

BIOGAS TO LBNG FOR THE SAMSOE FERRY: TOWARDS REALIZATION OF THE FOSSIL FREE VISION

BioGas2020 

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Content



Biogas 2020 project – and Go-LNG

The Samsøe case: From Renewable towards Fossil Free Island

The Island – the ferries and ports

The new value chain: From Field to Ferry

Biogas as the dynamo in circular bioeconomy transition

The next steps

Interreg Øresund-Kattegat-Skagerak

Purpose: To create green economy, biogasbased development and sustainable development in the area

- Business development, cross-border cooperation

		
<p>WP3 Plattform Biogas2020</p> <p>Samverkansplattformen är en viktig del att stimulera gränsöverskridande effekter och mervärden både inom och efter projektperioden. Genom samordning och dialog mellan aktörerna från de olika länderna och regionerna skapas en bättre förståelse för varandras drivkrafter och hinder.</p>	<p>WP4 Produktion och processer</p> <p>Omfattar aktiviteter som fokuserar på att öka och effektivisera produktionen och förädling av biogas i hela värdekedjan. Samverkan mellan högskolor, institut, företag, utvecklare, offentliga organisationer. Tillsammans med stöd av plattformen driver utvecklingsprocessen framåt.</p>	<p>WP5 Infrastruktur</p> <p>Ska främja utvecklingen och användningen av biogas i tunga transporter som bussar och lastbilar. Målet är att etablera biogas som drivmedel för lastbilar och bussar i Øresund-Kattegat-Skagerrak området.</p>



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Partners

Skive Municipality

Agro Business Park

Samsø Kommune, Energy Academy, Samsøe Ferry

Aarhus Universitet - Herning

Danish transport association – NTU

HMN natural gas

NOMI4s – Waste Company

Frederikssund Municipality - Roskilde Uni., Energy Center Zealand

Gas2move

Region Zealand, Central Denmark Region, Capital region

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DEPARTMENT OF BUSINESS DEVELOPMENT AND TECHNOLOGY
AARHUS UNIVERSITY



SKIVEKOMMUNE



midt
regionmidtjylland



Samsø

3700 inhabitants,
Independent municipality administratively
Agriculture, Vegetables, food,
Tourism, Green energy
Festival





Renewable Energy Island since 1997

- Wind, biomass, district heating, heat pumps, PV
- Co-operative ownership: 'The Samsøe Way'

Open Space in 2012: where to go now??

- Samsøe 2.0: Free of fossil fuels
- Including ferrys
- Develop partnerships
- Save energy

Sense of coherence

- Comprehensible
- Manageable
- Meaningfulness

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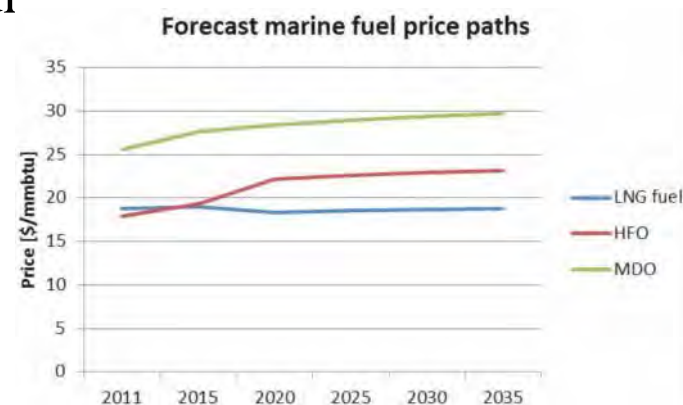
Biogas from the fields to the ferry

Biogas impossible without a ferry as customer

Municipal decision in 2013:

We make our own shipping company!

