



Trøndelag
fylkeskommune



PUBLIC-PRIVATE COLLABORATION IN A CIRCULAR ECONOMY

SINTEF Circular Economy Conference, Trondheim 31 May 2018

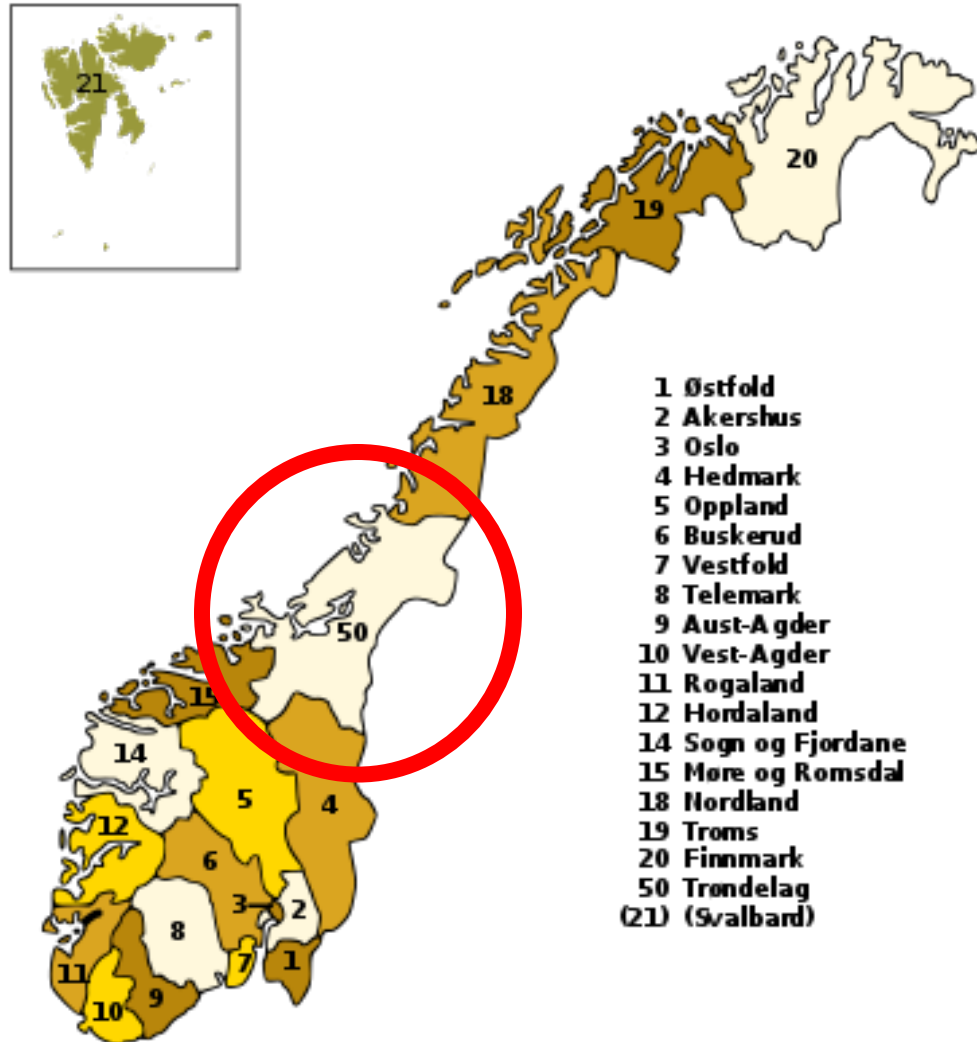
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Business Development Department
Trøndelag County Administration

OUTLINE



1. Perspective: System innovation and the role of regional public authorities
2. Example: How to facilitate regional economic development in the circular economy? Thamsklyngen in Trøndelag
3. Suggestions

WHAT IS A COUNTY?

