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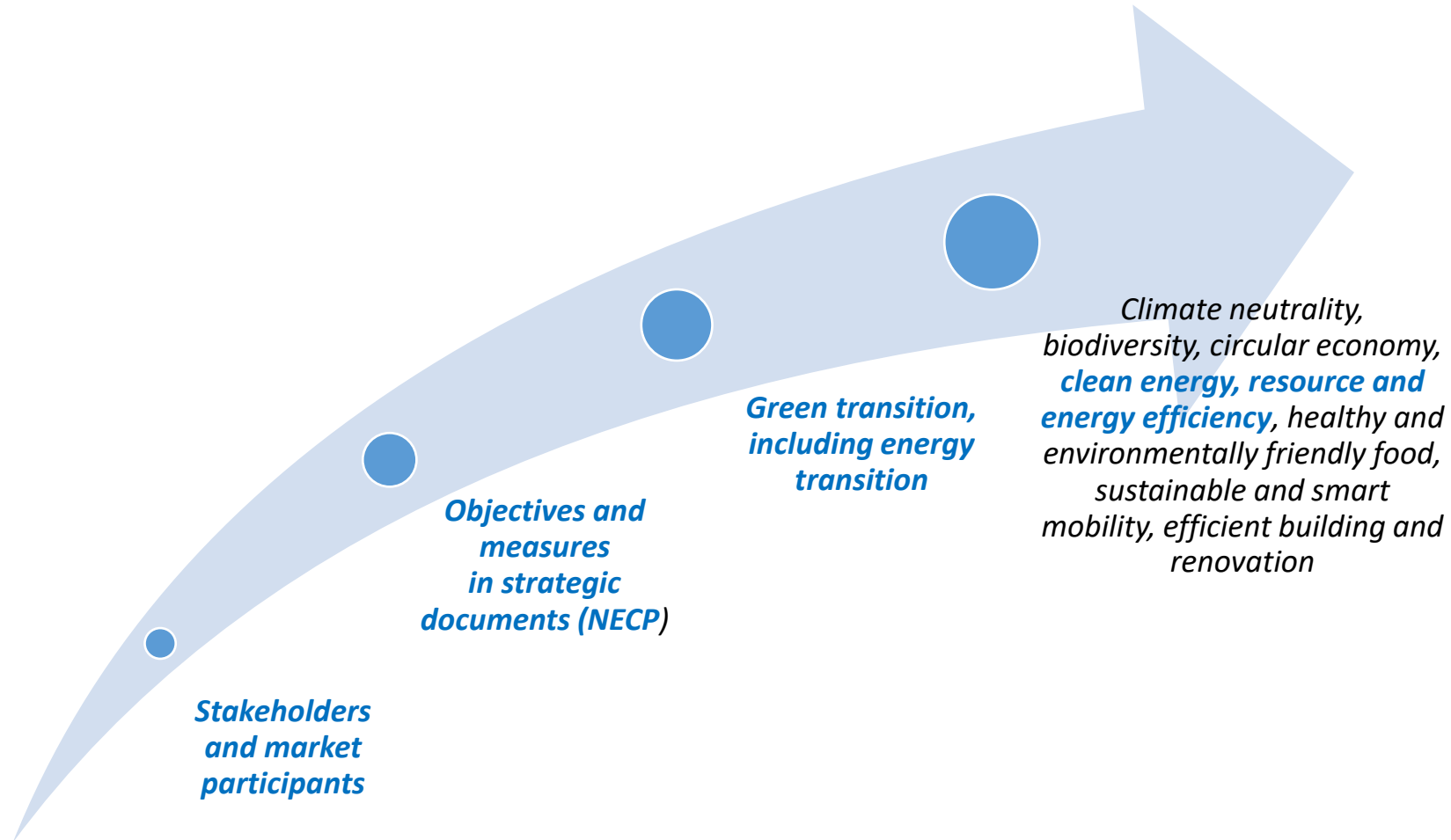
# *Energy transition and research in Estonia*

