

# Energy decarbonisation in the Baltic States



Nordic Energy Research  
Nordic Council of Ministers

Kevin Johnsen  
30 October 2017

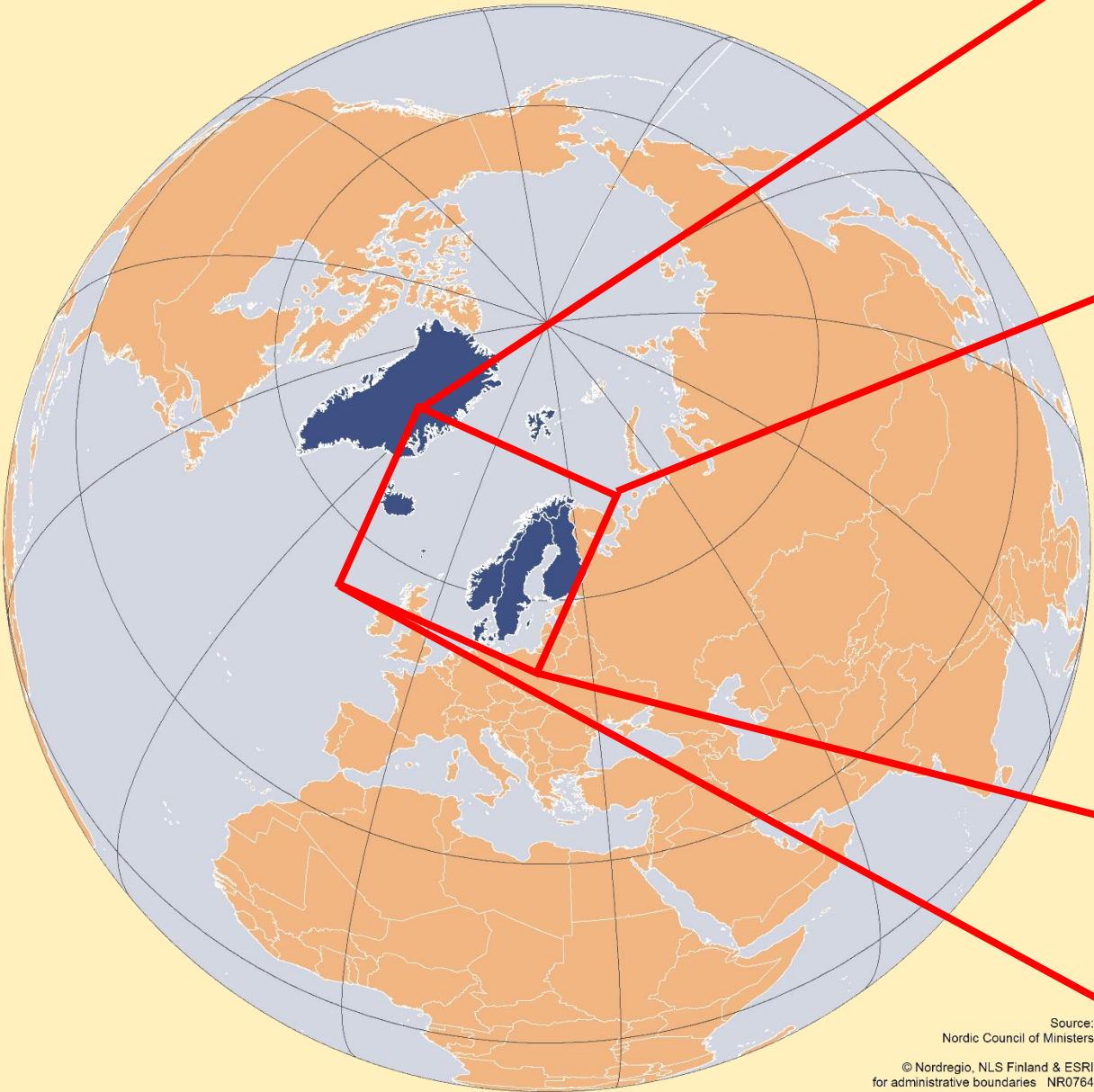


**Nordic Energy Research**  
**Nordic Council of Ministers**

We analyse, evaluate and fund research on the Nordic  
energy system



The Nordic region



Source:  
Nordic Council of Ministers  
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# Nordic Energy Technology Perspectives 2016

