technological transitions: analytical clarifications and historical examples. In: Bulkeley H, Castan-Broto V, Hodson M, Marvin S (eds) Cities and low carbon transitions. Routledge, New York, London, pp 13–28.

Roles of local government

1. **Municipal self-governing**: addressing management of local public estate.
2. **Municipal provision**: municipal provision of (energy) services and infrastructure managed by local government.
3. **Municipal regulation**: a broad set of (municipal) policy instruments targeting local stakeholders to adopt low carbon technologies and efficient energy consumption behaviours. In particular: legal instruments (e.g., permits) and city planning (measures that have a spatial and environmental impact).
4. **Municipal enabling**: information campaigns and partnerships to raise public awareness on actions that can be taken to lower GHG emissions.
5. **Non-state action**: 'soft' incentives local government can implement to support community- or business-led low carbon initiatives (empowerment).
6. **Public-private provision**: using PPPs instead of (public) municipal provision of public goods, like management of municipal infrastructures (PPP contracts/constructions).
7. **Non-state mobilization**: inducement, persuasion and seduction of citizenry (and among those: entrepreneurs) to start citizen-led low carbon initiatives.

- Source: Bulkeley, H., & Kern, K. (2006). Local government and the governing of climate change in Germany and the UK. *Urban studies*, *43*(12), 2237-2259.

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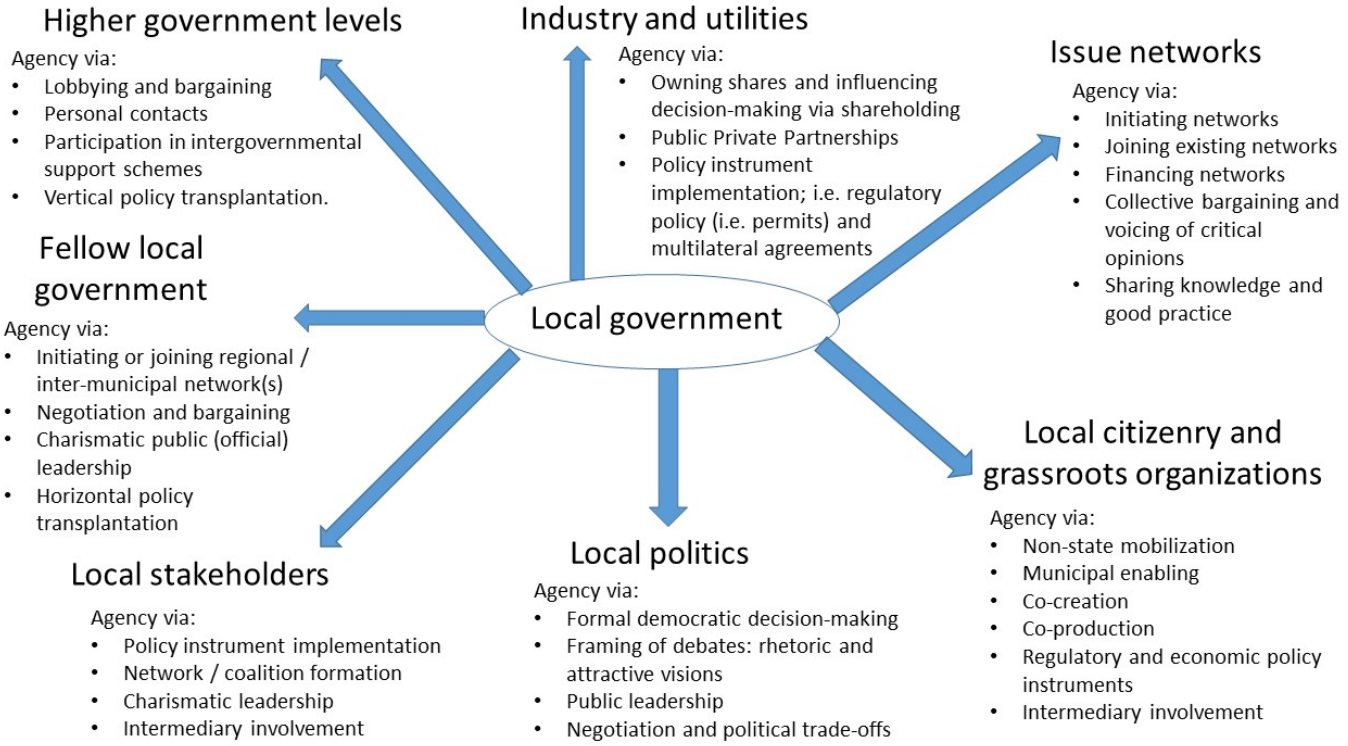
Agency of local government in ET



Source: Hoppe, T. (forthcoming, 2021). Local governments using their agency in sustainable transitions. In: Teerikangas, S. *et al.*, Agency in sustainable transitions, Cheltenham: Edward Elgar.