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# ENERGY TRANSITION WITHIN GREEN TRANSITION



# GLOBAL POSITION



## Sustainability

10/165

<https://dashboards.sdgindex.org/>

Rank	Country
1	 Finland
2	 Sweden
3	 Denmark
4	 Germany
5	 Belgium
6	 Austria
7	 Norway
8	 France
9	 Slovenia
10	 Estonia
11	 Netherlands

## Energy sustainability

20/101

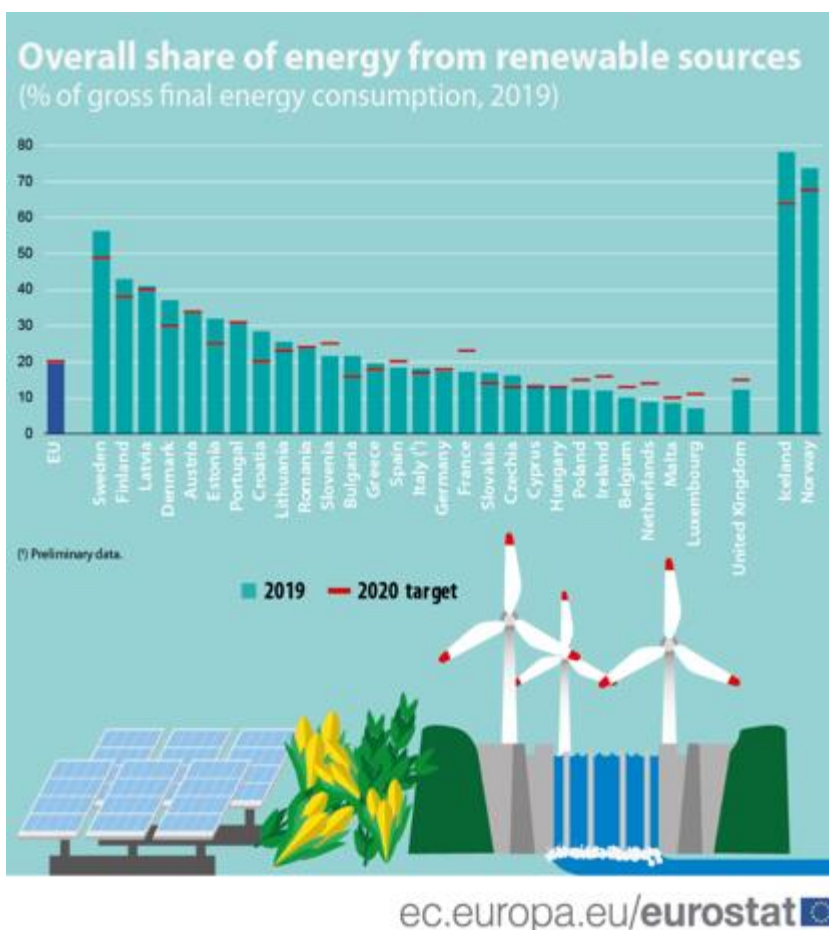
<https://trilemma.worldenergy.org/>

Country	Rank
Sweden	1
Switzerland	2
Denmark	3
United Kingdom	4
Finland	4
Ireland	11
Belgium	12
Hungary	12
Uruguay	13
Lithuania	14
Portugal	14
Iceland	15
Italy	15
Netherlands	16
Japan	16
Slovenia	17
Australia	18
Czech Republic	19
Latvia	20
Estonia	20