New ferry, harbour adaptations, new harbour





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Ballen Harbours



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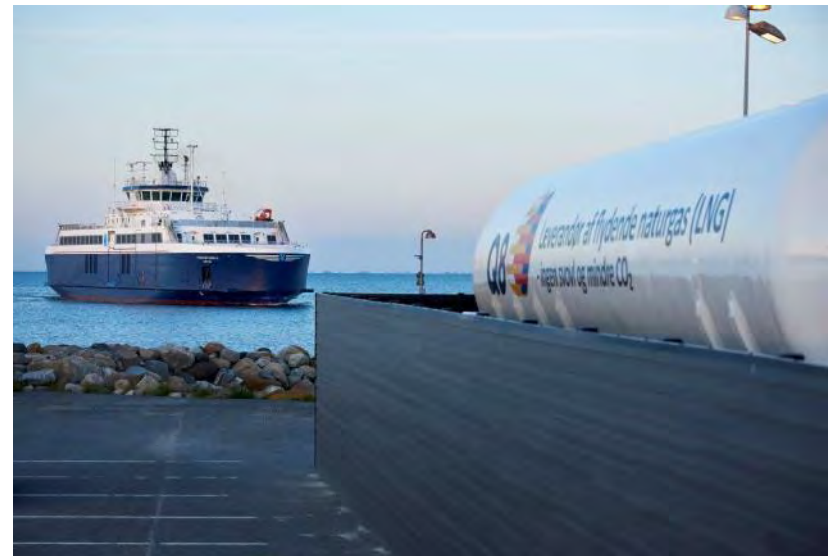
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Sælvig harbour adaptations