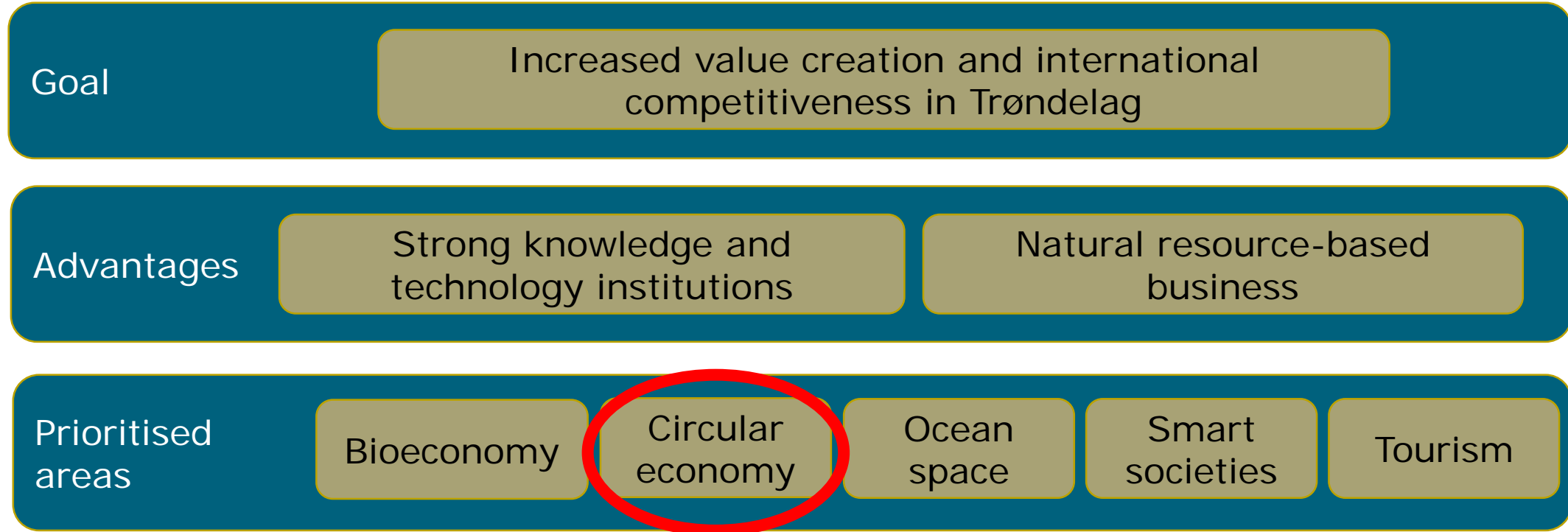


- Middle level in the public sector, between national and municipal governments
- Main responsibility is to develop the region through
 - Education
 - Culture
 - Business
 - Transport
 - Roads

1. PROVIDE DIRECTION TO REGIONAL DEVELOPMENT



- Trøndelag's strategy for innovation and value creation:



2. MOBILIZE LOCAL COMMUNITIES



3. COORDINATE PUBLIC FUNDING



Innovasjon Norge

Finansiering

Forprosjekt sirkulærøkonomi

Har din bedrift planer knyttet til sirkulærøkonomi? Vi støtter prosjekter med nye løsninger der ressurser gjenbrukes i nye produkter og tjenester.