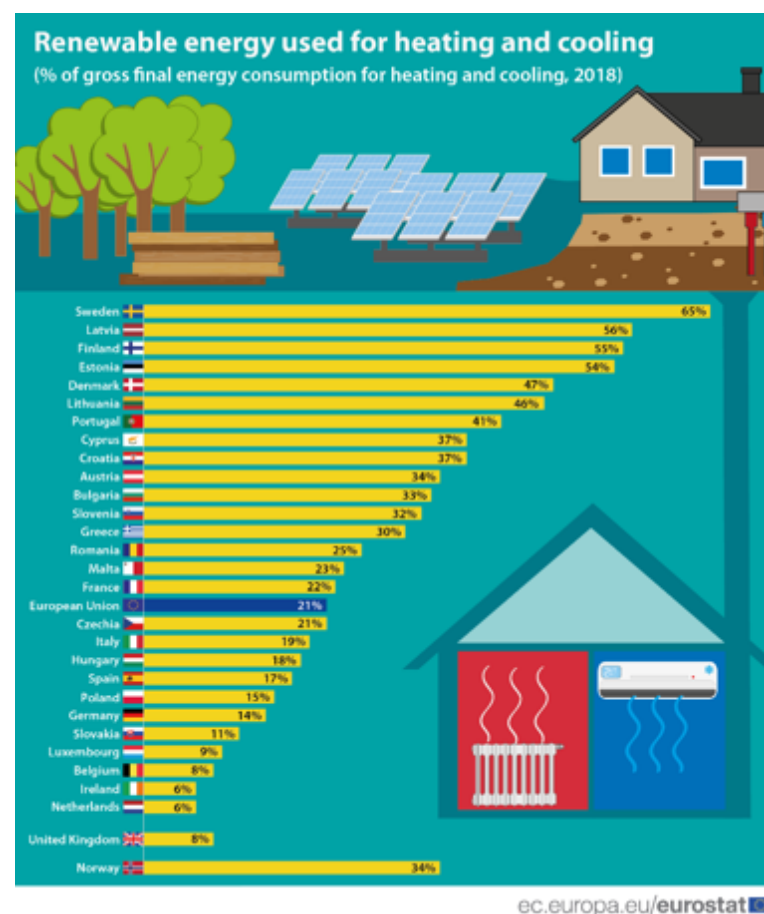


# ESTONIAN POSITION IN EUROPE

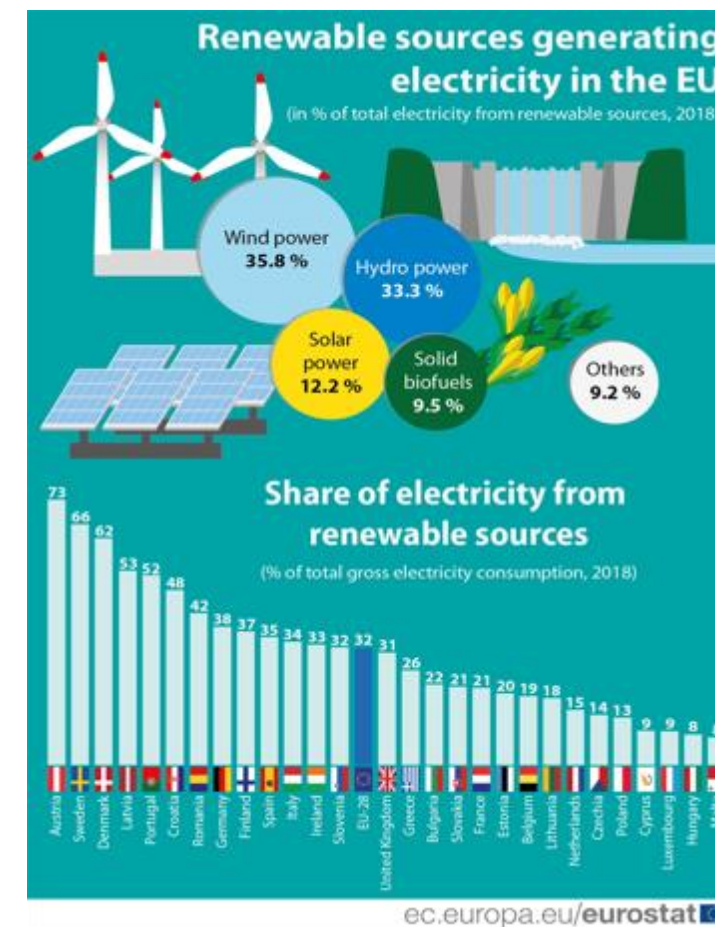
## Renewables share in consumption 6th



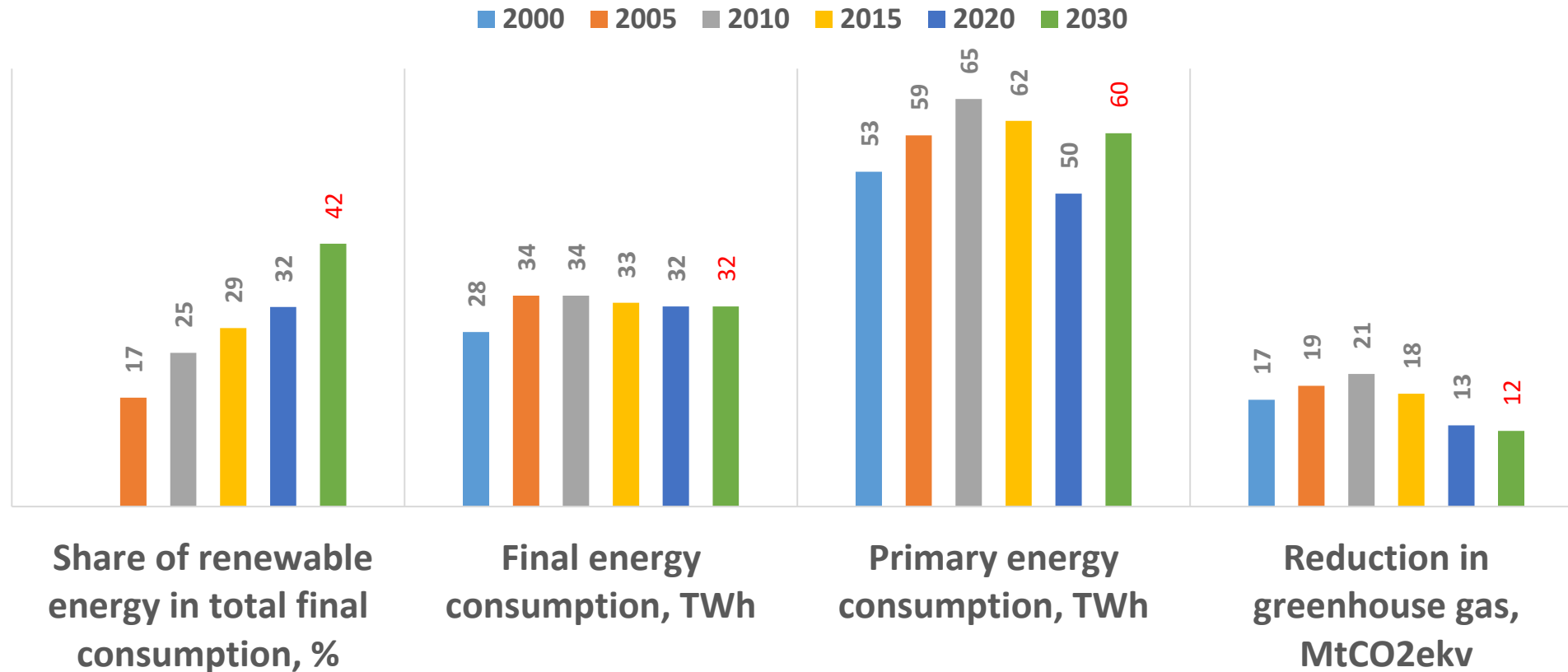
## Renewables share in heating 4-th



## Renewables share in electricity 20th



# Meeting objectives of National Energy and Climate plan



# ENERGY SECTOR IN ESTONIA 2022



Main objective of National Development Plan until 2030 *is to ensure the availability of energy supplies to consumers and the best possible price*. Plan covers electricity, heating and fuels, energy use in transportation and buildings through main measures:

- Energy supply and Energy market
- Efficient use of primary Energy and increasing renewables share in final Energy consumption