Increased capacity

Bunkering system





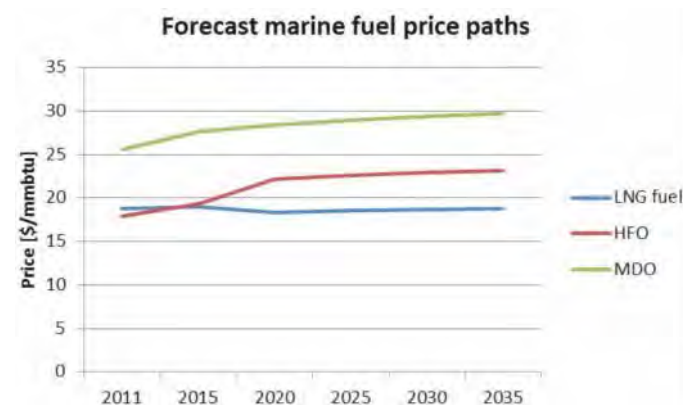
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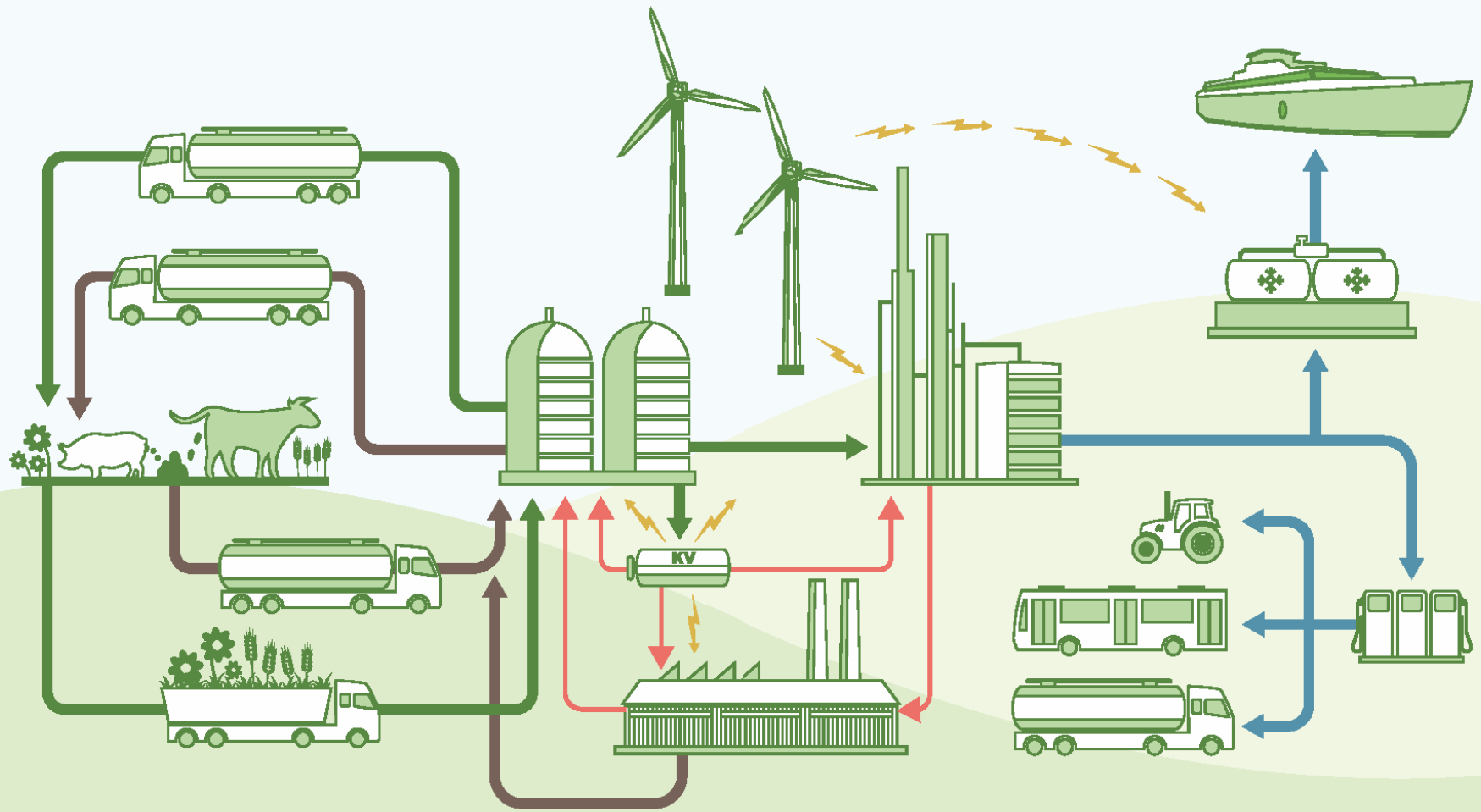
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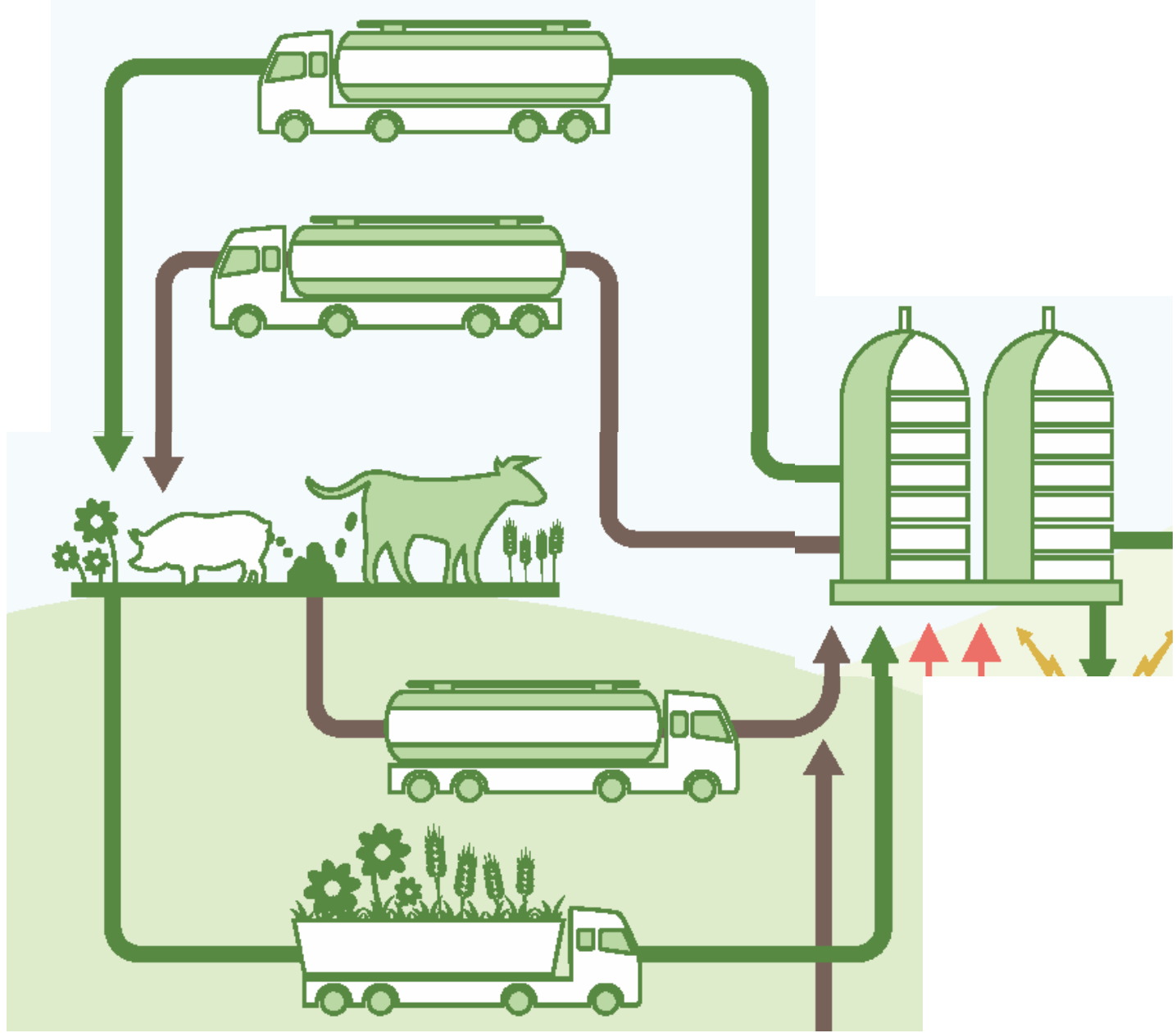
...Now we need the biogas 😊