5 Conditions for successful local climate governance

1. Committed person in municipal organization;
2. Presence of clear action plan or policy;
3. Sufficient budget;
4. Influence (i.e. agency) over multiple relevant sectoral policy domains (and the public service delivery they are authorized to carry out);
5. The political will (and agency) to get things done.

Source: Bulkeley, H., & Betsill, M. (2005). Rethinking sustainable cities: multilevel governance and the 'urban' politics of climate change. Environmental politics, 14(1), 42-63.

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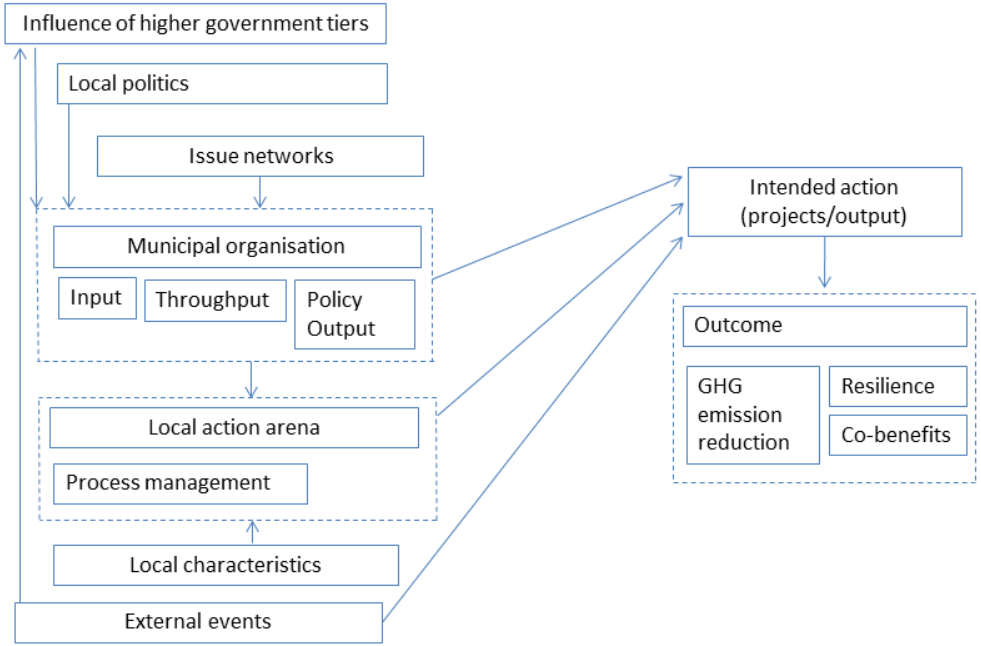
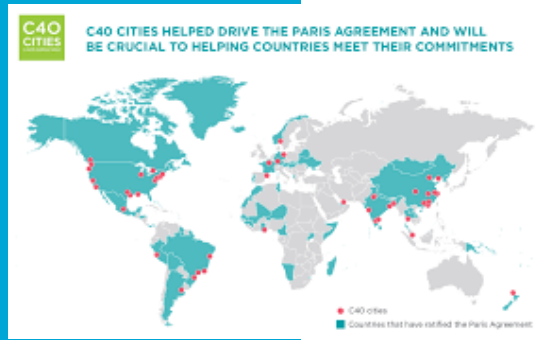
Framework on local climate action and impact