- **Climate neutral Energy generation** – strategy Estonia 2035
- **National Development Plan for Energy Sector until 2035** is in compilation focusing on energy security (Energy security in electricity, heating and cooling, transportation fuels), renewables (Transition to renewables in electricity, heating and cooling, transportation fuels, Energy communities and cooperatives), energy efficiency (energy efficiency in electricity, heating and cooling, transportation fuels, Energy poverty, usage of waste heat)
- **Electricity demand will be covered 100% with Renewables in 2030** (wind parks, solar energy)
- **Storage** (including batteries, pumped storage hydropower) will have crucial role in longer run, necessary transmission enforcements and developments are planned.
- Heating and cooling sector is working highly on biomass and natural gas, however **heating pumps** are coming in rapidly, geothermal potential will be used, heat storage and waste heat could be future options.
- Looking for possibilities on **decarbonisation of gas system**, for example based on biomethan and Hydrogen.

# Research and Development Activities for National Development Plan of Energy Sector until 2030

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2019-2022 budget for research and development programme to help to fulfil objectives and measures of national development plan 400 000 euro/y (incl. JBNERP 100 000 euro/y), with the following actions:

- Several analysis on **Energy efficiency measures**, including financing measures, waste heat and cooling
- Evaluation of Estonian **geoenergy potential** and available technologies
- **Wind parks** related analysis (wind survey, potential areas in mainland and offshore, local benefits instruments)
- **Local governments options** reducing greenhouse gases with help of Energy efficiency and renewables, handbook for wind and solar parks
- **Hydrogen production and usages**
- **Carbon neutral heating and cooling**
- **Proposal for storage regulation**
- Webpage for Energy management issues [www.energiatalgud.ee](http://www.energiatalgud.ee)

# TALTECH CONTRIBUTION TO ENERGY TRANSITION VIA JBNERP



## Projects:

- offshore wind energy hubs,
- new next generation of buildings,
- approach energy sufficiency,
- heat pumps usage,
- smart usage of waste heat,
- 5<sup>th</sup> generation district heating and cooling,
- stability of transmission grids,
- approach of hard to reach energy users
- electrical vehicles control in distribution system,
- future power system.

## *Feedback by participants:*

- *offshore wind energy parks considering transmission systems of different countries in planning distribution and maximizing usage of generation potential from wind energy in Baltic Sea;*
- *scientific based new generation Nearly Zero-Energy Buildings and renovation giving us buildings that are nearly immune to energy crisis, by the way for example results in Denmark and Estonia are comparable*
- *spreading district heating topic, we can contribute with our knowledge and experience transferring knowledges to our partners in Norway and Sweden.*
- *digitalisation and data availability level which is in Estonia is higher, then in other Nordic-Baltic countries.*
- *new common research topics for cooperation, cooperation with new partners from Norway, Sweden, Lithuania and Latvia has been started.*



# USING RESULTS FROM JBNERP

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## Expectations:

1. Answers and solutions to urgent matters and future needs
2. Scientific work and research that could bring independent and sophisticated input to policy making

## Policy recommendations:

1. The cooperation has had an effect through the policy recommendations, no regret actions and key areas for collaboration presented in the reports; but also, by building Baltic-Nordic research capacities and collaborations and from policy recommendations provided by the research results.
2. Reports finalized bring some sights to future cooperation and collaboration fields with main attention to Baltics, particular attention is paid to transportation decarbonation need and usage of heat pumps potential
3. Best practices with scientific justification could be more clearly transitioned from Nordics to Baltics, and vice versa
4. Researchers and PhD Exchange could contribute and involve Energy policy issues
5. If possible, every project report could contain proposals with reasoning for better policy making
6. JBNERP should not be only platform for scientific cooperation in the region, but it **should give clearer messages for development and planning of Energy security and adequacy of the whole Baltic Sea area**, why not to aim to create for example common Baltic-Nordic energy and climate plan in wider scale.



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Thank you!  
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