Feasibility study



Planenergi, Aalborg Universitet, Teknologisk Inst., Nærenergi, Minor Change Group, Samsø Elektro, Energiakademiet, Samsø Kommune

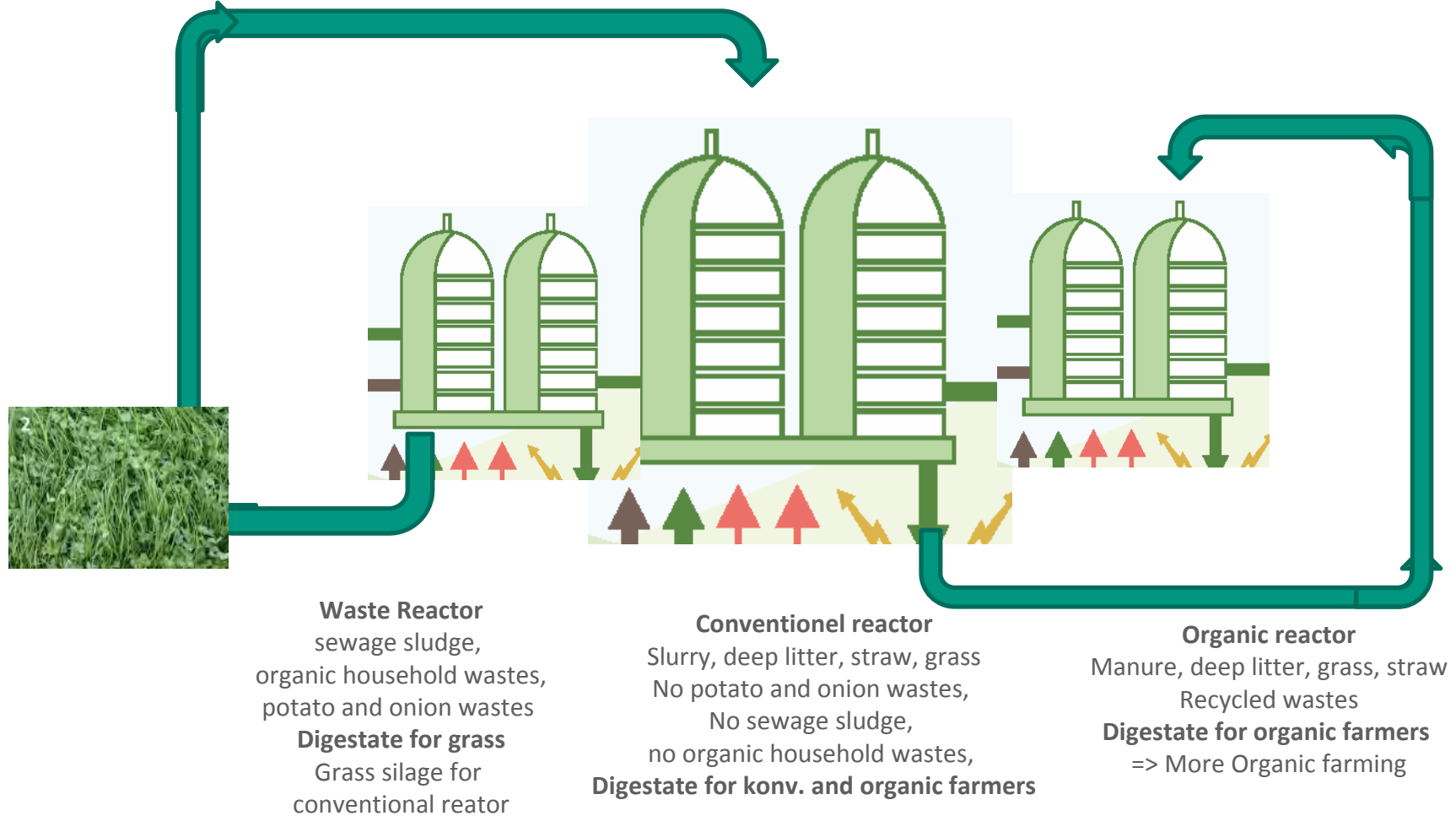


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Biogas can initiate bioeconomical transition

Creates values, jobs, meaningfulness, circular ressource utilization



FULL CIRCLE ISLAND Cirkulær økonomi

Circular Bioeconomy

No fossil
fuels

Biogas

transport

Bio-
production

Closing biological
resource circles

Closing 'technological'
resource circles

Knowledge

Innovation

Techno-
logy

Process
energy

Education

Experi-
ences
Tourism

Gastro-
nomy

Food

Agri- and
aqua-culture

Feed proteins
Fertilizers
Nutrient recycling
(N P C)
More Organic farming
New crops
Paludi-culture
Aqua-culture

