



REPUBLIC OF ESTONIA
MINISTRY OF CLIMATE

Competitive edge through renewables and energy efficiency

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Where is Estonia among EU members?

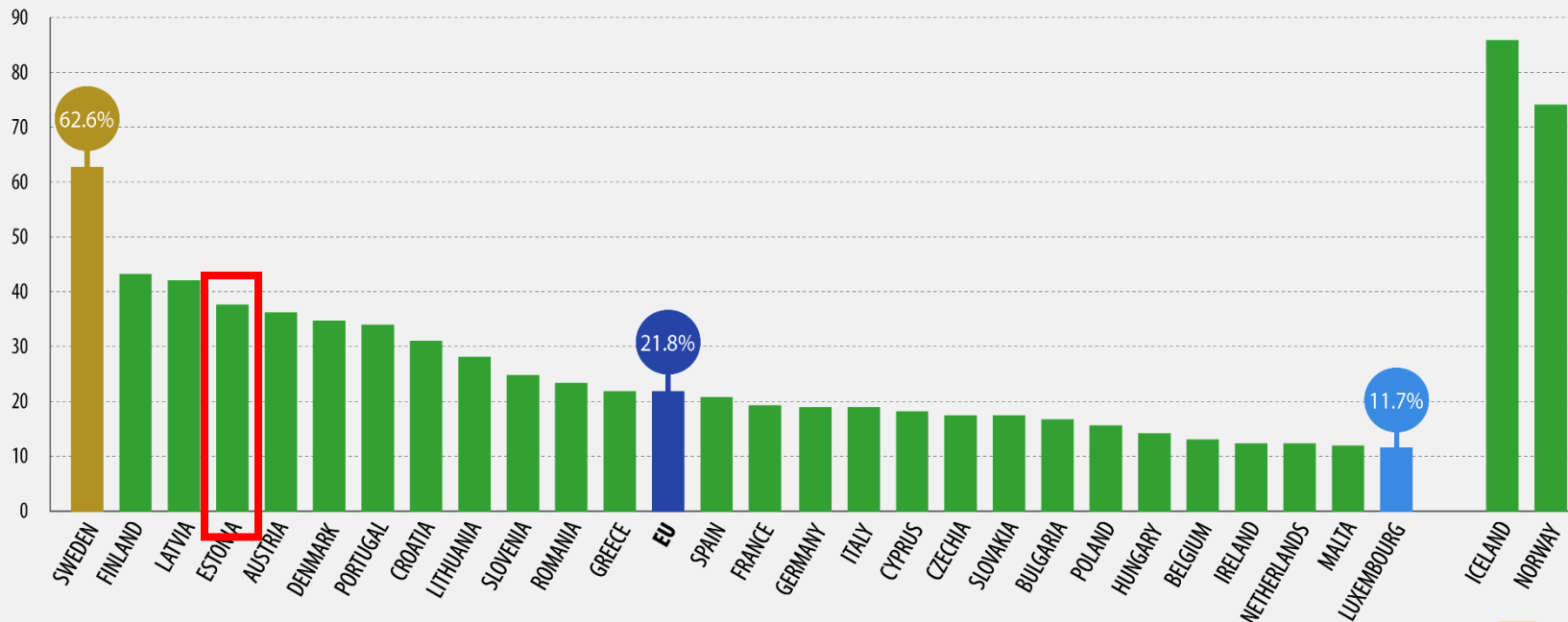


4th in overall share of energy from renewable sources **38%** (+49%*)

Renewable heating **61,3%** (+38%)

Overall share of energy from renewable sources in the EU, 2021

(% by country)



Renewables electricity **29,3%** (+140%)



Renewables in transport **11,2%**

Developments and policies to ensure Estonia's energy security now and in the future



Then and now 2030

- **Share of renewable energy in final energy consumption** 63% -> 65%
 - **Renewable electricity production in relation to final consumption** 40% -> 100%
 - Share of renewable energy in heating 63% -> 69%
 - Share of renewable energy in transport 14%
- **Increasing energy efficiency**
 - Final energy consumption at today's level (ca 30 TWh)
- **Strengthening security of supply and energy security**
 - Synchronization project **end 2025** -> **beginning of 2025**
 - Setting up electricity reserve mechanism (strategic reserve) (2028)
 - New choices for dispatchable electricity generation, large scale storage

Energy efficiency (first?)