Cities, flexibility and pathways to carbon-neutrality

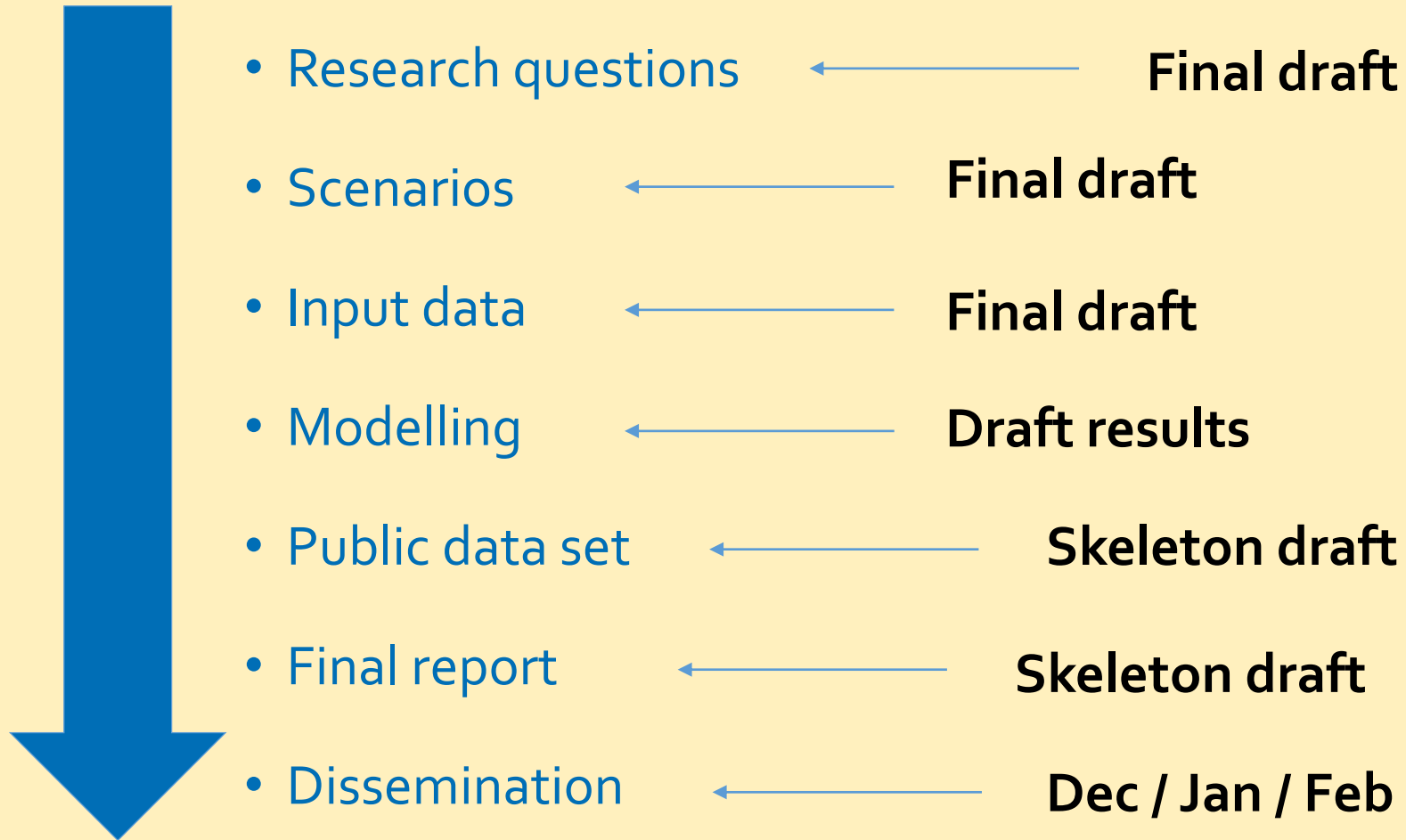
# Baltic Energy Technology Scenarios



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# Where in the process is the BENTE-project?





