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Policy lessons for eco-innovation business models

Preliminary findings from the OECD case studies

Dr Asel Doranova, Technopolis Group

The Role of Business Models in Green Transformation
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Background: Public policies for eco-innovation:

- Policies are central in promoting radical and systemic eco-innovations
 - Literature showed that many policy aspects matter:
 - *National policies*
 - *Local policy support*
 - *Targeted governmental initiatives*
 - *Creating framework conditions & addressing market failures*
 - *Clear targets & regulatory stability*
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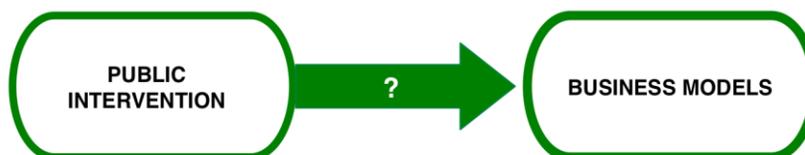
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Public policy for BM for eco-innovation: Framework

- BM is rarely a sphere of government intervention
 - Virtually all policies influencing company behaviour may have bearing on their business models
 - *general BM or its components*
 - We suggest to differentiate policies in regards to:
 - *Impact on BM: direct versus indirect*
 - *Aim to support BM: intended versus unintended*
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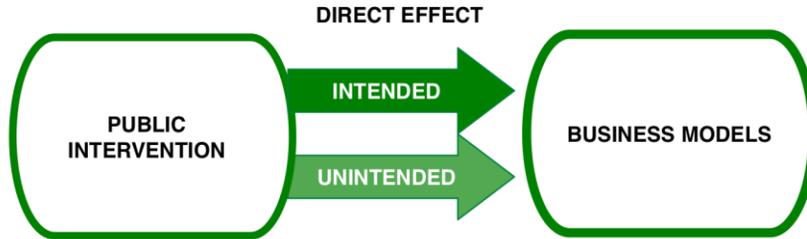
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Public policy for BM for eco-innovation: Framework



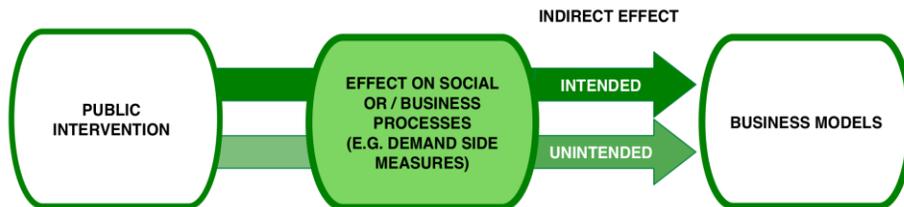
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Public policy for BM for eco-innovation: Framework



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Public policy for BM for eco-innovation: Framework

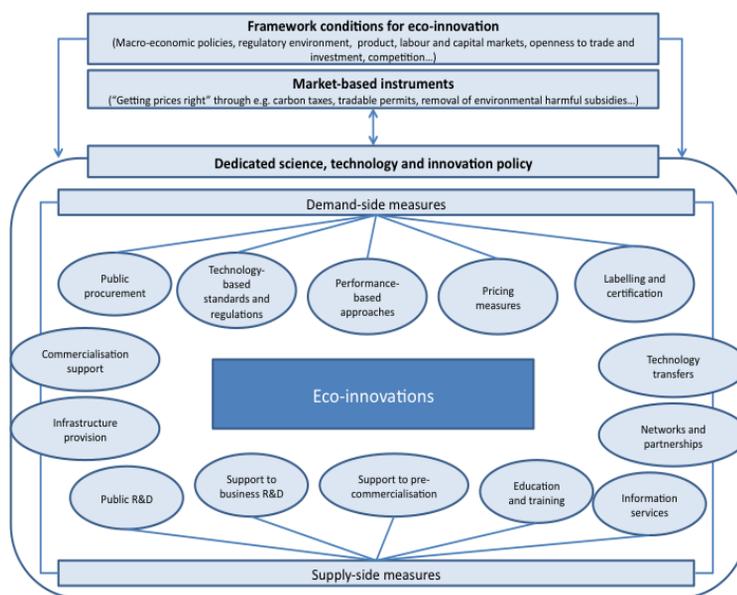


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Policy impact on BM for eco-innovation

| | Intended | Unintended |
|----------|--|--|
| Direct | Measures with potentially direct impact and with an explicit aim to influence business models (e.g. supply side measures supporting ESCO or car sharing) | Measures with potentially direct impact, but without an explicit aim to influence BM (e.g. collaborative industrial R&D grants) |
| Indirect | Measures with potentially indirect impact and with an explicit aim to influence business models (e.g. eco-vouchers allow customers to purchase “green products” indirectly encourage companies to enter green markets. | Measures with potentially indirect impact and no explicit aim to support business models (e.g. environmental regulations imposing fees on waste generation have indirect incentive effect on waste re-use based business models) |

Policy measures for eco-innovation: OECD framework



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Addressing the role of policy in the OECD case studies

- Whether any government policy supported the eco-innovation
 - Whether any government policy had negative impact
 - Five most important policy instruments potentially supportive for eco-innovation
 - *priority using 1-5 scale (1 = the most important; 5 = the least important)*
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Preliminary empirical results