Søknadsfrist 15. september 2018

FOTO: Foto: Thinkstock



NTNU Studier Studentliv Forskning Kalender Om NTNU

Forskning / Tematiske satsingsområder 2014-2023 / Bærekraft

NTNU BÆREKRAFT

Tematisk satsingsområde 2014-2023

Interreg Baltic Sea Region

Interreg Sverige-Norge

EUROPEISKA UNIONEN

Europeiska regionala utvecklingsfonden

SINTEF

Sirkulær økonomi

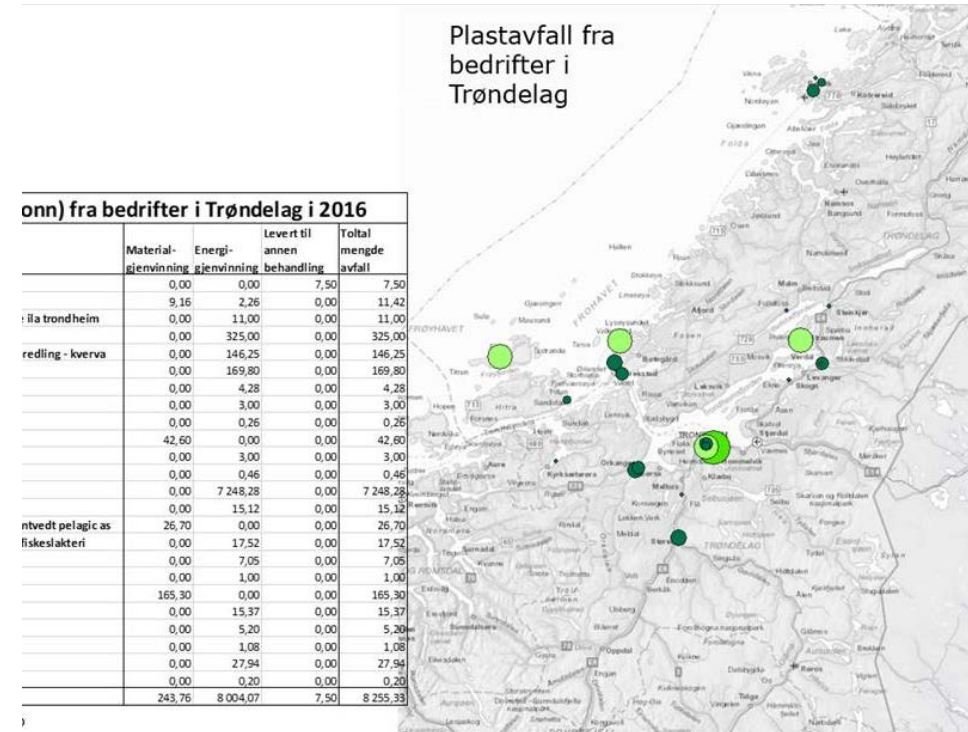
WHERE TO START?



What we want:

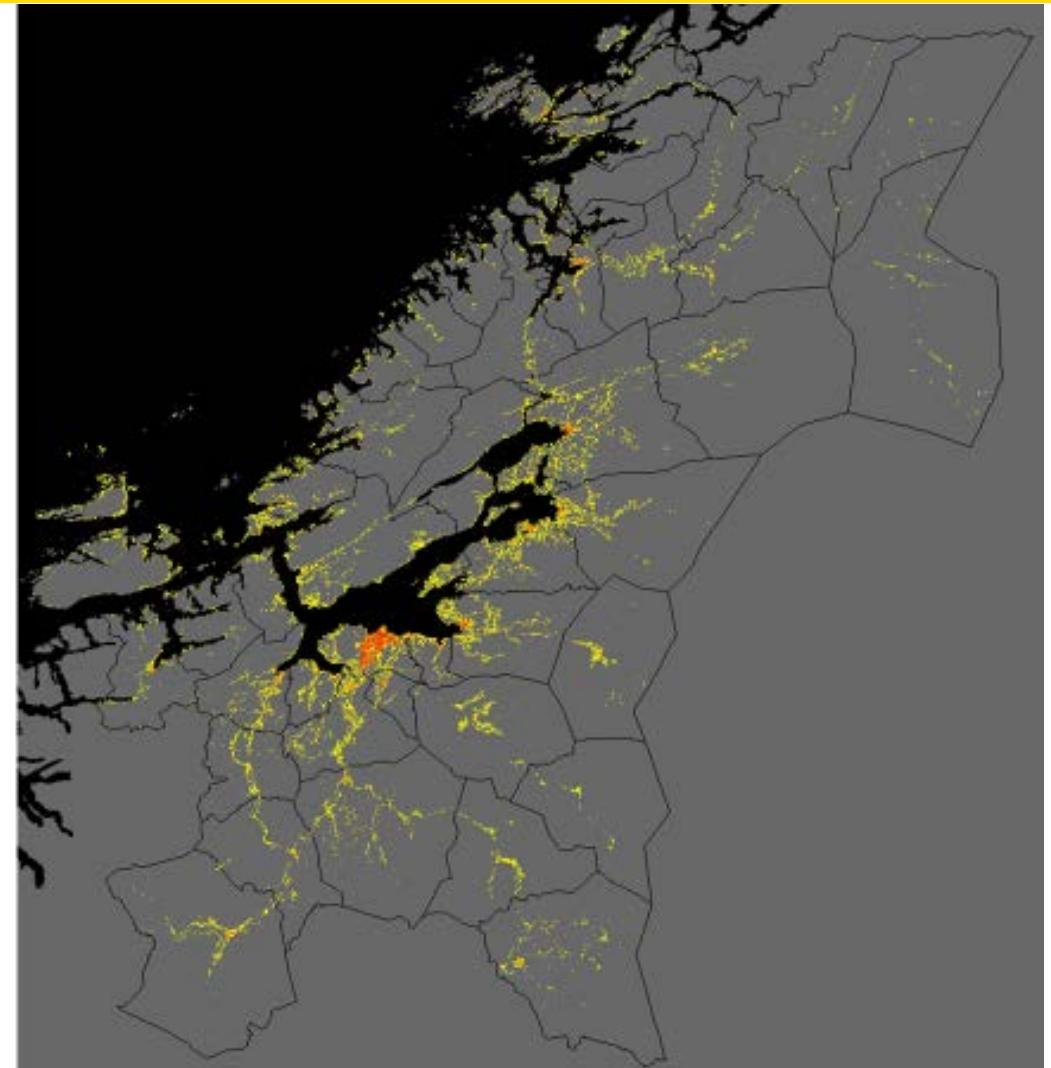
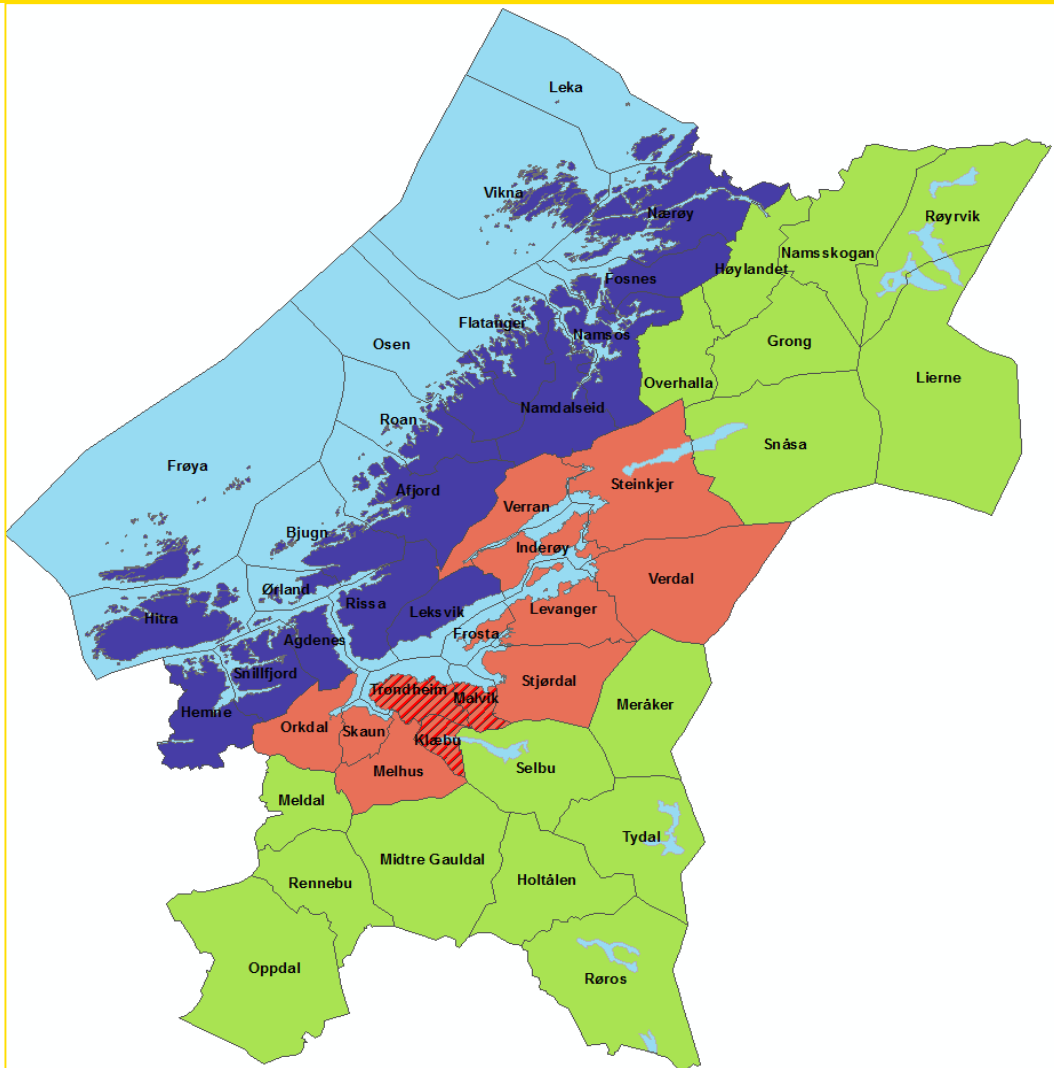