# General framework

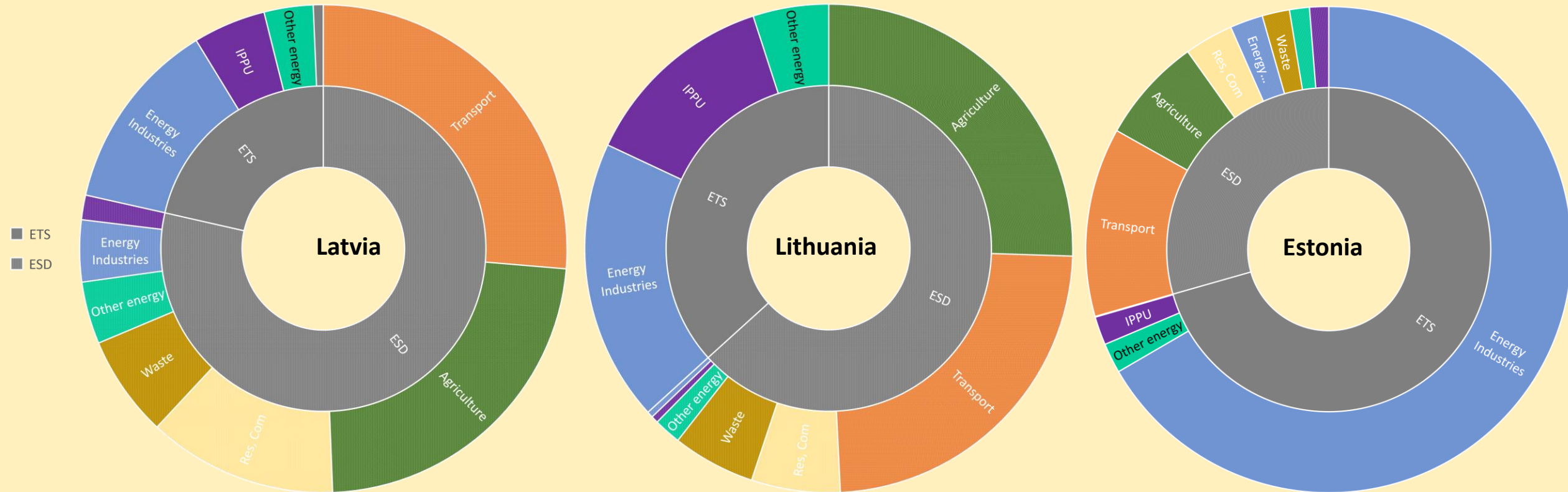
## Models

- **TIMES-VTT:** All energy consumption, Kyoto GHGs excl. LULUCF
- **Balmorel:** Power & heat production

Coverage compared to other studies:			
GHG	BENTE	EU commission modelling	IEA ETPs
CO <sub>2</sub> from energy (domestic)	X	X	X
CO <sub>2</sub> from international transport	X	-	X
CH <sub>4</sub> , N <sub>2</sub> O, F-gases	X	X	-
LULUCF (Land use, land-use change and forestry)	-	X	-