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Fokus phase1

43,5 mio. dkk

3 mio. M3 CH4

16 mio. dkk

2,7 mio. M3 CH4

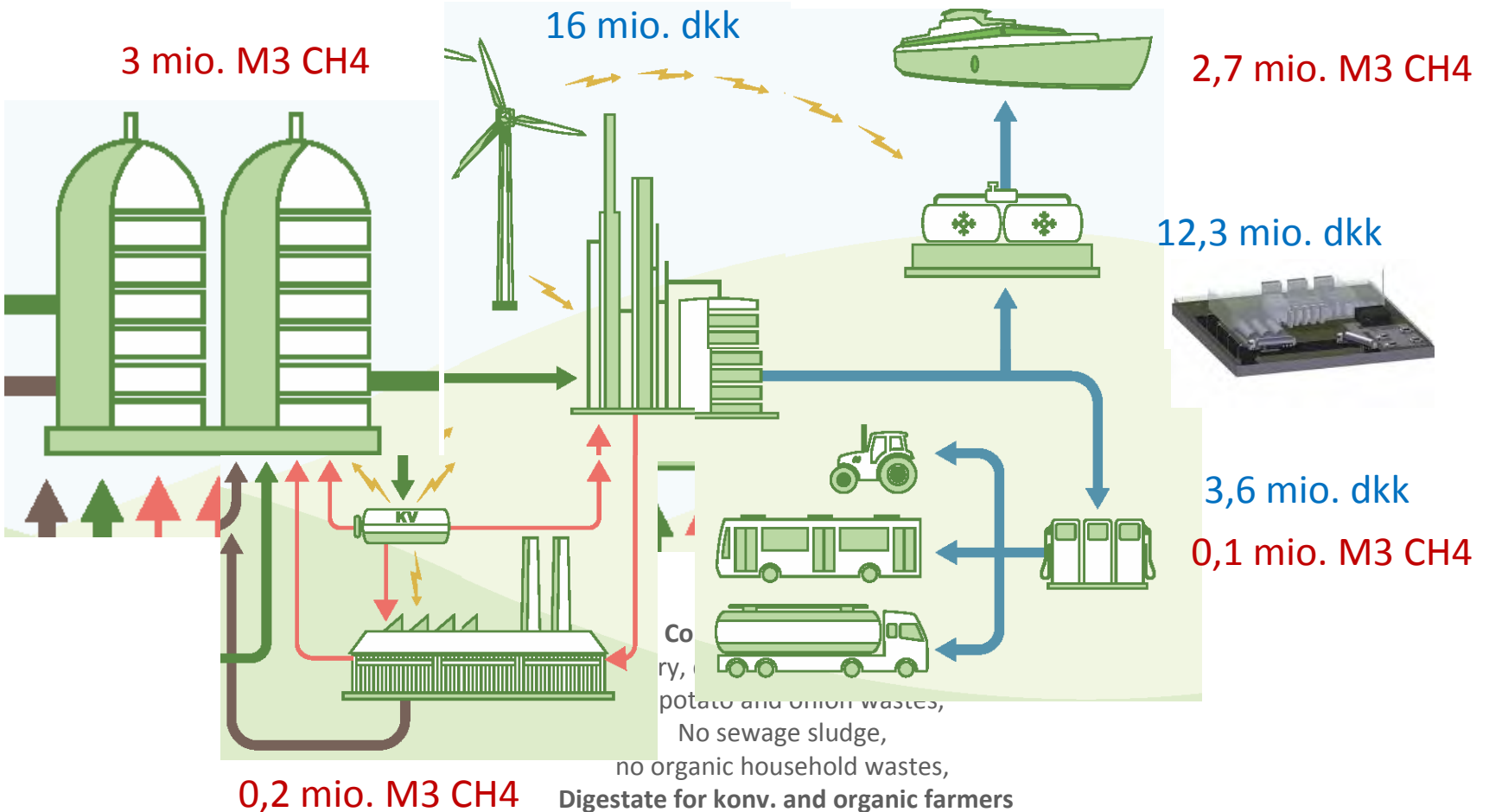
12,3 mio. dkk

3,6 mio. dkk

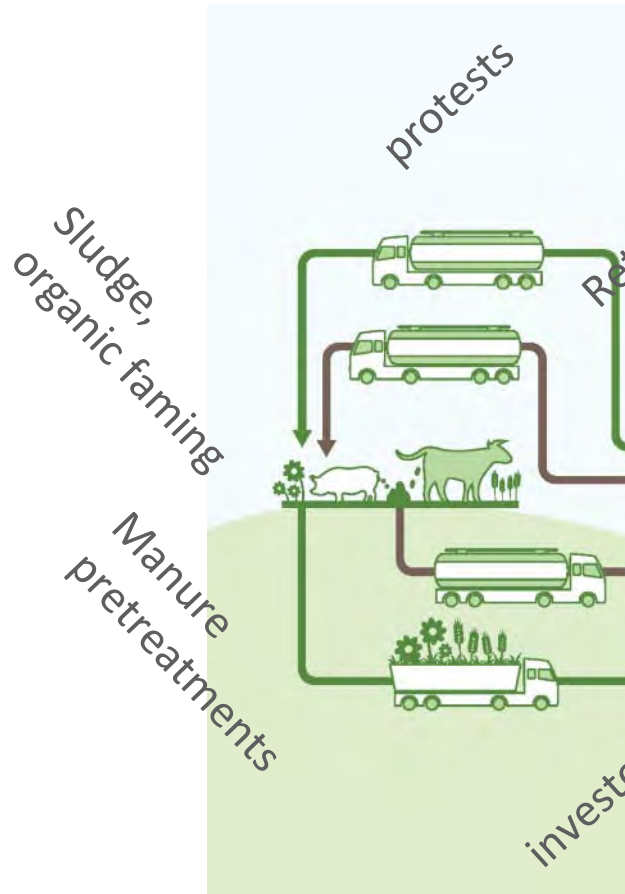
0,1 mio. M3 CH4

0,2 mio. M3 CH4

Digestate for konv. and organic farmers



Challenges....



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Next steps.....

- Environmental Impact Assessment
- Circular economical analysis
- Business plan for investors in different steps in the value chain
- Business plan for farmers and citizens – participation, sense of coherence
- Detailed gas use analysis (subsidies, tariffs, price)
- Political approval and support
- GO-LNG – Interreg Baltic Sea programme





Thank you for your attention!

And welcome to Samsø! 😊



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