What we have:



Source: Daniel Müller, NTNU Ind.Ecol

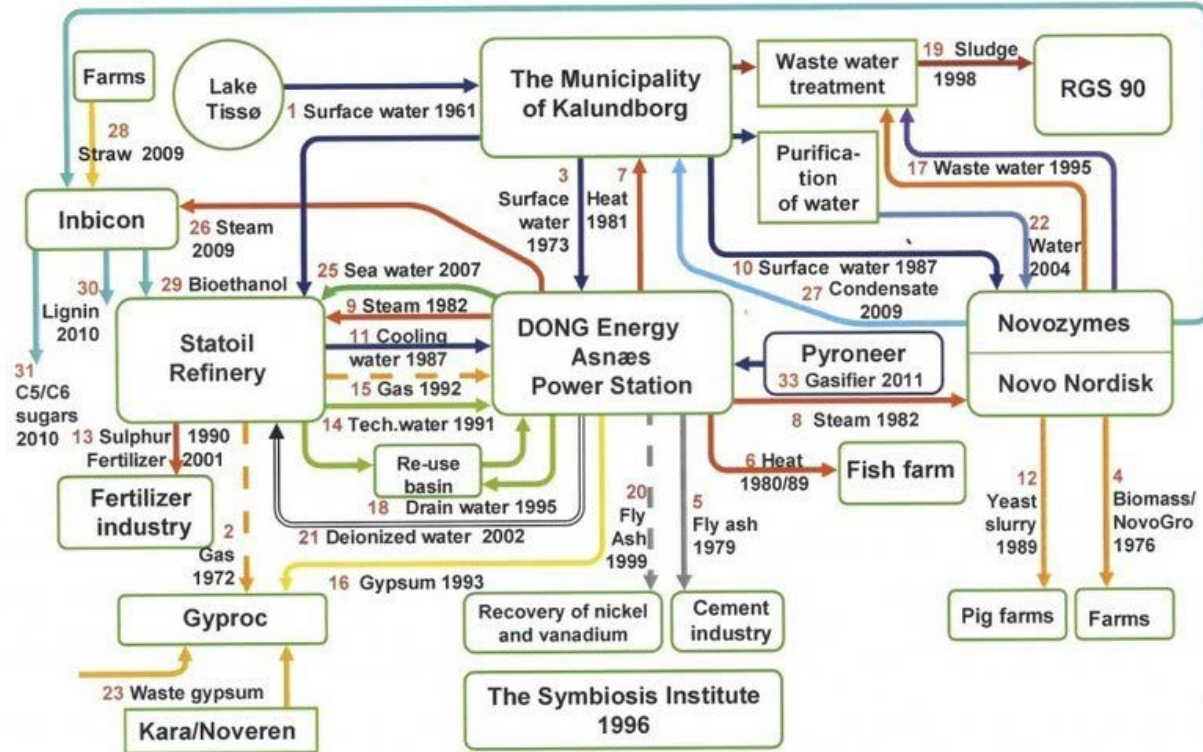
STEP 1: BUILD ON STRENGTHS



STEP 2. IDENTIFY BEST PRACTICE



Source: Interreg BSR Stars S3



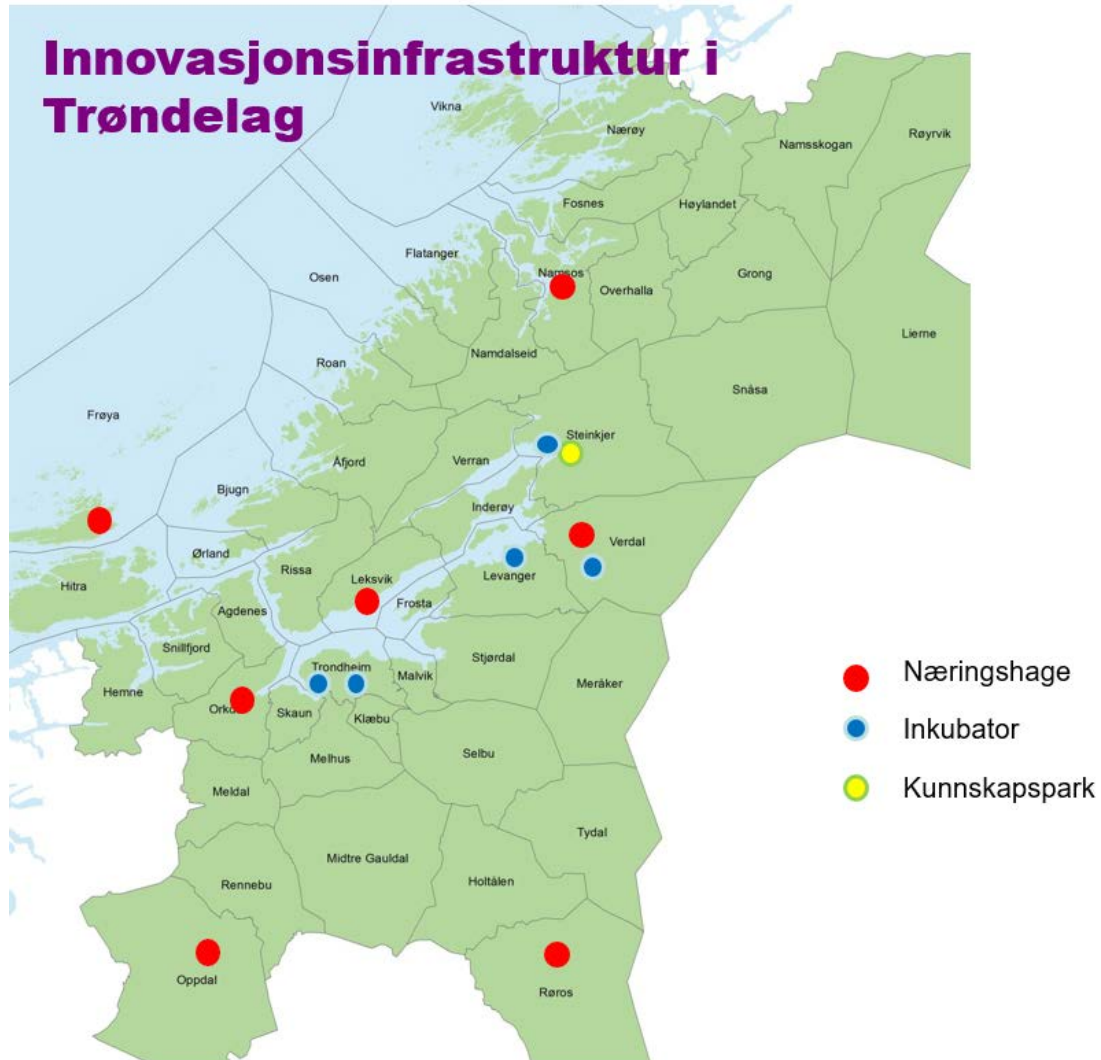
Source: Symbiosis Center Denmark

STEP 3. FIND LOCAL POTENTIAL



Photo: Åge Hojem

STEP 4. MOBILIZE THE LOCAL INNOVATION SYSTEM



- Business gardens
- Incubators
- Knowledge parks

And:

- Municipalities
- Interest organisations
- Industry associations
- Chambers of commerce and industry

STEP 5. BUILD CAPACITY AND A TEAM OF «TRANSLATORS»



Source: <http://www.orkdalsregionen.com/om-oss.html>

STEP 6. ESTABLISH LEGITIMACY AND LOCAL OWNERSHIP



Samarbeidet mellom daglig leder Lars Krogh i Isfjord Norway og leder for Con-forms avdeling i Orkanger, Ole Henrik Kvåle trekkes fram som eksempel på en-til-en-samarbeid i Orkdal. Nå skal mange flere bedrifter samhandle om gjenbruk. Foto: Lillemor Hestvik

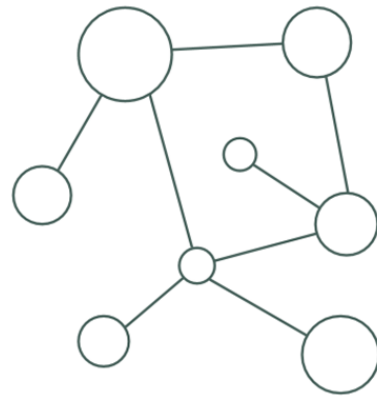


Leder for styringsgruppen, Bjørn Wiggen og prosjektmedarbeider Ingrid Bye Lønvik. Foto: Lillemor Hestvik

