

What is the “right” policy mix for knowledge transfer?

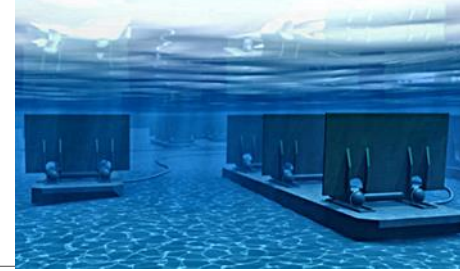
Margarida Fontes

How to address this question ?

- Insights from research on:
 - process of policy formulation and implementation targeting the development/diffusion of a new technology
 - its interplay with the development of the new system
- Context: TIP/OECD project on *Systems Transformation*
 - How enabling technologies can bring about large scale transformation of systems that fulfil societal functions
 - Role of systemic policies, focus on set of tools: demonstrators, smart regulation, cluster policies, roadmapping, ...



Relevance of case



- Ocean energy technologies

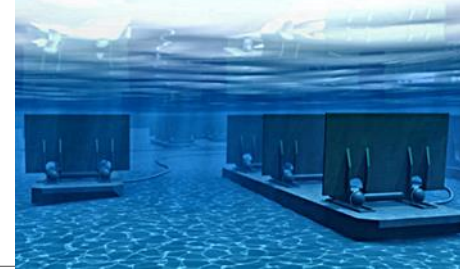
Potential to drive transformation of sea-related industries

- combine new & existing activities (align different actors)
- established actors to acquire new competences/resources
- technologies still immature; uncertainty of outcomes

↘ Extensive knowledge circulation and (joint) learning in technological, organisational and cultural terms



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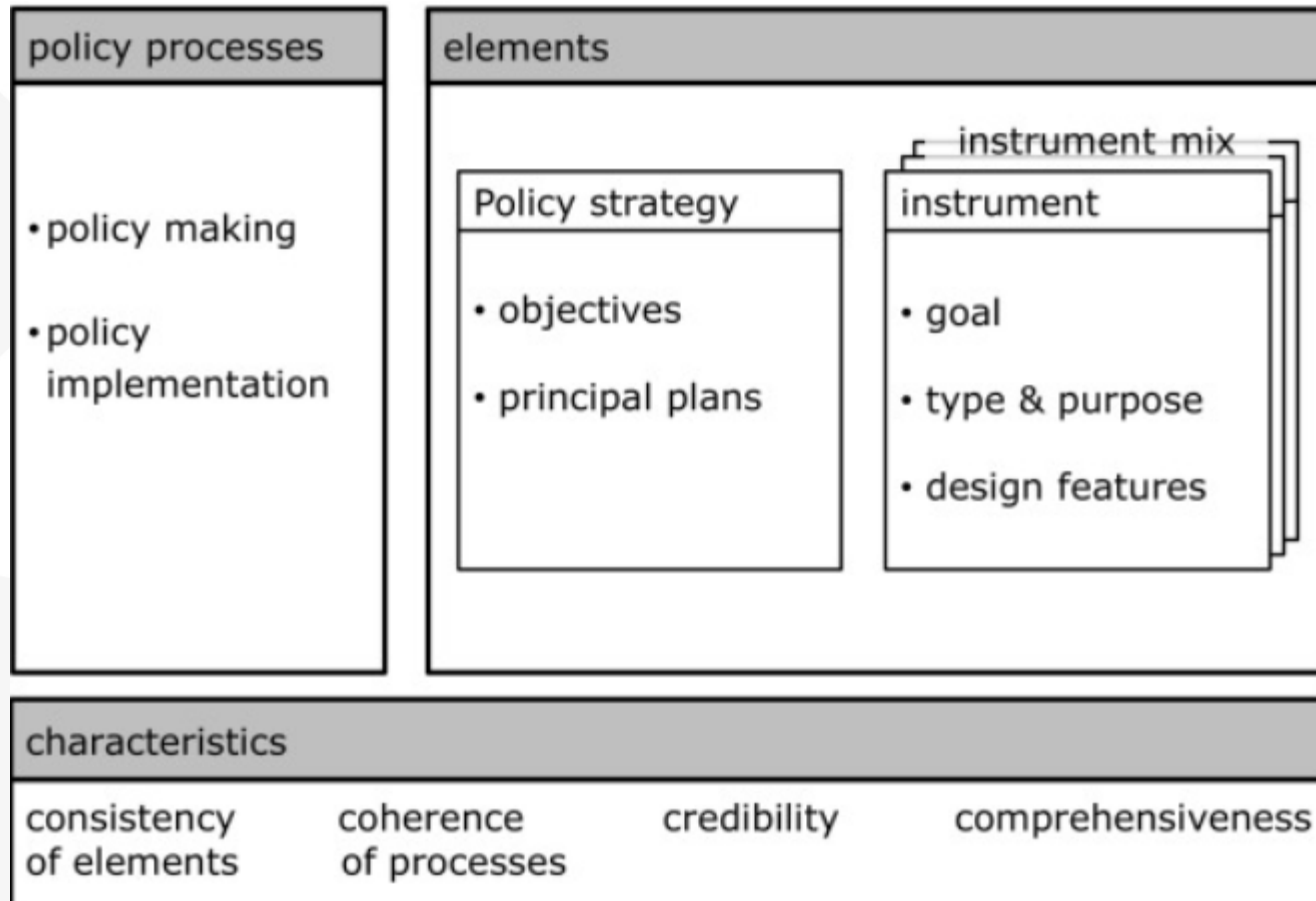
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Policy mix concept