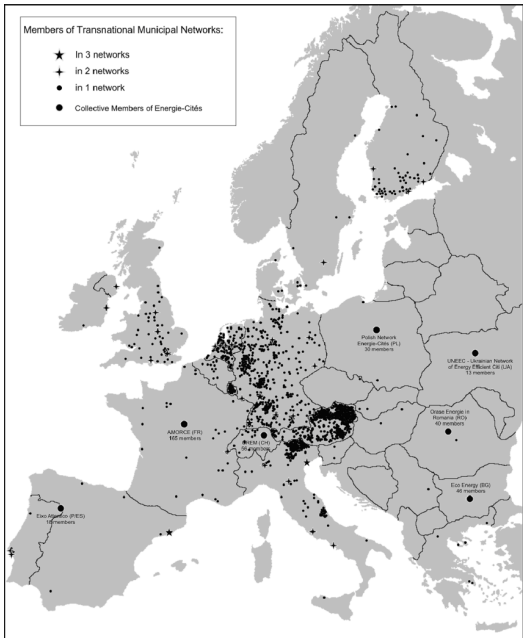


Source: Hoppe, T., van der Vegt, A., & Stegmaier, P. (2016). Presenting a Framework to Analyze Local Climate Policy and Action in Small and Medium-Sized Cities. *Sustainability*, *8*(9), 847.

Municipal climate issue networks

- Some claim cities are governed by *transnational municipal networks* (e.g., Kern & Bulkeley, 2009); e.g.:
  - C40 Cities
  - Covenant of Mayors
  - ICLEI
  - Energy Cities





Source: Kern, K. (2010, June). Climate governance in the EU multi-level system: The role of cities. In presentation at the Fifth Pan-European Conference of EU Politics, University Fernando Pessoa and Faculty of Economics of Porto University, Porto (Portugal), http://www. jhubc. it/ecpr-porto/virtualpaperroom/147. pdf, accessed June (Vol. 9, p. 2014).

Covenant of Mayors for Climate & Energy EUROPE

ENERGYCITIES

ICLEI Local Governments for Sustainability

PBL Netherlands Environmental Assessment Agency

Measuring governing capacity for the energy transition of Dutch municipalities

Kees Vringer
Rick de Vries
Hans Visser

in cooperation with Corné Wentink (TELOS)

Contents

- Introduction
  - Dutch energy transition, role of municipalities and governing capacity
  - Aim
- Approach, operative model and data
- Results
- Discussion
- Conclusion, policy implications and further research

The Dutch Energy Transition (ET)

- Paris Agreement 2015: Substantial reduction CO_2 emissions
- Dutch climate mitigation act:
  - minus 49% in 2030
  - minus 95% in 2050

- Implementation
  - Klimaatakkoord (Dutch National Climate Agreement)
    - Bottom up solutions
  - Huge efforts of and impacts on
    - Companies
    - Citizens
    - National policy
    - Local policy → **Municipalities**

Dutch municipalities and the Energy Transition

- Municipalities get more tasks and responsibilities

- Questions
  - Have Dutch municipalities sufficient capacity to achieve the local CO_2 emission reduction targets?
  - Could local policy performance be improved by improving this capacity?

- Aim of this study
  - To examine whether the policy performance in the local energy transition can be improved by improving the governing capacity of municipalities.

Governing capacity and the Energy Transition

- Governing capacity (bestuurskracht):
  - The capacity of local municipalities to formulate and execute effective policies
  - Three components (Boogers et al., 2008):
    1. decision-making capacity
    2. Implementation capacity
    3. Accountability capacity
  - Preconditions for governing capacity
    - › factors which influence the governing capacity
      - Size of the municipality
      - Also other preconditions: policy style, motivation of the policy officers, resources, etc.

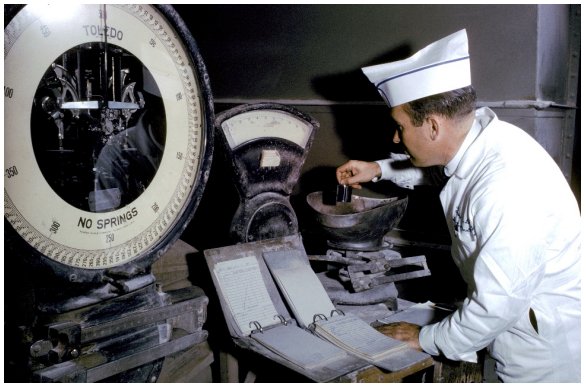
Approach

- We did two things:
  1. Investigate current situation of the municipalities – status quo
  2. Estimate the relation Governing capacity – Policy performance