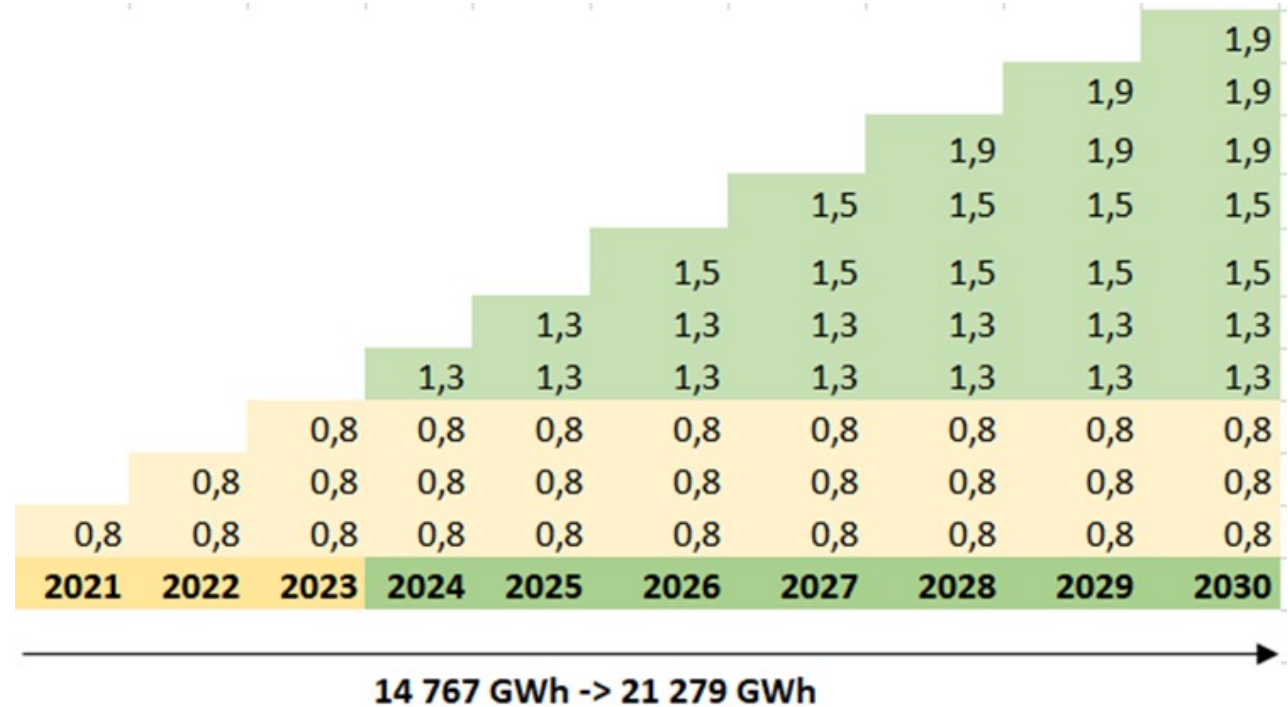
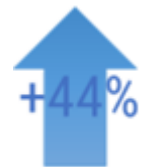
Energy consumption
33 TWh -> 30 TWh



Primary energy consumption
53 TWh -> 45,7 TWh



Cumulative energy savings
14,7 TWh -> 21,28 TWh



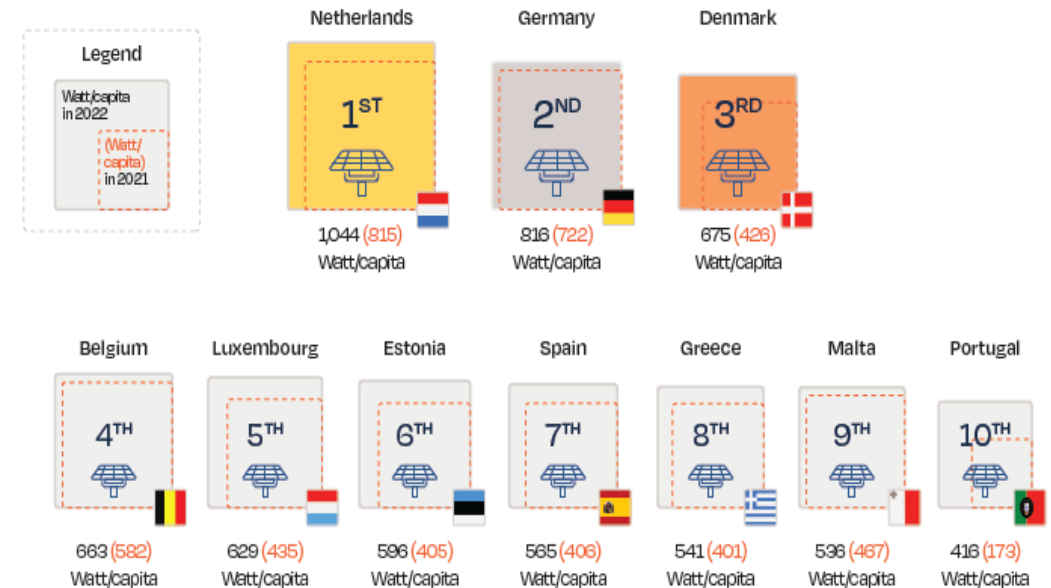
Latest progress on achieving the green transition in electricity production