# Baltic GHG emissions (2013-2015)



\* IPPU = Industrial Processes and Product Use



# ESD-targets



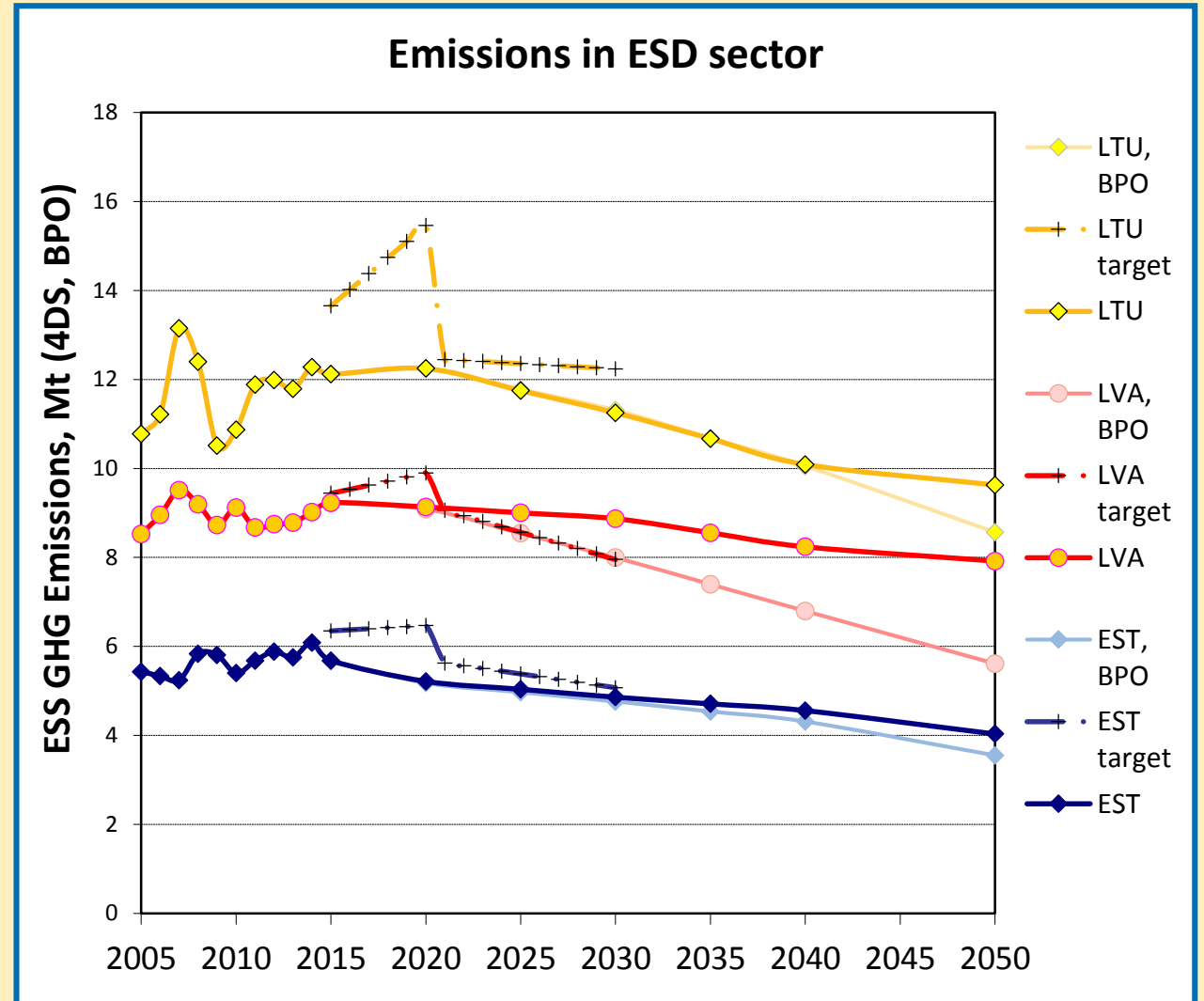
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# EU ESD emissions in scenarios

- ESD target requires actions from Latvia
- Likely no additional measures needed in Estonia or Lithuania