Rogge & Reichardt (2016)

What did we learn ?

Mid-2000s

Decision to support development of technology and promote creation of an industrial cluster

- Strategy
- Instrument mix
- Policy processes

Policy Strategy

- Define objectives to achieve
- Match broader country goals / societal challenges
 - Provide a vision (of future benefits)
 - Define a long term horizon
 - Offer legitimacy

Consultation with core system actors
(strong actor advocacy)

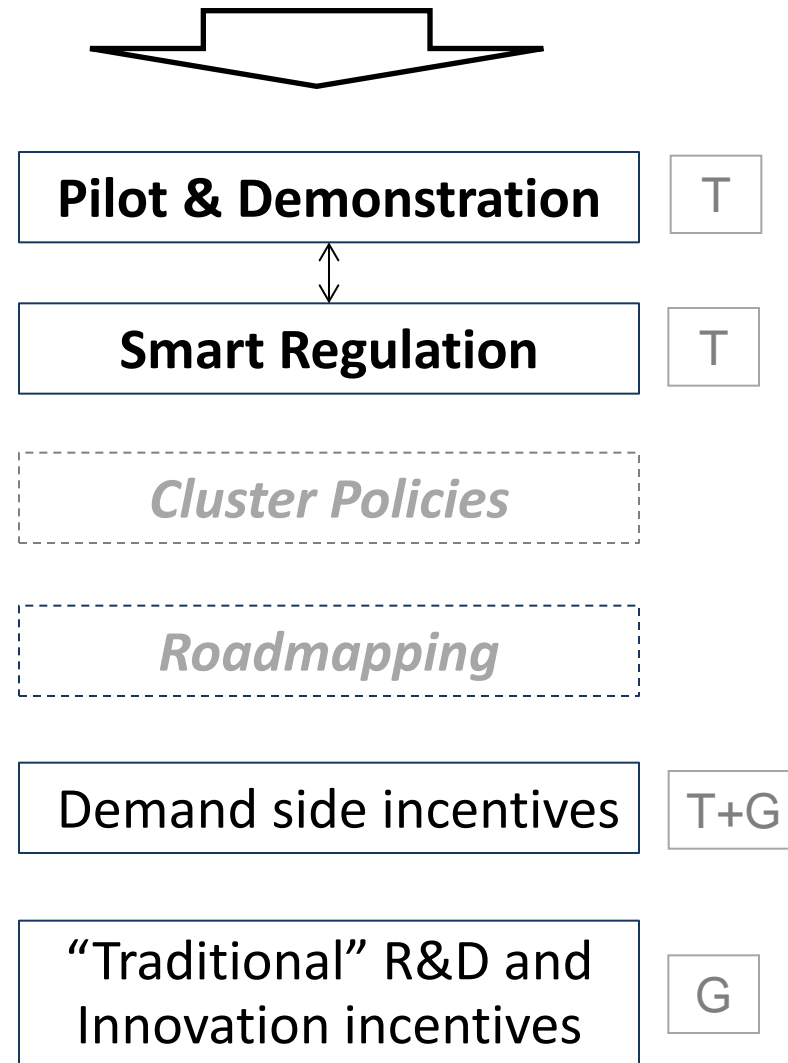
Policy Instruments

- Not one recipe for all
 - *mix* of policy instruments adequate to stage of the technology / contextual conditions
- Immature & complex technologies / variety of actors
 - Experimentation* (real life) as locus for:
 - Actor alignment
 - Knowledge exchange
 - Learning (technologies & modes of organisation)

Instrument mix (design)

Challenges:

- Directly support complex & costly test and demonstration activities
- Create conditions for “external” actor awareness & involvement
- Encourage relations between “distant” actors
- Sustain and strengthen (joint) learning processes
- Address new regulatory problems
- Create early market opportunities
- Provide legitimacy
- Promote acceptance



Policy processes

- Shaped by multiplicity of actors: different interests (and capacity to voice them)
- No “blank sheet”: compatibility between new and existing instruments (and goals)
- Emergent nature (changing conditions)
- Impact of “external shocks”
 - ↳ **Effects on effectiveness of policy formulation and *implementation*** need to carefully considered

Some problems identified

- **Comprehensiveness in design**
 - Awareness of need vs. actual instrument design: missing elements
 - Right balance between targeted & generic instruments
- **Implementation problems**
 - Complexity: (difficult) coordination between government areas
 - Different implementation paces: interdependences; synergies lost...
- **Inflated expectations at political level**
 - Reliance on over-optimistic actor promises
 - Acceptance of uncertainty in outcomes (problematic...)
- **External shocks & policy cycles**
 - Vulnerability of emerging fields to periods of “downturn”
 - Lack of stability – effects on actors confidence & motivation...





Systemic policy instruments