- Measuring relation Governing capacity - Policy performance

  – Causal model Preconditions → Govering capacity → Policy performance

  – Requires data to fill this model

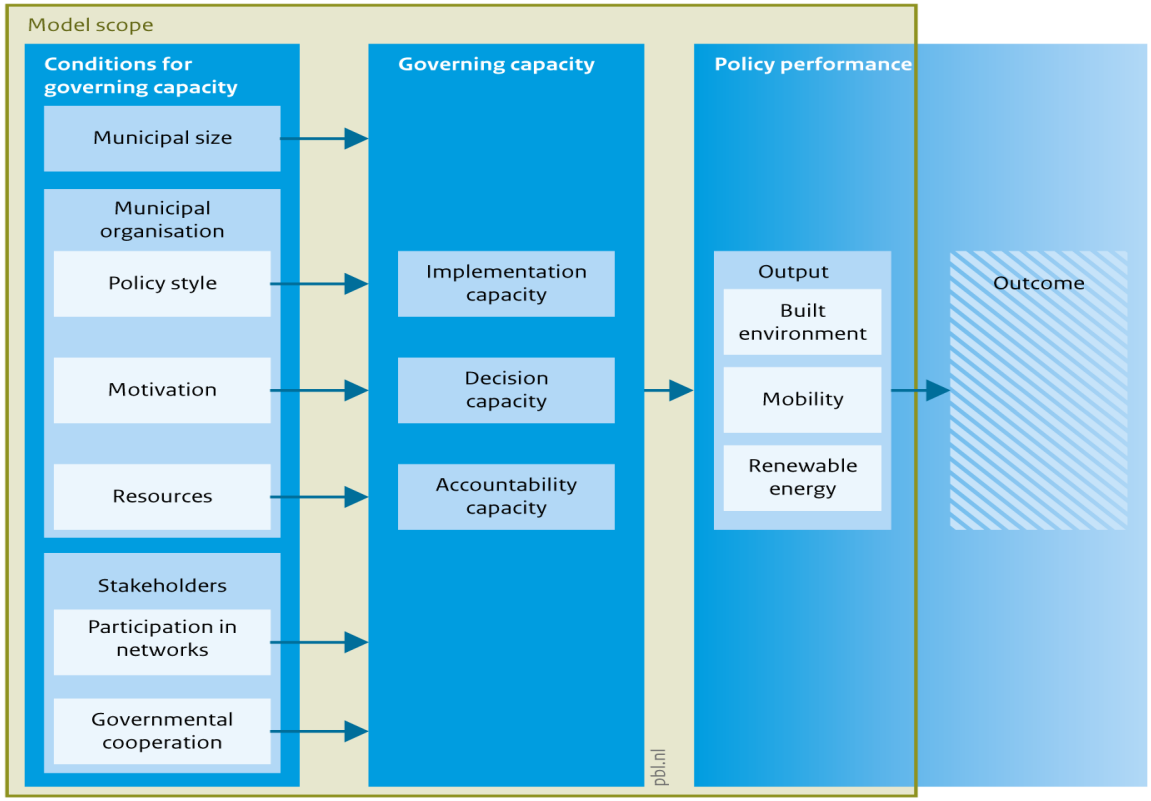


Data

- Survey among all Dutch municipalities
  - 380 questionnaires sent to responsible civil servants
  - 150 questions, 30 minutes
    - Preconditions
    - Governing capacity (self assessment)
    - Policy output
  - Final N = 163 (42% response)

- Exsisting data Dutch municipalities
  - TELOS Governance Monitor (2017),
  - Climate Monitor (Rijkswaterstaat, 2017),
  - Waarstaatjegemeente.nl (VNG, 2017)