The total capacity of new wind farm projects started in 2022 will **double the installed wind capacity** (320 MW). Working to keep the trend.

Offshore wind in ca 2030

ELWIND project – EE-LV cross-border offshore wind project

- In last couple of years more than 600 MW of new solar installed.
Estonia 6th in EU in solar watt per capita



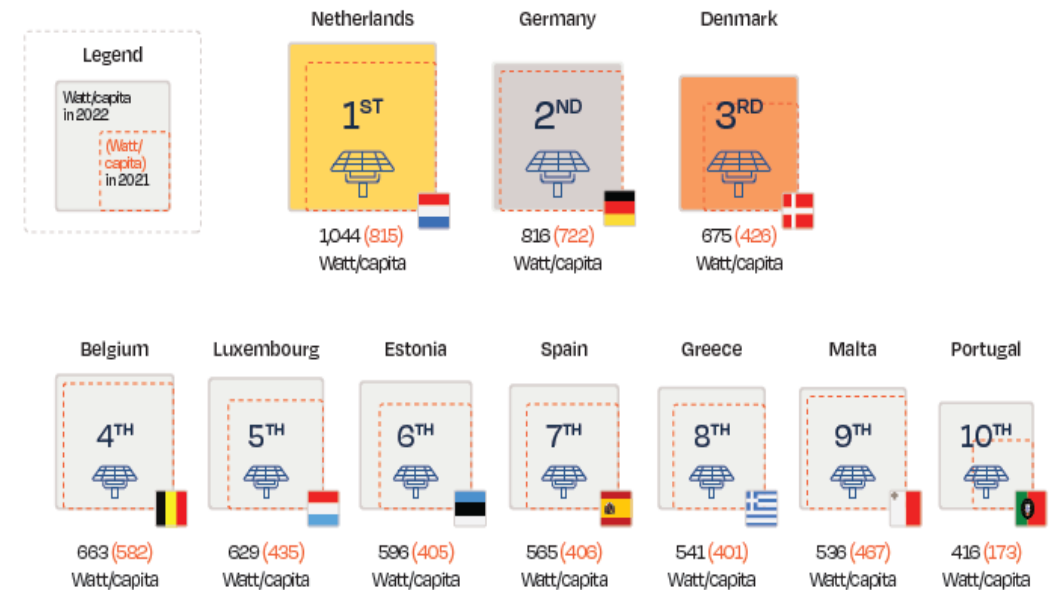
Setting the pace, getting there...

The total capacity of new wind farm projects started in 2022 will **double the installed wind capacity to ca 660 MW**.

Working to keep the trend.



In last couple of years more than 650 MW of new solar installed. Estonia **6th in EU** in solar watt per capita



