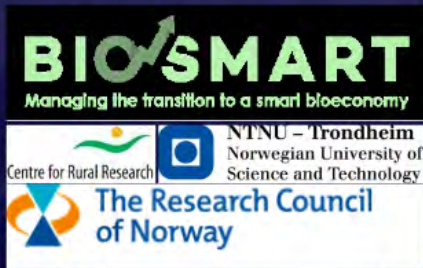


Future images and expectations of the bio-economy: Survey of the Norwegian bio-sectors

NoRest-conference in Copenhagen 25th-26th of October 2016
Paper-team: Lillian Hansen, Hilde Bjørkhaug, Magnar Forbord, Brit Logstein and Alexander Thanem



Main findings

- Positive view of energy sector after 2016
- High priority of energy sector in 2020
- Positive view of supporting the energy sector in the future
- High priority of energy sector in 2020
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- High priority of energy sector in 2020

Spin-off:

- Development of a methodology for measuring expectations
- Development of a methodology for measuring expectations
- Development of a methodology for measuring expectations

Further findings and implications

- Expectations to emerging energy sources a potential barrier
- Coordination of regimes and niches needed?
- Exploring expectations - a tool for long term policy planning?

Words of Encouragement

- ...
- ...
- ...

Measuring expectations using a survey for the bio-sectors

- The study is designed to assess the views and expectations of the Norwegian bio-sectors - (producers and consumers)
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Operationalisation

- ...
- ...
- ...



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BIOSMART
Managing the transition to a smart bioeconomy

Centre for Rural Research | NTNU - Trondheim
Norwegian University of Science and Technology

The Research Council of Norway



Main findings

- Needs to be strong sector-wide partnerships in cross-sectoral clusters
- Policy and job cooperation for the future, controlling for other variables
- Emphasis on the importance of industrial clusters
- The role of Transnational Social Innovations in "biopolitics" needs to be explored

Again we ask:

Do you believe that the transition to bioeconomy will be a success in the long run?

• If yes, partially, but not fully, because of the complexity of the transition, the need for more resources, and the need for more time to develop the necessary infrastructure

Further

- Expect source
- Coordination needed
- Explore long term

Towards a Bioeconomy

• The Bioeconomy is a concept that is still in development and is not yet fully defined. It is a broad concept that encompasses a wide range of sectors and activities.

Measuring expectations using a survey for the bio-sectors

- Reached a high number of stakeholders and individual experts in their respective bio-sectors - 100 respondents
- Based on the European Commission's Bioeconomy Panel (see EU, 2018) for: (i) industrial sectors, (ii) the scientific community, (iii) farmers, (iv) forestry and (v) fisheries/aquaculture
- Private commercial industries

Operationalisation

• The survey was designed to measure the expectations of stakeholders in the bioeconomy. The survey was conducted in 2015 and 2016.

• The survey was conducted in 2015 and 2016. The survey was conducted in 2015 and 2016.

Towards a Bioeconomy

- Needs participatory governance with relevant stakeholders
- Awareness of political context and power relations
- The interpretation and mobilization of actors
- A focus on the pre-development and take-off phase of the transition

TH
"A bioeconomy can be defined as an economy where the products for materials, chemicals and energy are derived from renewable resources."
-McCormick and K...

The work of Bugge, ...
bioeconomy concept
vision, a bio-resour...

However
• further
• not su...

Still being
inclusion

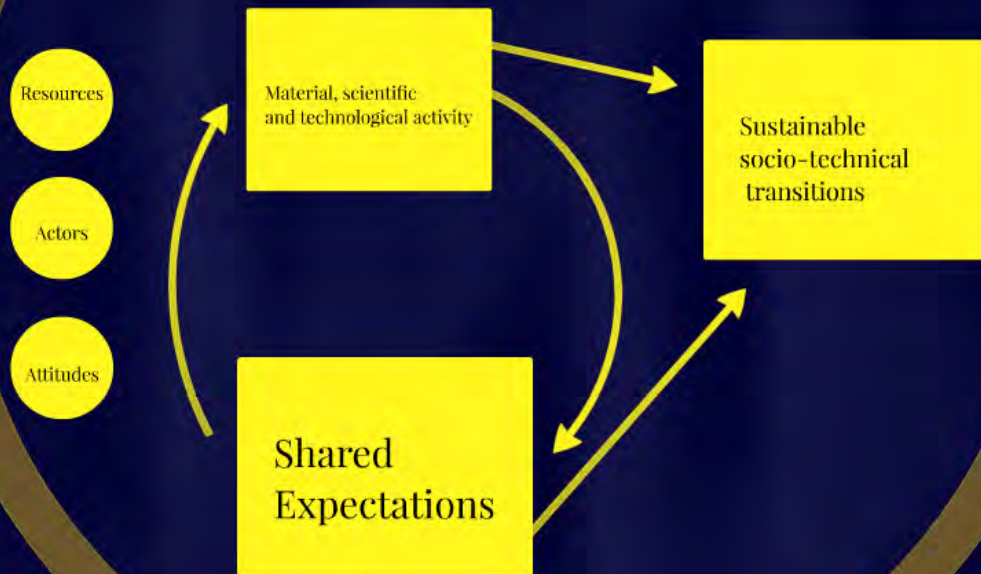
Measuring expectations and drivers of change

[Expectations guiding and coordinating socio-technical system change]

-Input from several research fields:

- Sociology of expectations: expectations as self-fulfilling prophecies:
- Innovation literature: only innovations where there are mutually aligned strategies are those that will “survive”
- Transition management through ‘guiding visions’ by
 - 1) giving plausible alternatives 2) showing the problems that need to be solved 3) a stable frame for thinking in the same manner or monitoring progress 4) get certain types of actors into networks, and excludes others 5) a symbol used for attracting resources outside the core of a regime.

