



UiO : **Centre for Technology, Innovation and Culture**
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Policy mix for Sustainability Innovation in Construction

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Background

- Gap in innovation studies literature - policy and policy change is not really covered in IS literature.
- The empirical field of construction – much is determined by regulation.

Research Questions

- *Which policy instruments affect innovativeness for sustainability in the construction sector, how do they interact, and do they change over time?*

Method

- Policy documents
 - White papers
 - Reports
- Interviews with industry experts
 - Policy actors
 - Industry actors
 - Professional organizations

Theoretical frameworks

- Starting point was the perceived lack of policy sensitivity in innovation literature.
- Policy studies
 - Instruments as the tools of government
 - Classification of instruments – static picture
 - Instruments must be considered by their contribution to the existing mix
 - How to analyze changes in policy mixes?

Theoretical framework cont.

- Types of instrument interaction
 - Mutually supportive
 - Mutually destructive
 - No relationship
- How do you analyze a mix of many?
 - How to analyze changes in policy mixes?

Conceptualizations of change

- Four processes of change that can be identified.
 - Substitution (completely new set of policy instruments)
 - Conversion (new instruments evolve, but goals stay the same)
 - Drift (Goals change, but instruments stay the same)
 - Layering (stacking of instruments – contradictory)

Coherency and Consistency

	Instruments consistent	Instruments inconsistent
Goals coherent	Policy replacement	Policy conversion
Goals incoherent	Policy drift	Policy layering

From [Kern and Howlett \(2009\)](#) p. 395

	Instrument	Content (Goal)	Who (level)
Regulative Instruments	Plan and Building act	The law regulates both planning and building processes. In terms of planning the law also regulates other environmental issues, such as conservation and waste. In terms of energy the goal is to establish minimum standards.	Ministry of local government and regional development/ Ministry of environment (National)
	Building codes (TEK10)	Specifies the technical requirements necessary to fulfil the demands of the Plan and building act. The technical demands on a buildings energy performance can be achieved through either elements minimum standards (such as specified u-values for walls, windows etc) or through total calculated building performance.	Directorate for building quality (National)
	Zoning laws	Zoning regulates where and what can be built. As well as mandatory district heating in some areas	Ministry of environment/ Agency for Planning and Building Service (National)
	Standards (NS 3700, NS 3701) ISO	The standards are deeply intertwined with the planning and building act because they specify how and	Norwegian standardization organization (National)
	Mandatory energy labelling system (ecodesign directive)	All buildings for sale or for rent must be labelled (on a scale from A to F) according to energy efficiency. The goal is to create a market incentive for energy efficient buildings.	Ministry of Petroleum and energy / Norwegian water resource and energy directorate (National / EU)
	Energy performance of buildings directive. EPBD (nearly zero)	The recast of the EPBD demands member states conform to "nearly zero" emissions from buildings by 2020. On-going debates as to what "nearly zero" might be in the national context.	National/ EU
	Construction Product Directive, CPD	Aim is to remove barriers to trade in construction products	EU
Financial instruments	Grants for knowledge development for energy efficiency concepts.	Grants for ambitious projects, which can serve as demonstration projects. Goal is to demonstrate possibility and to contribute to knowledge development in the field.	Ministry of local government and regional development / Norwegian State Housing bank
	Subsidies for single energy efficiency measures in buildings	Outspoken goal of stimulating demand and creating markets. Example of subsidised heat -pumps creating successful price reduction and independently functioning market. For office buildings – subsidies of up to 50% of the extra cost is available to developers.	Ministry of Petroleum and energy / Enova
	Inexpensive building-loans (Husbankens grunnlån)	Encourage projects to go beyond minimum standards especially for environmental standards and wheelchair accessibility.	Ministry of local government and regional development / Norwegian state housing bank
	Procurement (State and municipal (OFU kontrakter)	State (and municipal) procurement of ambitious building projects. Act as role model, supposed to stimulate demand and create good examples.	Public building procurement (schools, health care facilities, social housing projects etc.)
	Municipal loans and subsidies	Goal is economic burden sharing – easing cost of energy efficiency for property developers.	Municipalities
Information / network -type Instruments	Research funding	For example Zero Emission Building Centre, whose mission is to provide research, technical and other, useful to the construction industry. Also research on for example new materials or management systems.	Norwegian Research Council
	Bygg21	Broad public – private strategy, modelled on Egan reports?	
	Architectural solutions repository	Goal is to make "ready made" and pre-approved solutions available to planners and architects. Goal is to make it easier to apply energy efficiency measures	SINTEF BI
	Build up Skills	Continued education	EU
	Low-energy programme	Spread information about low-energy solutions by running web-site with quite a lot of information, as well as public speaking and courses across the country both for planners, architects and builders.	Collaboration between industry actors and policy and state actors
	Futurebuilt	Architectural exhibition focusing on demonstration projects in energy efficiency or environmental qualities.	Collaboration between industry actors and policy and municipalities.
	Fremtidens byer/ fremtidens bygder		Collaboration between industry actors and policy and municipalities
Subsidised energy consultancy for property developers	Subsidised energy consultancy service (sourced from technical consultancy firm Asplan Viak) to projects interested in energy efficient building.	ENOVA	

Regulative Instruments

- The defining feature of regulation is that they are authoritative – the controlled persons are obliged to act.
 - Very often they are backed by negative sanctions
- Subdivided into degrees of control they impose
 - Absolute prohibitions
 - Exemptions & permits

Financial Instruments

- Economic instruments make it cheaper or more expensive to undertake an action.
 - In cash or kind
 - Mass mediated or tailored
 - Includes allocation of resources such as infrastructure

Information based instruments

- Endeavors to influence people by transfer of knowledge
 - Persuasion as well as “information”
 - No cohesion is involved (Manipulation?)
 - Cash or kind (kind considered more constraining)
 - Mass mediated or tailored
 - Often meta-policy
 - Includes demonstration projects



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Thank you !