Solarpower Europe

Onshore renewable energy outlook

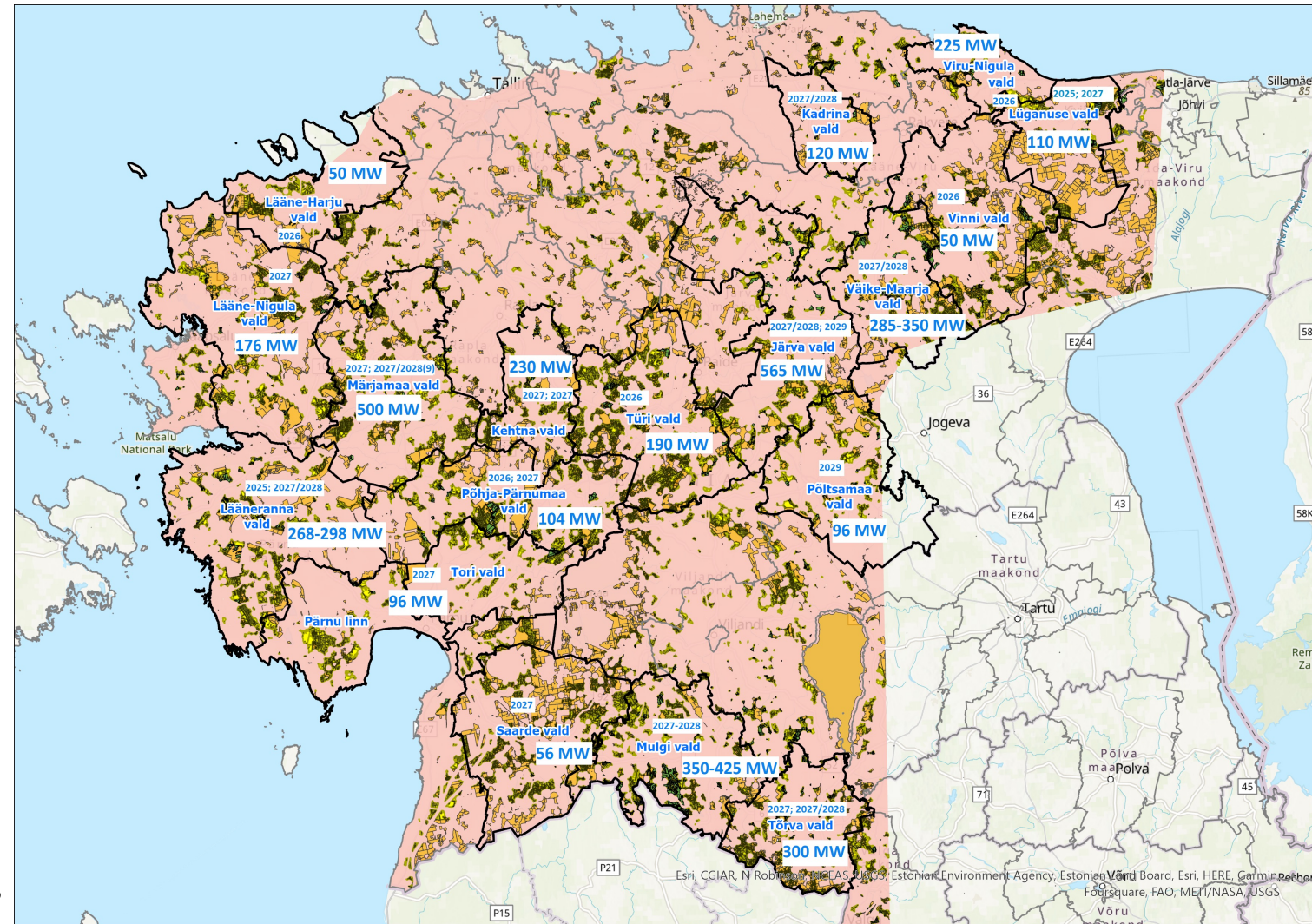
New renewable energy development areas in ongoing municipalities planning processes

- 18 municipality's comprehensive plan
- 14 municipality's designated special plan

Total generation capacities in various planning processes – 5000+ MW. Enough to meet Estonian 100% target 2-fold.