An operational model



Assuming causal relations

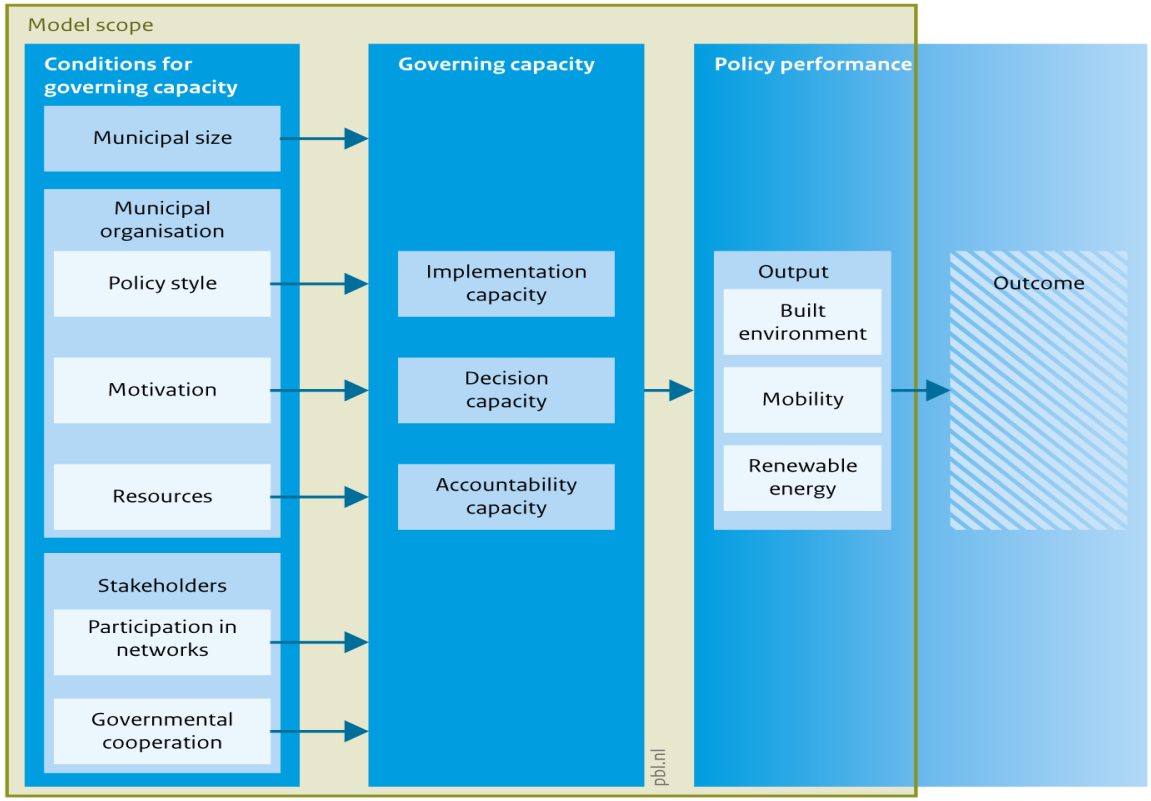
Multiple regression

- 5 preconditions (70 vars)
- 3 components (14 vars)
- 3 performances (192 vars)

Example details of the model

- Resources (19)
  - Knowledge (6)
  - Professionality (6)
  - Experience (1)
  - Continuity of the available budget (3)
  - Degree of specification of the budget (2)
  - Regular staff capacity (1)

An operational model



Assuming causal relations

Multiple regression

- 5 preconditions (70 vars)
- 3 components (14 vars)
- 3 performances (192 vars)

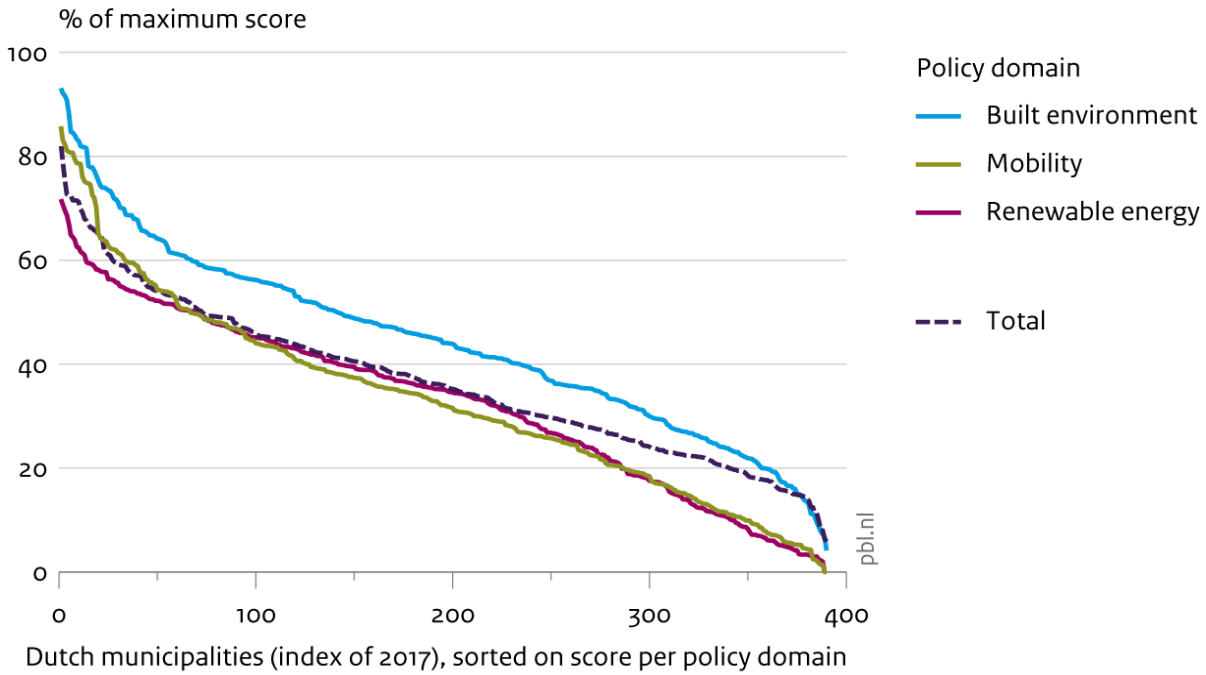
Results: Status quo of the municipalities (2018)

