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Make no little plans

How incumbents engage in system-building as opposed to pioneers

Introduction

Incumbents play a important role in sustainability transitions. Often they are said to slow down such processes. However, what happens when incumbents see potential in a technological innovation and decide to push for it with their resources?

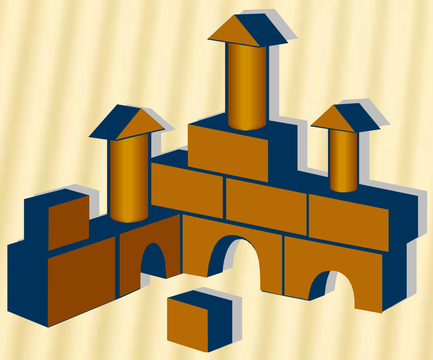
A recent strand in innovation literature studies how actors can engage in system-building: 'the deliberate creation of supportive system-structures to support technological development' (Musiolik & Markard, 2011). Examples are e.g. regulations, subsidies, collective expectations, and technical standards.

We apply this lense to the case of biogas and biomethane in the Netherlands. This used to be a field of pioneers, but in recent years incumbents have moved in.

Previous research has focused on how pioneers try to build a system for their technology. In this study we investigate *how incumbents engage in system-building for biogas as opposed to the biogas pioneers*, and *how this correlates with innovation system development.*

Methodology

- Analysis of the following data sources for system-building activities and subsequent categorization based on theoretical framework.
- 250 news articles on biomethane development and system-building by incumbents.
- Scientific literature and supplementary news articles on biogas development and system-building by pioneers.
- Other sources such as branche organizations publications, business publications, etc.
- 15 expert interviews.



Conclusions

Firstly, the incumbents' support for biomethane correlates with changes in the structure of the renewable energy subsidy scheme. We observe that the subsidy system gets aligned to the needs of the biomethane option, corresponding to the incumbents' preferences. The changes that happen in this time period are more fundamental than anything that happened during the pioneer-era, suggesting that incumbent system-building is more effective than pioneer system-building.

Secondly, there are qualitative differences in the system-building between incumbents and pioneers:

a. Pioneers are mostly focused on technical and practical issues, whereas incumbents focus on marketing activities (legitimacy).

b. Pioneers activities have a bottom-up character, whereas incumbents work in a top-down manner. This resembles the bricolage vs. breakthrough categorization.

c. Pioneers focus on cooperation with peers, whereas incumbents focus on cooperation between different groups of organizations.

d. Pioneers organize their lobby on the basis of remaining bottle-necks (problem-focus), whereas incumbents sketch a promising future (opportunity-focus).

e. Pioneers lobbying efforts happen in reaction to existing policy schemes, whereas incumbents propose entirely new policy schemes.

f. Pioneers media activity is limited to 'status updates' in agricultural media, whereas incumbents actively convey 'big visions' to a broader audience.

g. Incumbents know better how to link their goals to general policy goals (creating legitimacy).

h. Incumbents have better access to policy makers.

Theory (under development)

We work on a theoretical framework that highlights the differences in system-building between incumbents and pioneers. The following bodies of literature provide starting points:

- System-building literature distinguishes 5 types of **activities**: knowledge creation; knowledge diffusion; marketing and communication; lobbying; and structuring of the field (Musiolik & Markard, 2011).
- Garud & Karnoe (2003) identify two styles of 'path creation': **bricolage and breakthrough.**
- Hargrave & Van de Ven (2006) teach us about building **legitimacy:** the presentation of an innovation as desirable, proper and appropriate within a widely shared system of norms and values as well as gathering endorsements and support of key actors

Preliminary findings

System-building activities (categories adapted from Musiolik & Markard, 2011)

	Pioneers	Incumbents
Information exchange and knowledge creation	* Organization of workshops, study days, symposiums.	* Setup of large research programmes on the future role of gas, supported by public funding. * Organization of information days and sharing of policy and research reports.
Structuring of emerging field	* Establishment of technology-specific branche organizations.	* Establishment of network organizations with a very broad member base. * Setup of a certification scheme to support market formation.
Lobbying	* Lobby for current bottlenecks, e.g. certain regulations: positive list, tax exemptions; and for subsidy, extension of subsidy, higher subsidy.	* Lobby for a large role for biomethane in the future, e.g. for different subsidy system, new subsidy categories.
Marketing and communication	* Media presence mostly in agricultural newspapers. * Knowledge center funded with private money.	* Frequent media presence in national and regional newspapers. * Promotion of biomethane through soccer club FC Groningen * Knowledge center funded with public money.

How did the innovation system change?

- Ministry of Economic Affairs shifts its stance from 'biomethane is an expensive option' to 'biomethane is a cheap option'.
- Renewable energy subsidy system has become much more favorable for gas, due to a new measurement method for renewable energy.
- Subsidy system no longer has specific budgets for every energy type, but flows to the cheapest option, which is now gas.
- Subsidy tariff for biomethane has been raised substantially.
- Subsidy system now favors large scale plants over small scale plants, threatening the viability of the latter.
- Renewable energy system now allocates money to so-called 'biomethane hubs', as requested by the incumbents.
- Ministry of Economic Affairs co-funds biomethane certification scheme proposed by incumbents as well as a knowledge center.

References

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