# Actions to reduce ESD emissions



# RE-targets



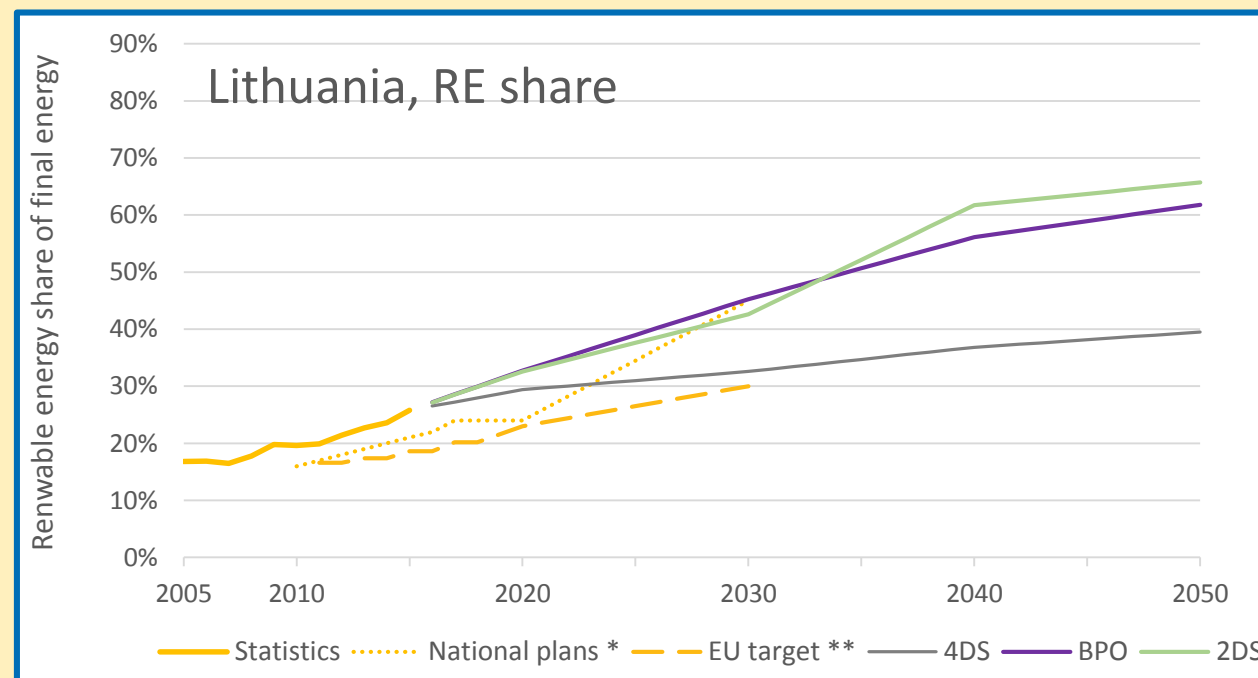
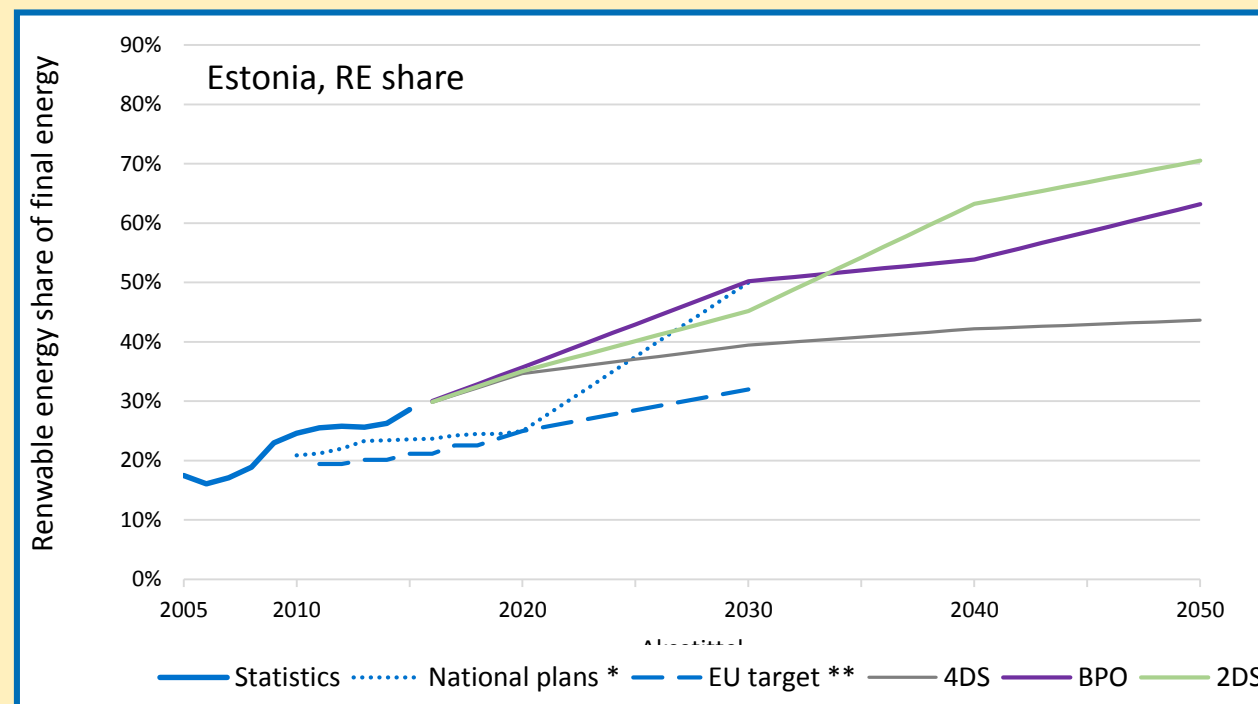
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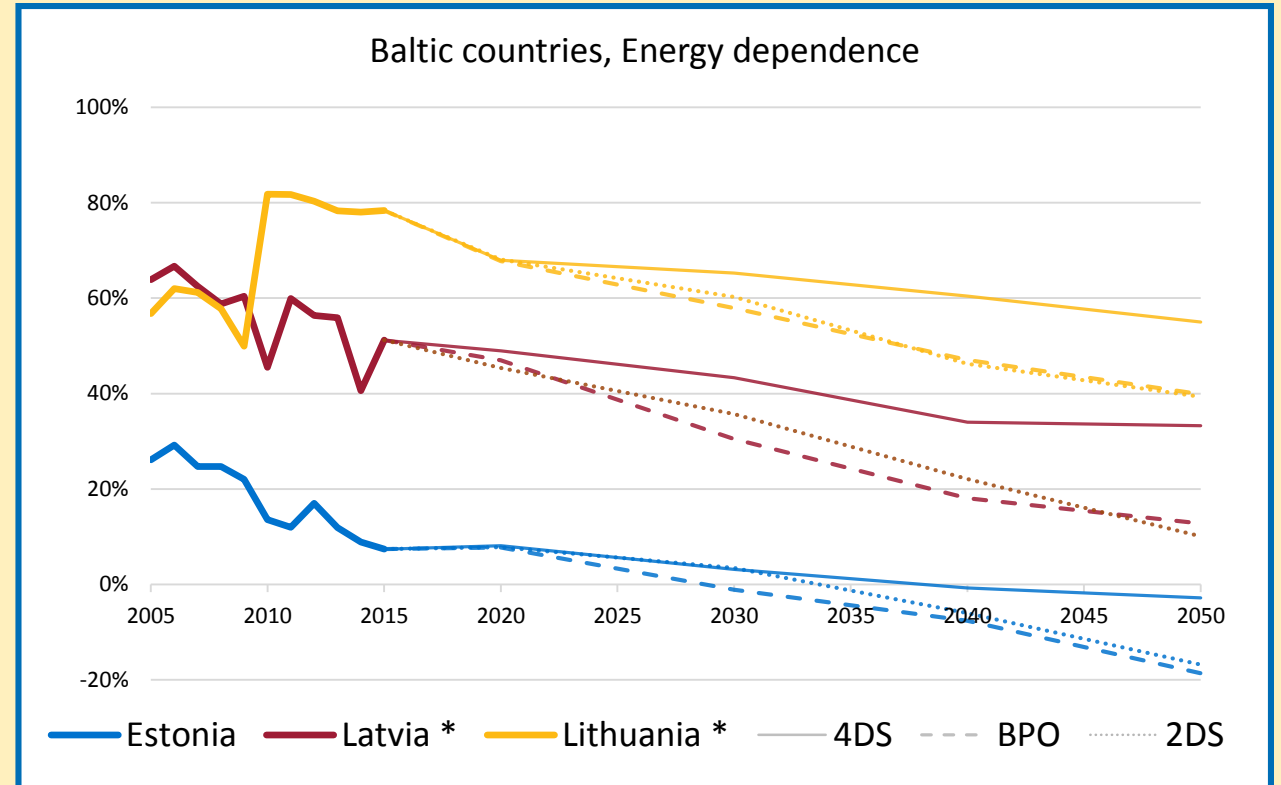
# Renewable energy shares in scenarios

- Estonia and Lithuania estimated to need to increase the RE share at 2030
- This would take both countries on modelled 2 degree pathway from renewable energy perspective
- Still working on Latvian RE share



# Improving energy dependency

- Most measures used to reduce emissions and increase RE share will improve also the energy dependency
  - Most notable exception is decreasing the use of shale oil
  - Lithuania's target of 75% domestic electricity production achieved only in BPO



# Energy efficiency- targets



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# Preliminary conclusions



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# The Baltic States...

Are on a **feasible path** to  
the 2030 EU targets –

But some policy needed



# The Baltic States...

Are in need of **stronger**  
**policies** on renewable  
energy to reach the Baltic  
RE 2030 targets



# The Baltic States...

Needs to decarbonize  
electricity supply and  
electrify other sectors to stay  
on a 2-degree pathway



Preliminary  
Remember  
results

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**See more at [Nordicenergy.org](http://Nordicenergy.org)**