Approving the plans are fully in municipality's discretion

Biggest challenge various environmental restrictions



Estonian offshore wind outlook

Baltic sea: 377,000 km²

EE sea area: 25 000 + 11 000 =
35 000 km² ca 9 %

New offshore wind areas in EE:
1 700 km² = ca 5%

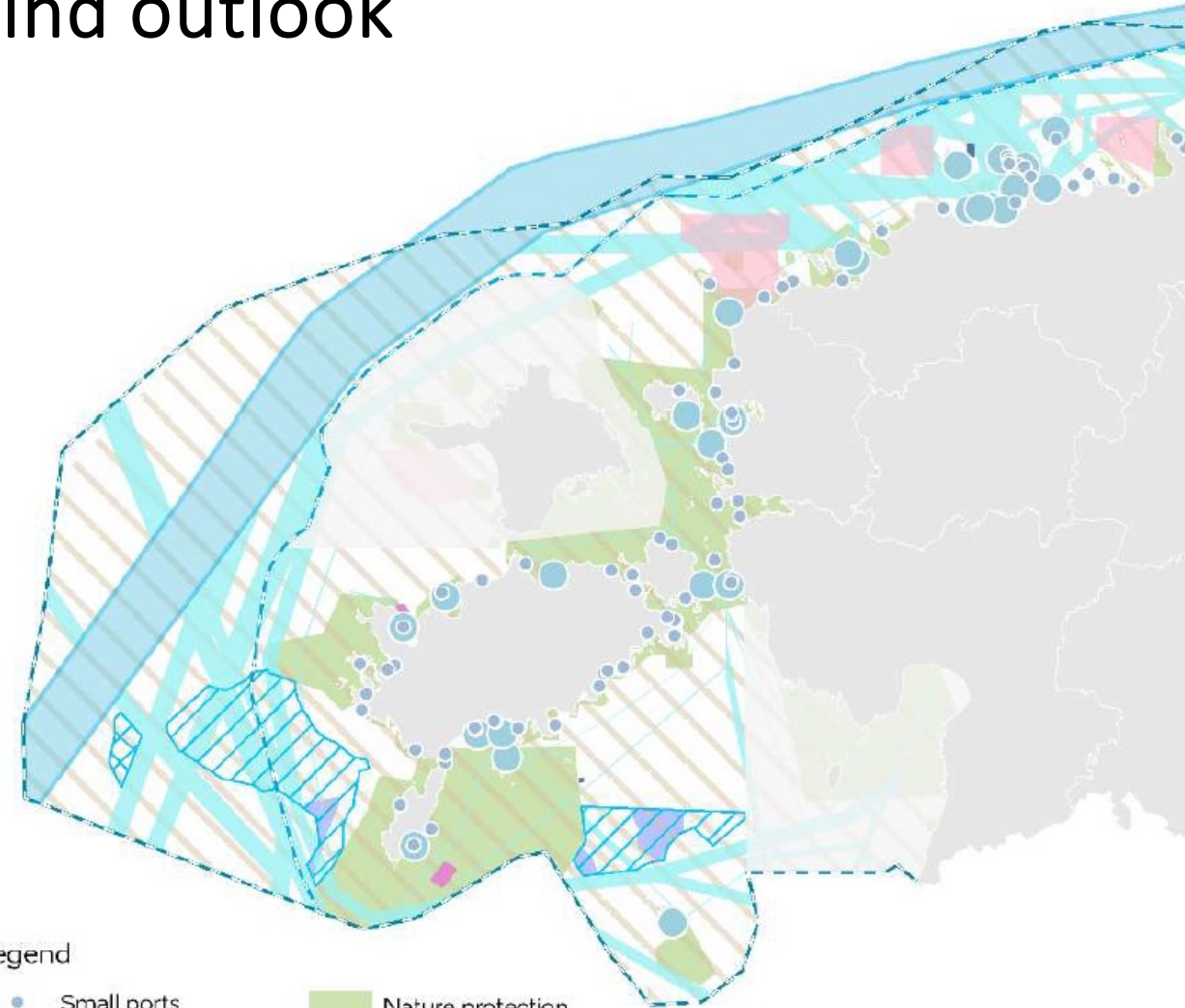
Potential: >7 GW & >24 TWh

There are two existing maritime spatial plans in Estonia with a total of **2,439 km² of suitable areas for wind energy development**, representing 6.8% of Estonia's total maritime area.

There is still possible to submit additional applications on majority of the areas.

Legend

- | | | |
|------------------------------------|--|---|
| • Small ports | ■ Nature protection | — Exclusive economic zone |
| ● Ports | ■ National defence | - - - Territorial sea |
| ■ Water traffic area | ■ Preservation areas for archaeological finds | ■ Approved maritime spatial plans for Hiiu and Pärnu counties |
| ■ International water traffic area | ■ Wind energy reserve areas | |
| ■ Fishery | ■ Wind energy development areas (January 2021) | |
| ■ Places of refuge | ■ Wind energy innovation area | |



Existing offshore developments

3 off-shore developments in advanced EIA phase:

- Utilitas Liivi-Saare up to 1200 MW
- Enefit Green Liivi up to 1000 MW
- Saare Wind up to 1400 MW

total generation ca. 15 TWh

- envisaged years of commissioning approx. 2030



Boosting Estonia's competitiveness

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