STEP 6. GET THE RIGHT PEOPLE IN THE ROOM



STEP 7. SUPPORT, COORDINATE DEVELOPMENT CAPACITY



Thamsklyngen
THAMS INDUSTRIAL CLUSTER

GOING FORWARD

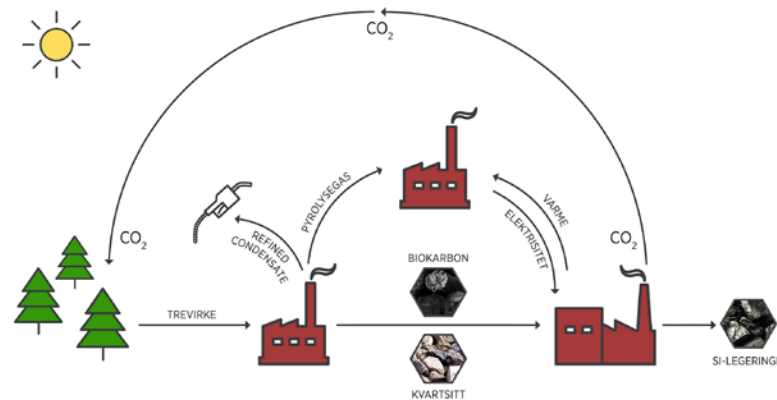


CIRCULAR ECONOMY DILEMMAS



Biomass in the CE:

1. Sustainable protein source for fish farming?
2. Non-fossil fertilizer for agriculture?
3. CO₂-storage/soil improvement for agriculture?
4. Biofuel for transport?
5. Reduction material in metallurgical processes?
6. District heat?



