Energy of the Future

Reliable. Efficient. Smart



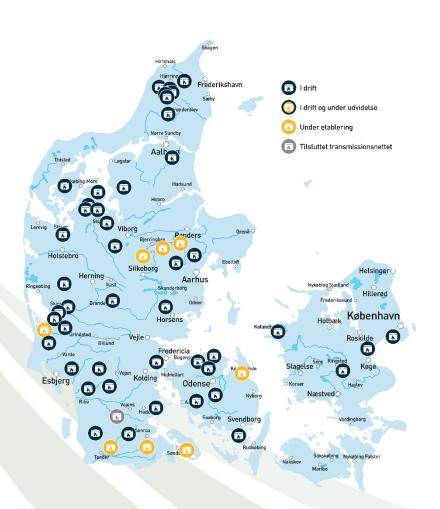
Biogas & biomethane as key enablers in the energy transition in the immediate & medium term



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From North Sea gas to Biogas

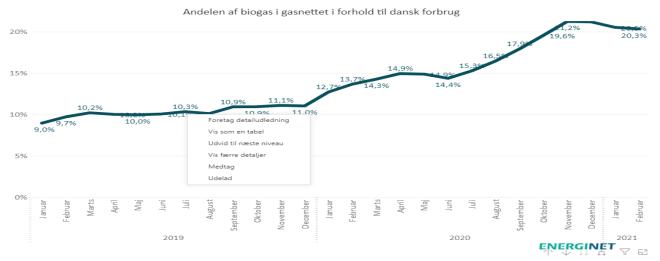


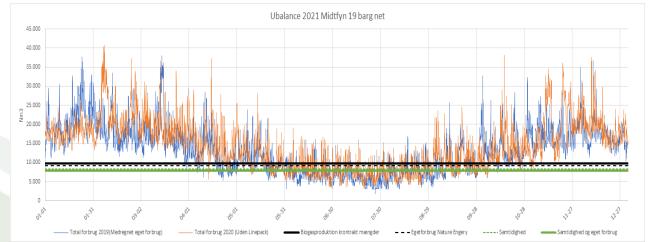




Balancing the net







Perspectives for biomethane



- Country/EU perspective
 - Security of supply
 - Distributed production -> security of supply
 - Local value creation local circular economy
 - Decarbonising agriculture and household waste
- DSO perspective
 - Limit costs using existing infrastructure
 - From pipeline operator to system operator
- User perspective
 - Easy and cost effective way to decarbonaise existing natural gas use
 - Safe and efficient transition to i.e. 100% electricity
- General comments
 - Cost of biomethane on a downward slope
 - Mature technology for producing renewable gas
 - Lever for hydrogen methanisation/blending

Challenges going forward



- Most gas will never leave the DSO network
 - Need for close integration with both TSO and Storage for balancing
- Costs to transport and balancing the network
- Need for monitoring and European standards
 - O₂ Oxygen need for European standards
 - Calorific Value
 - · Wobbe index
- Tradeability for biomethane across EU