System level change enacted through coordination of ...



Two main research questions guide this research:

(1) what degree of expectations do the biosectors have to the bioeconomy, are there sectorwise expectations

(2) and to what degree are biological resources, cooperation and concern for sustainability associated with these expectations.

Measuring expectations using a survey for the bio-sectors

- Reached a high number of stakeholders, and individual experts in their respective bio-sectors – 1315 responded
- Based on the European Commission's Bioeconomy Panel (see EU, 2012b: 16): (1) industrial sectors (2) the scientific community, (3) farming, (4) forestry and (5) fisheries&aquaculture
- Private/commercial industries



Operationalisations

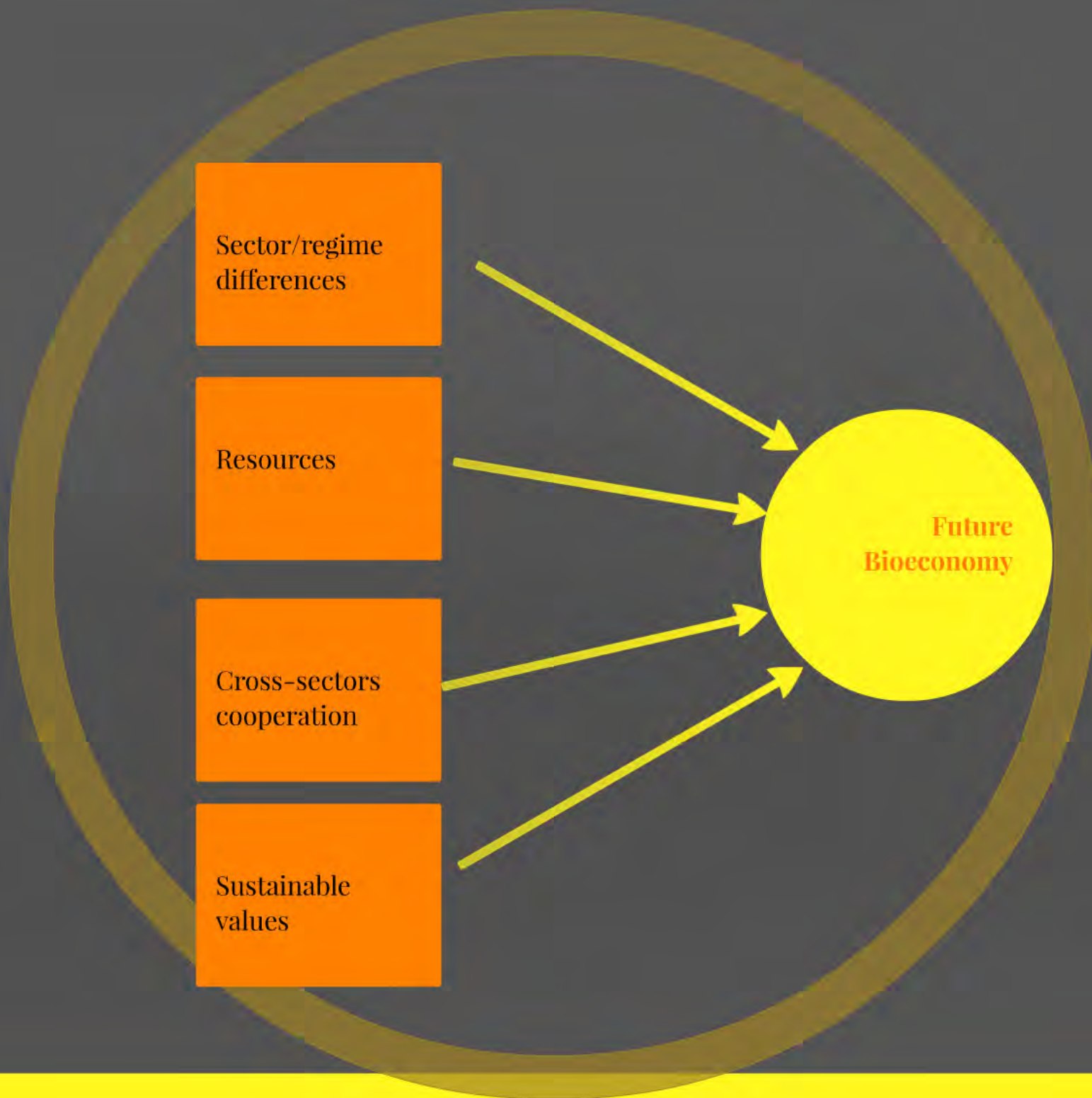
Measuring the potential for a Future Bioeconomy through expectations to:

- **Belief/motivation in contributing to a future bioeconomy (expectations to one's own business)**
- Production and demand for biomass for different purposes in the future (context expectations)

Again we ask:

- To what degree do the biosectors see themselves as contributors in the future Bioeconomy?
- When controlling for individual resource factors of age, education level and income, are high expectations to the bioeconomy determined by special types of resources and sector-cooperations today?