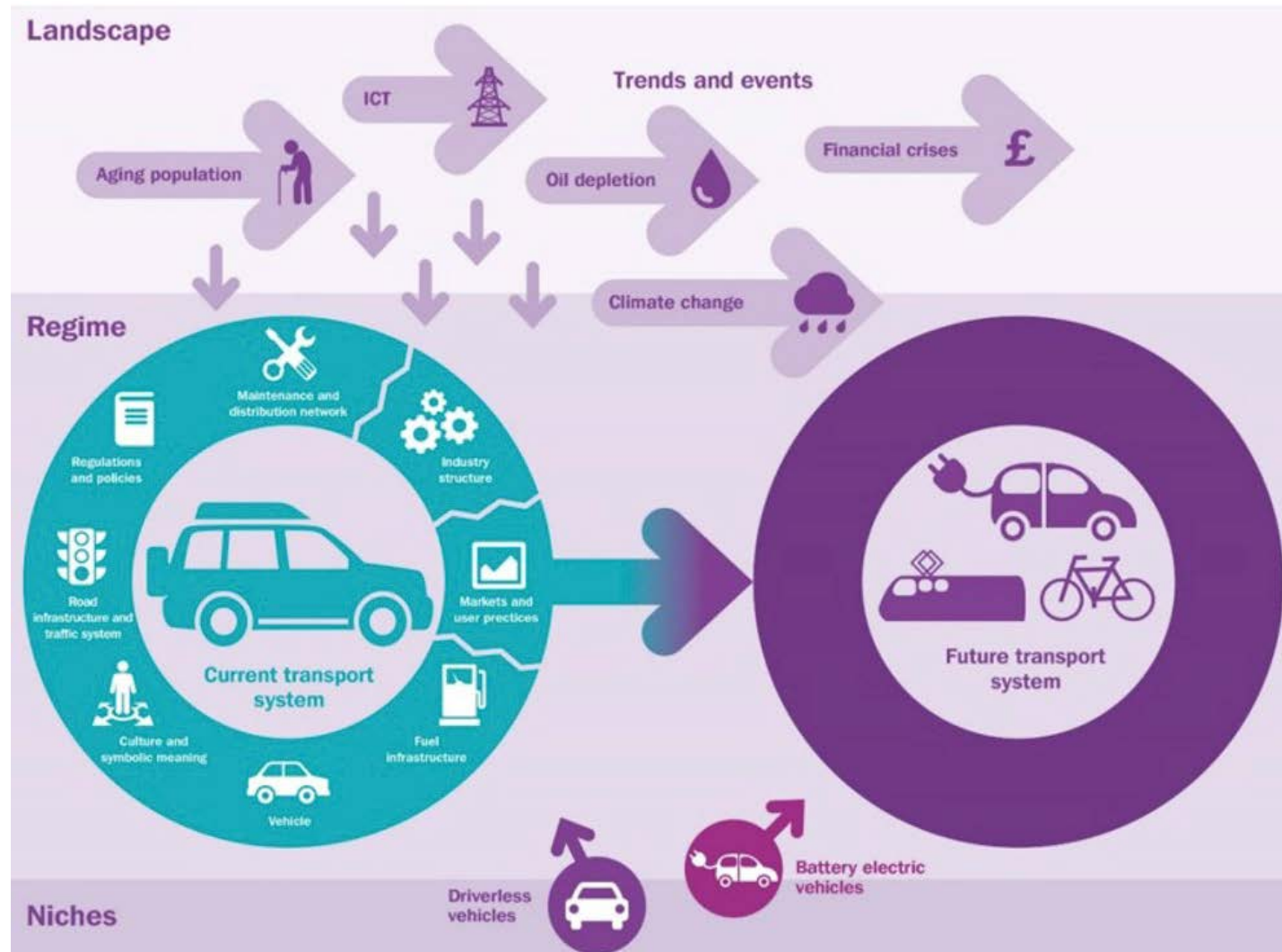
CO-DEVELOP THE KNOWLEDGE BASE



Trøndelag County Authority's contribution:

- Funding PhD-work with NTNU Ind.Ecol.
- Participating in SFI Circular Economy preparatory discussions
- Connecting students with SMEs (EiT, project work, master work, PhD)
- Funding student summer jobs
- Developed project proposal on innovative public procurement for a circular economy with SINTEF

WORK WITH MULTIPLE DRIVERS AND SYSTEMS



Source: Geels et al. 2018

CONNECT URBAN AND RURAL INNOVATION SYSTEMS



Reduce consumption



Photo: Smartresilient.com

Maximize production

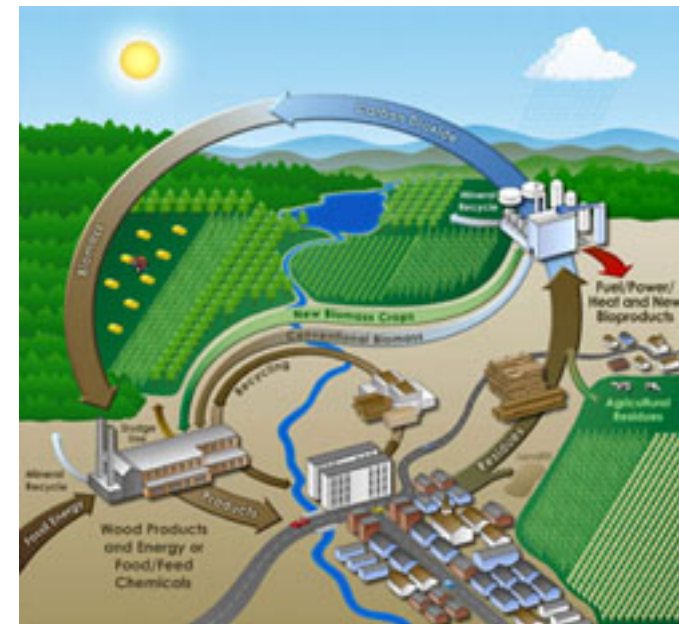


Photo: Educypedia

CREATE TESTS TO MOBILIZE OPEN INNOVATION



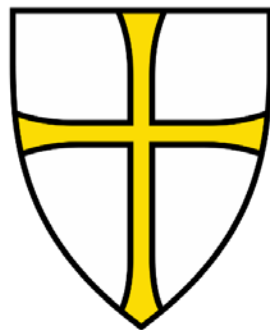
SHIFT FOCUS FROM CONSUMPTION TO CO-PRODUCTION



SUMMARY



- We need public-private partnership to build the knowledge base needed to support decision making in the circular economy (public and private)
- Innovation systems need to be redesigned
 - New direction, new programmes and new methods
 - Stimulate and support collaboration
 - Recognize needs of new sectors
- Institutional innovation systems and open innovation ecosystems need to interact
 - Activate networks
 - Build development and «translator» capacity
 - Run tests



Trøndelag fylkeskommune

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