- Large differences between municipalities

  - 50% did not or barely start with implementation
  - Some have their own (too ambitious, but not explicit) reduction goals
  - Hindered by lack of technical knowledge (64%) or motivation other staff members (50% reports that minority is convinced urgency ET).
  - > 80% growth in requested effort,
    - 44% report no structural budget
    - 58% no increase in the staff
  - Resistance of citizens or local politcians

  - Ambivialent in the self assessment of the governing capacity of own municipality. E.g.
    - 47% cannot comply to the requests from the national government
    - 40% is able to make desicions in time
    - 53% has a local CO2 reduction goal, half has an indicator for that

Score on policy output

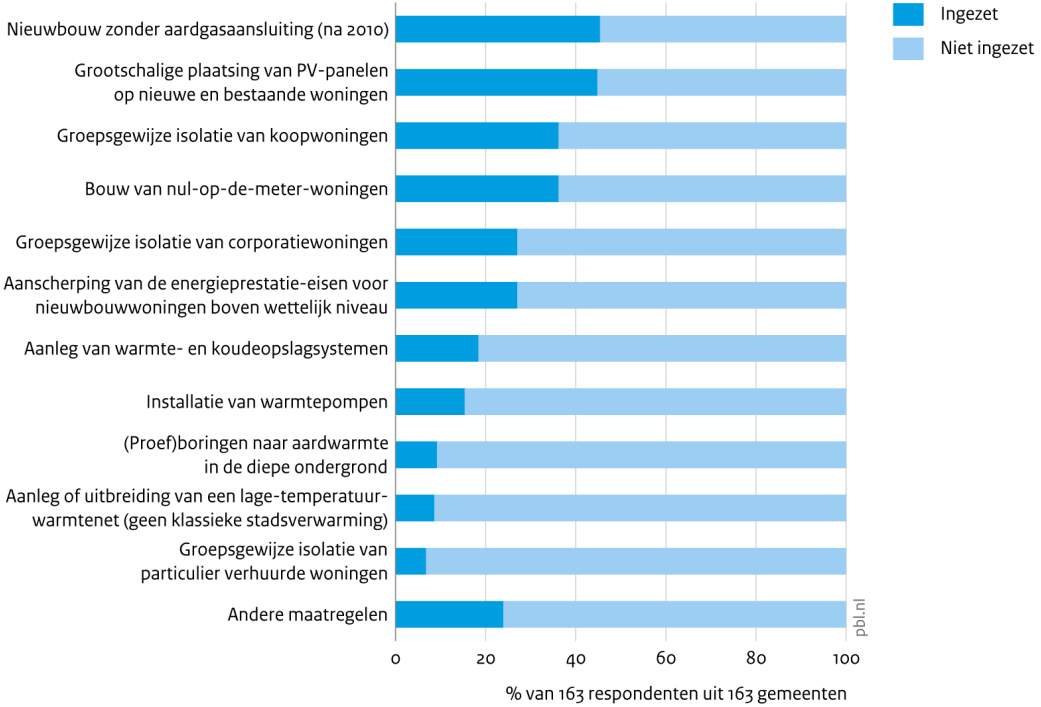


Example for policy output built environment

Figuur 4.4

Inzet maatregelen in gemeenten in beleidsdomein bouw en isolatie, 2014 – 2018

Vraag: Bij welke onderstaande acties is uw gemeente direct betrokken geweest?