Policy Strategy	<p>Fit into country strategic priorities – emerging technologies contribute to broader goals: clean energy transition and development of a sea economy.</p> <p>Objectives - achieve first mover advantages in emerging field where competences exist; develop new industrial cluster combining new activities and revitalisation of declining ones.</p>
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Instrument mix	
Pilot & demonstration	<p>Experimental development identified as central given the stage of technology and particular problems it confronts in this field.</p> <p>Experimental facility that encompass different types of projects ta different stages and is associated with a number of objectives in terms of learning from experimental activities; combined with (generic) financial support mechanisms for demonstration projects.</p>
Smart regulation	<p>Coherent regulatory framework that seeks to address the main regulatory problems arising at the innovation system level in a coordinated way: need to articulate different areas and consider the requirements of different stakeholders; need for coordination between different government departments.</p>
Articulation between regulation and experimental activity	<p>Experimental facility acts as focal point for policy, combining in a novel way the function of physical infrastructure for test and demonstration with the overall coordination of the activities related with energy production.</p>
Demand side incentives	<p>Special (feed-in) tariffs & priority of dispatch: reduce uncertainty to investors; avoid competition from established energy technologies.</p>
Cluster policies	<p>Creation of an industrial cluster around technology (involving new and existing industries) as policy goal.</p> <p>But no specific instruments were devised, neither to motivate companies in complementary fields (industry development goal) nor to promote cluster development.</p>
“Traditional” R&D support	<p>Generic mechanisms to support public, private and collaborative R&D: generic programmes at national level (not specific for the technology/ field).</p> <p>Combined with access to European RTD programmes.</p>
“Traditional” innovation support	<p>Mechanisms to promote RET development in general.</p> <p>Generic mechanisms to support innovation (not specific for technology / field).</p>