



# COP26 2021

5 November 2021  
11.30 AM - 12.45 AM (UK time)



## Local Climate Solutions & Eco-Village Development, 100% RE in NDCs, East Africa, South Asia, Europe

# 100% renewable energy in Europe with energy efficiency and energy sufficiency

By Gunnar Boye Olesen, SustainableEnergy Denmark and INFORSE-Europe



# INFORSE-EUROPE

International Network for Sustainable Energy - Europe

## Network of 60 CSO's in INFORSE - Europe

- Active on EU policies for energy transition including Ecodesign and local energy communities for RE+EE
- Active with proposals and scenarios for transition to 100% renewable, including energy efficiency and sufficiency



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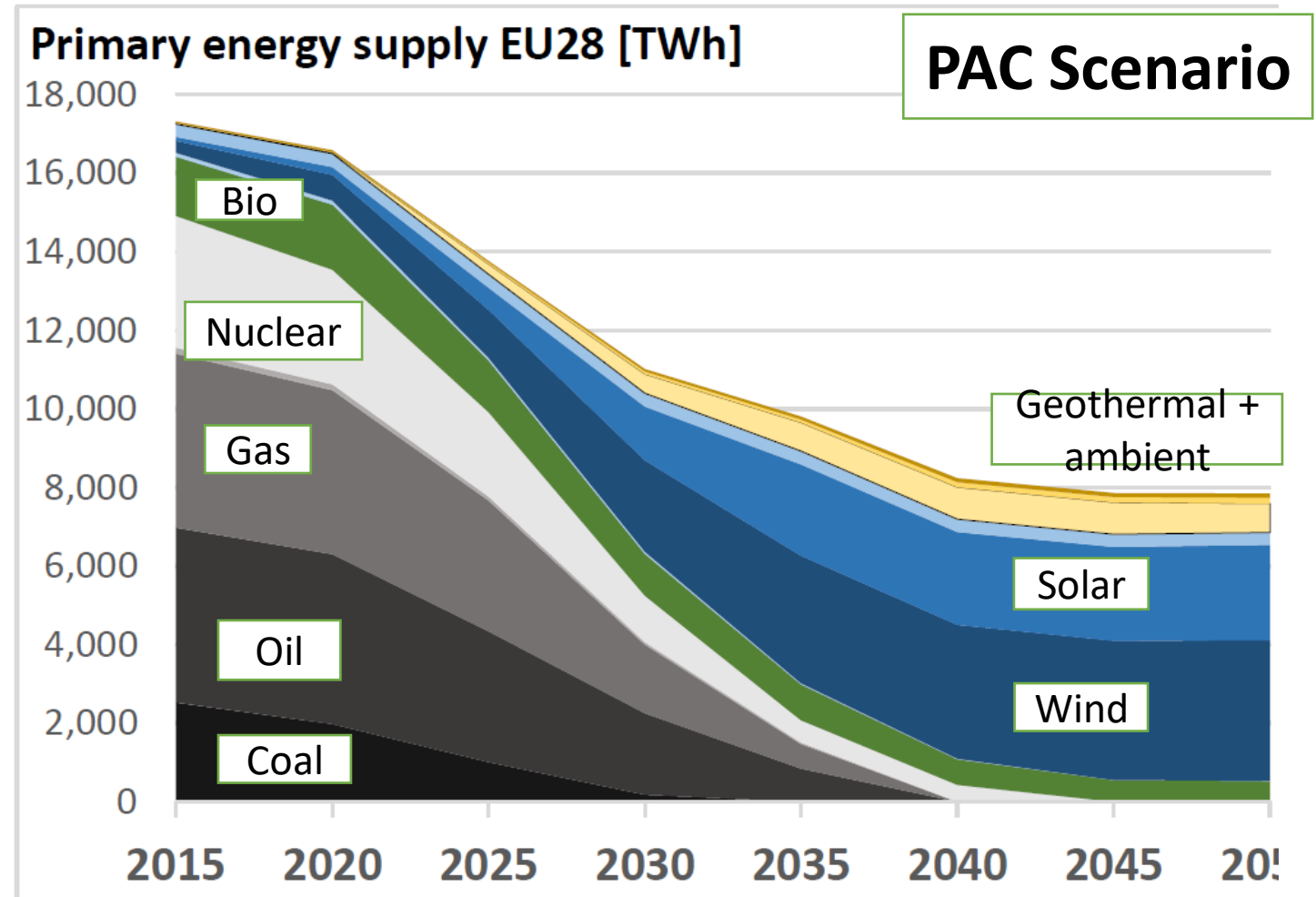
UNFCCC OP26 Side Event - Glasgow, UK: Local Climate Solutions & Eco-Village Development, 100% RE in NDCs, East Africa, South Asia, Europe // INFORSE - INSEDA - SUSWATCH - SE 5/11 2021, 11:30-12.45, Loch Lomond

# We work for 100% Renewable Energy in Europe

- Paris Agreement Compatible (PAC) Scenario
  - 65% Reduction of Emissions in 2030
  - Full decarbonisation in 2040
  - 100% Renewables 2045