- In majority of cases (65%) of the cases policies and government intervention played positive role:
 - *EU, national, regional, municipal support programmes (funding, institutional support)*
 - *Stricter environmental standards, regulatory pressure*
 - Negative impact mentioned in around 1/4 cases
 - *Lack of national development strategy and programmes (also insecurities in crisis times)*
 - *Red-tape in the support programmes*
 - *Parallel initiatives disturbing the business case*
 - *Averse incentives related to resource pricing (e.g. water)*
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Preliminary results: Market-based policy instruments

| Policy instrument | Eco-innovative products & processes | Waste regeneration systems | Renewable energy based systems | Efficiency optimization by ICT | Functional sales and services | Innovative financing/ESCO | Sustainable mobility | Industrial symbiosis | Eco-cities |
|---|-------------------------------------|----------------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------|----------------------|----------------------|------------|
| Eco-tax, carbon tax | *** | **** | * | *** | | ***** | | ** | ***** |
| Cap and trade scheme | | ** | ** | | | *** | | | |
| Removal of harmful subsidies (e.g. fossil fuel subsidies) | | * | | | | | | | |

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Preliminary results: Supply-side policy measures

| Policy instrument | Eco-innovative products & processes | Waste regeneration | Renewable energy based systems | Efficiency optimization by ICT | Functional sales and services | Innovative financing/ESCO | Sustainable mobility | Industrial symbiosis | Eco-cities |
|---|-------------------------------------|--------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------|----------------------|----------------------|------------|
| R&D funding and support | ***** | ***** | *** | ***** | | | *** | *** | *** |
| Business development funding and support | *** | | ***** | **** | ***** | | **** | ** | ** |
| Support for testing and demonstrations | ** | ** | **** | | *** | **** | ** | * | * |
| Education and training | * | | * | * | | * | | | * |
| Information brokering and advisory services | | | ** | | | | | | |

Preliminary results: Demand-side policy measures

| Policy instrument | Eco-innovative products & processes | Waste regeneration systems | Renewable energy based systems | Efficiency optimization by ICT | Functional sales and services | Innovative financing /ESCO | Sustainable mobility | Industrial symbiosis | Eco-cities |
|--|-------------------------------------|----------------------------|--------------------------------|--------------------------------|-------------------------------|----------------------------|----------------------|----------------------|------------|
| Regulations on harmful substances and activities | *** | ***** | **** | ** | **** | | | * | *** * |
| Perform. standards, labelling, certification | **** | * | ** | ** | | ** | | ** | * |
| Public procurement | * | | * | | * | | * | | |
| Consumer subsidies and pricing | * | | | | | | * | | |
| Support for technology transfer | * | ** | * | | | | | | |
| Provision of enabling infrastructures | | | | *** | | | ***** | | ** |
| Standardisation of technical elements | * | | * | | | | | | |

Preliminary results: Cross-cutting policy measures

| Policy instrument | Eco-innovative products & processes | Waste regeneration systems | Renewable energy based systems | Efficiency optimization by ICT | Functional sales and services | Innovative financing /ESCO | Sustainable mobility | Industrial symbiosis | Eco-cities |
|--|-------------------------------------|----------------------------|--------------------------------|--------------------------------|-------------------------------|----------------------------|----------------------|----------------------|------------|
| Support for networks, partnerships & matchmaking | * | | * | *** | ** | | * | | *** |
| Foresight, roadmapping, scenario development | | | * | * | | | **** | *** | |

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Results: high impact policy measures

| | Intended | Unintended |
|-----------------|--|---|
| Direct | Business development funding <i>(renewable energy, functional sales & services, ICT, mobility, new products & services)</i> Provision of enabling infrastructure <i>(mobility, ICT)</i> | R&D support <i>(new products/service, waste regeneration, ICT)</i> Testing & demonstration support <i>(renewable energy, finance schemes)</i> |
| Indirect | Performance standards, labelling, certification <i>(new products & services)</i> Support for networks & partnership <i>(ICT, eco-cities)</i> | Eco- & carbon taxes <i>(finance scheme, eco-cities, waste regeneration)</i> Regulations <i>(waste regeneration, renewable energy, eco-cities)</i> |

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Results: Role of policy measures

- Market-based instruments
 - *Environmental and carbon taxes*
- Supply-side measures (mostly funding based)
 - *R&D, Testing & demonstration activities,*
 - *Early-stage business development*
- Demand-side measures
 - *Performance standards, labelling, certification*
 - *Regulations on harmful substances and activities*
 - *Infrastructure provision*
- Cross-cutting measures
 - *Foresight, roadmap scenario*
 - *Support for networks & partnership*

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Reflection: Impact of policies

- Policy matters!
 - Policy has an indirect impact on BM for eco-innovation even if in most cases it does not address business models explicitly
 - Direct measures (*e.g. business development funding, enabling infrastructure support*) seem to be important and can be designed as a part of the policy package for BM support
 - Indirect measures (*e.g. regulations, eco-taxes, R&D support, networking*) prove to be equally important in creating enabling environment for eco-innovations
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Preliminary lessons:

- Public policies should explicitly take into account the dimensions of business model, value creation, value chains and values system.
 - Policy measures can potentially address one or several components of the BM.
 - Supply-side instruments can be relevant for addressing company activities and resources (upstream value-chain)
 - Demand-side instruments can also be relevant on downstream part of value chain.
 - Not single instrument but a mix/system of policies needed (*incl. direct and indirect; targeting business, R&D, environment*)
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Thank you

technopolis **group** has offices in Amsterdam, Ankara, Brighton,
Brussels, Frankfurt/Main, Paris, Stockholm, Tallinn and Vienna