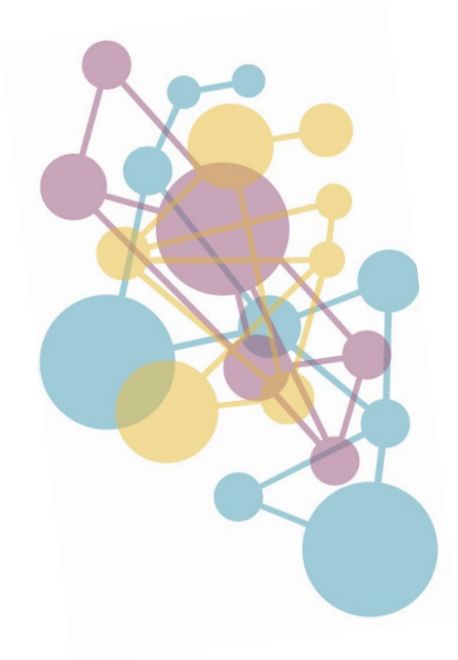
Bron: PBL op basis van enquête 2018

Results: Relation preconditions <-> policy output

Standardised regression coefficients of the effect of population size.

	Built environment	Mobility	Renewable energy
Population size [ln]	0.44 *	0.57 *	0.43 *
R-squared	0.19 *	0.33 *	0.19 *

* = significant ($p < 0.05$).
[ln] = for population size the ln is taken to correct for skewness.



Results: Relation preconditions <-> policy output

Standardised regression coefficients of the effect of population size, and preconditions for governing capacity, on the policy output for three domains of the energy transition

	Built environment	Mobility	Renewable energy
Population size [ln]	0.16	0.14 *	0.05
Preconditions for governing capacity			
Policy style	-0.04	-0.04	-0.08
Resources	0.10	0.07	0.19 *
Motivation	0.25 *	0.19	0.32 *
Participation	0.22 *	0.07	0.30 *
Cooperation	0.19 *	0.22 *	0.15 *
Governing capacity			
Implementation capacity	-0.05	0.06	-0.04
Decision capacity	0.14	0.14 *	0.06
Accountability capacity	0.11	-0.02	0.02
- Regularly monitoring	0.05	0.08	-0.03
R-squared	0.59 *	0.55 *	0.57 *

* = significant ($p < 0.05$).
[ln] = for population size the ln is taken to correct for skewness.

Discussion:

- Empirical value of governing capacity
  - No relations found between (self-assessed) governing capacity and policy output
    - Wrong questions? Confirmation of literature?
    - But preconditions emerge from related theories

- Lineair regression has constraints
  - Other statistical models
    - Rash-analysis , based on ordinal variables
    - Random forest
  - About the same results

Conclusions (1)

- Status quo municipalities (2018)
  - Many municipalities not/hardly started with the implementation energy transition.
  - Large differences in the preconditions
    - resource availability
    - motivation of the staff
  - Large differences in policy output, space for growth.

Conclusions (2)

- Relation preconditions –governing capacity - policy output

  - No direct relation found governing capacity – policy output
    - › Limited empirical value of (self assessed) governing capacity

  - Strong relations preconditions – policy output
    - › Confirms value of governing capacity
    - › Confirms the importance of the preconditions
      - Only size of population (R-squared about 0.25)
      - Including other preconditions (R-squared > 0.5)
        - higher motivation of the administrative staff
        - more participation of citizens and businesses,
        - cooperation with other municipalities and governmental bodies.

Policy implications

Seems that there are possibilities to improve policy performance by improving their governing capacity.

Merging municipalities can help however…

A focus on less impact-sensitive options can help more

In particular:
- stimulate motivation of the local staff,
- improve participation citizens & local businesses,
- stimulate cooperation with other municipalities.

Further research

- Do more accurate variables and improvements of the operational model lead to better results?
- Maybe the empirical value of governing capacity can be proven when using other measuring methods.
- This study focused on the energy transition in the Netherlands
  - Are results the same for other policy-fields?
  - Will the same relations be found for other countries?