By CAN-Europe and EEB with INFORSE-Europe and many others

- NegaWatt + partners bottom-up scenario with INFORSE-Europe, launch 2022



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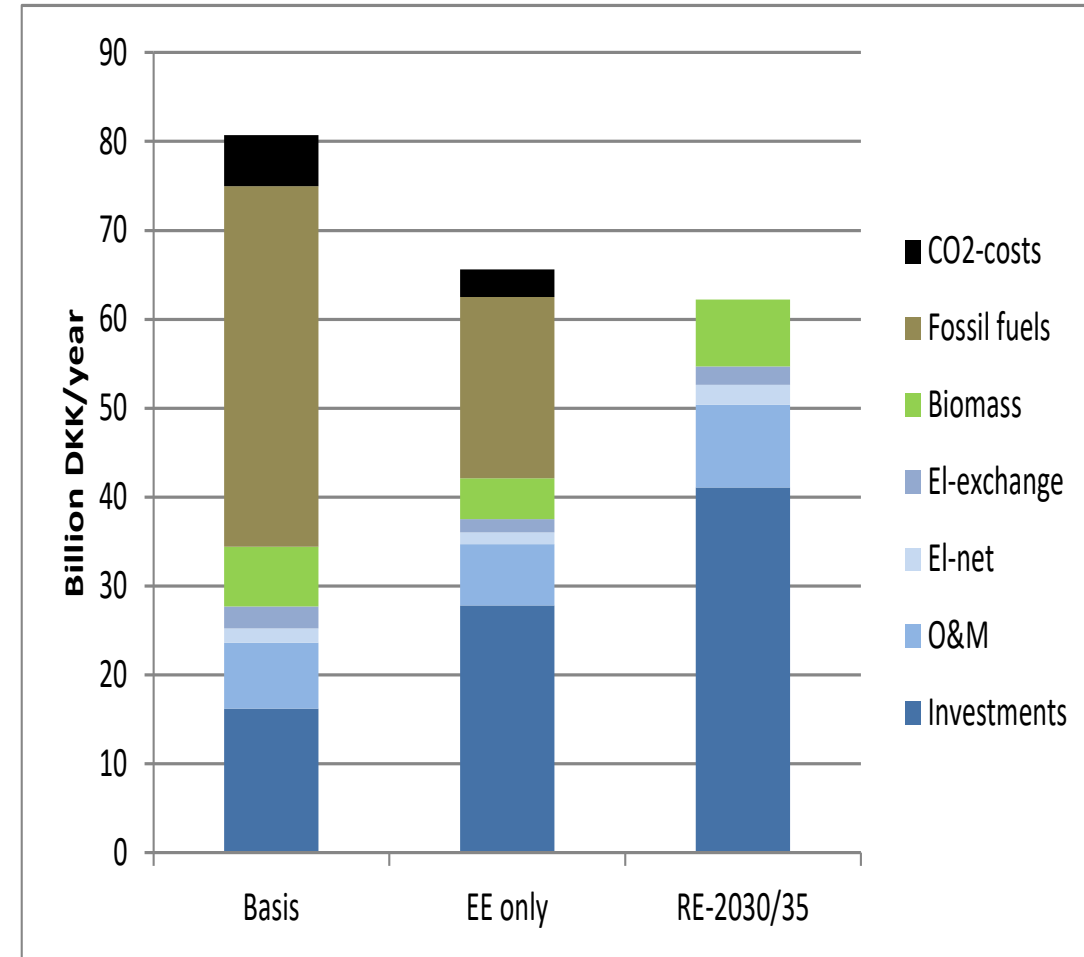


# Transition with Good Economy, 24/7

Danish Scenario shows:

- That fast transition to renewable energy can have good economy, if stranded costs are avoided,
- That demands can be met all hours of the year with 93% of power from solar and wind
- The remaining 7% can come from domestic biomass and biogas
- Power exchange with other countries to be combined with local flexibility with heat-pumps and some H<sub>2</sub> production.

**Scenario by INFORSE-Europe and Sustainable Energy, made with EnergyPlan scenario tool**



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# Energy Sufficiency is Part of our Plans (DK)

- Official forecast is 22% more car driving in 2030 than today in Denmark (600,000 more cars)
  - With a mixture of taxation, spatial planning for less car use (denser cities, decentral functions, work from home), and mobility alternatives, car use can be stabilised or reduced
- Housing area is expected to increase 8% until 2030 in Denmark
  - With action to make people move to more appropriately sized houses and rent out rooms, there might **not** be need for more and bigger houses



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# Examples of energy sufficiency (non-exhaustive)

Sufficiency actions	Reduction in sector	Policy	Action period	Source
Move to smaller dwellings, assist.	8% (heat)	Advise, remove barriers	2020-30	UBA-study, Germany
Divide dwellings, assistance	7% (heat)	Advise, remove barriers	2020-30	UBA-study, Germany
End DK commuting tax break	3%(car use)	Stop subsidy	2014-20	According til DEA, Denmark
CO2-tax 200-1500 DKK/ton	5-10% (all energy)	Carbon tax	2020-30	Climate Council, Denmark
Car tax reform for electric cars	2% (less cars)	Car tax reform, CO2+300 DKK/t	2020-30	Green car Commissionen, DK
Cut washing by half in dwellings	10% (elec.)	n.a.	n.a.	Theoretical example



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# We can make a difference with Energy Sufficiency

**With energy sufficiency in transport, housing and electricity use, we can speed-up fossil fuel phase out, if we continue the same development of renewable energy.**

**With a set of energy sufficiency measures, we can in Denmark cut fossil fuel use and emissions around 1/3 (33%) on top of existing plans within 10-15 years. This can help meeting Denmark's ambitious climate plans. As we need to phase fossils out fast, we should include energy sufficiency in addition to renewables and energy efficiency in the energy transition, to make it faster, cleaner, more sustainable.**

**INFORSE-Europe is working with Aalborg University on energy sufficiency together with Lithuanian Energy and Green Liberty, Latvia with support from Nordforsk**



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Thanks you



Proceedings: [www.inforse.org/cop26.php](http://www.inforse.org/cop26.php)

More info:

[www.inforse.org/europe/Vision2050.htm](http://www.inforse.org/europe/Vision2050.htm)

[www.inforse.org/europe/Energy-Sufficiency-Project.htm](http://www.inforse.org/europe/Energy-Sufficiency-Project.htm)