Sector/regime
differences

Resources

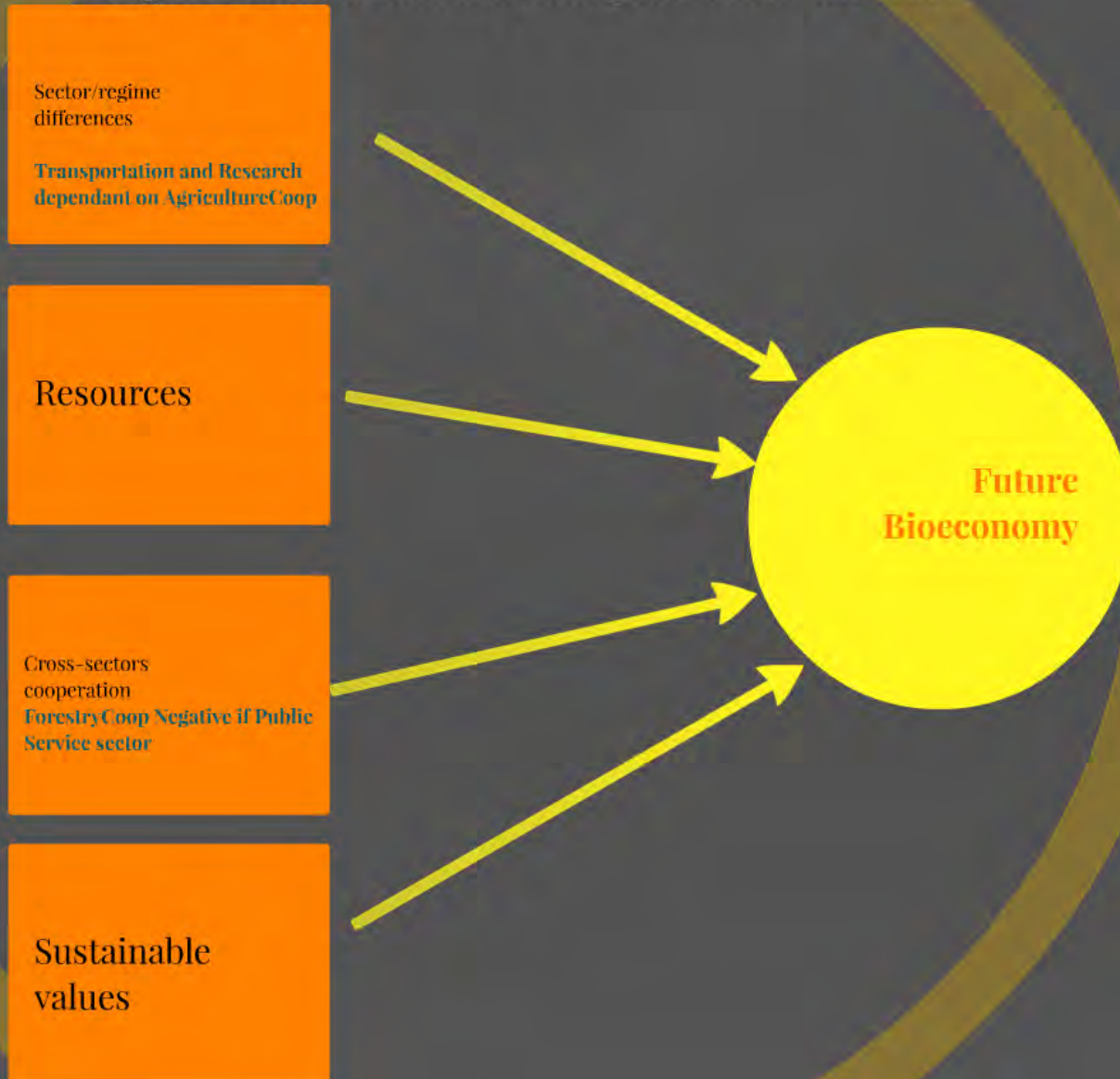
Cross-sectors
cooperation

Sustainable
values

**Future
Bioeconomy**



Negative associations and potential barriers



Main findings

- Seems to be strong sector-wise variations in expectations—different regimes
- Plants and fish empowering the actors, controlling for other variables
- Cooperation with agriculture an important factor
- The role of Transportation/Retail of importance – an "integrating" regime?

Further findings and implications

- **Expectations to competing energy sources a potential barrier**
- **Coordination of regimes and niches needed?**
- **Exploring expectations - a tool for long term policy planning?**

Thank you for your attention !

Lillian Hansen, 25th of October 2016
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