OVERVIEW OF BARRIERS IN PERMITTING ACROSS EU

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Wind EUROPE

Short introduction into the RES Simplify project & overview over the key administrative and grid connection barriers to wind power projects

Electric City 2021

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Agenda

- Short introduction into the RES Simplify project
- Qualitative assessment of administrative & grid connection procedure
- Overview over the key administrative & grid connection barriers
- Recommendations and best practice for RES administrative procedures
- Conclusions
- Q & A

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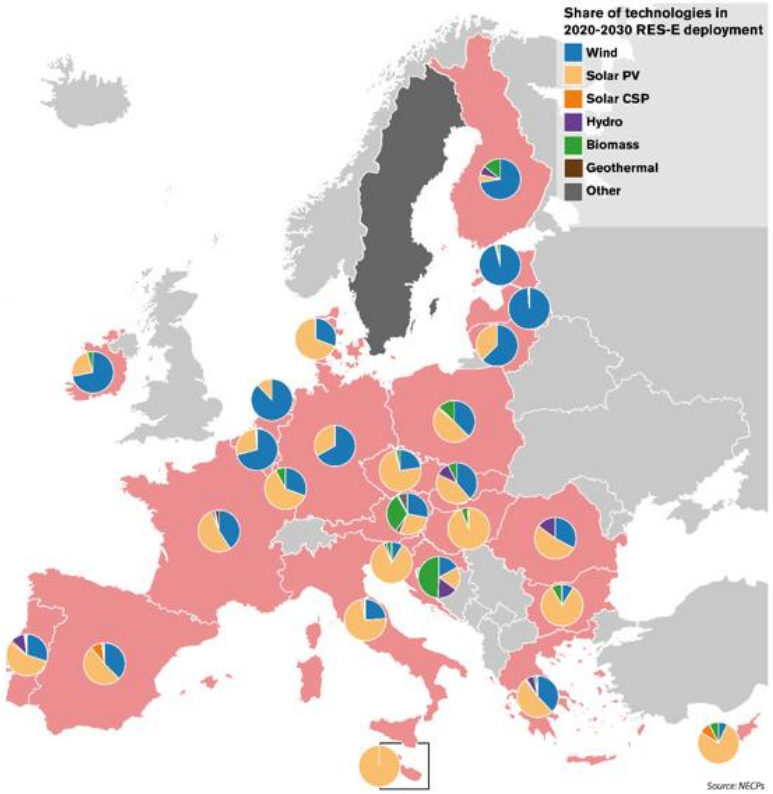
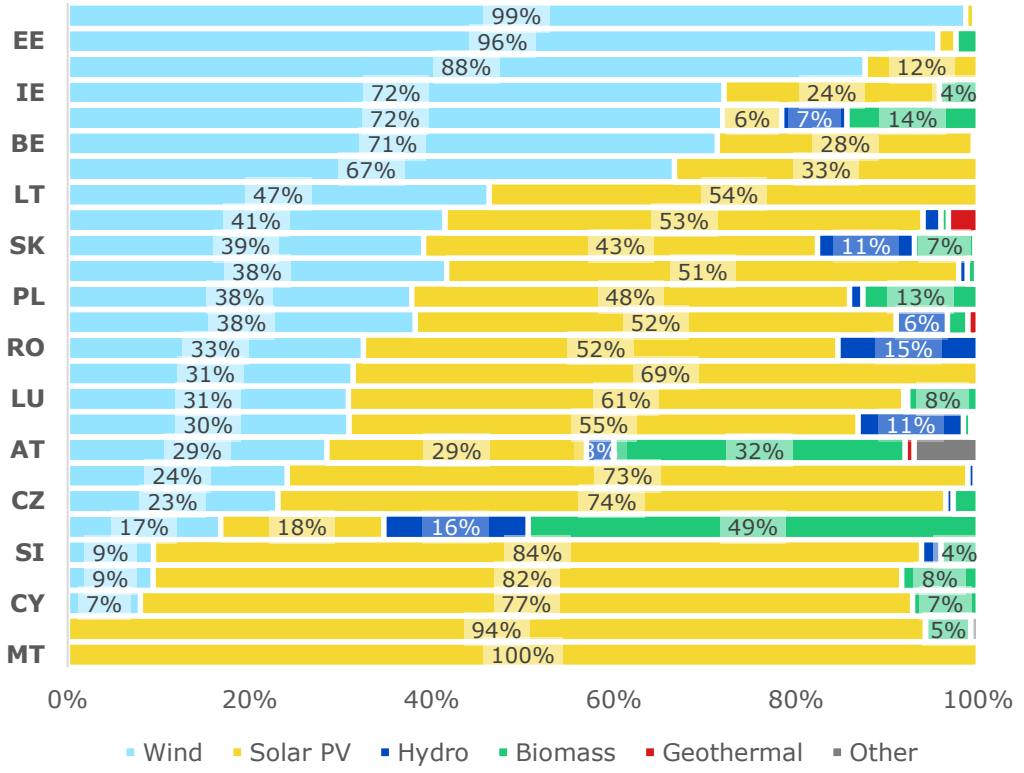
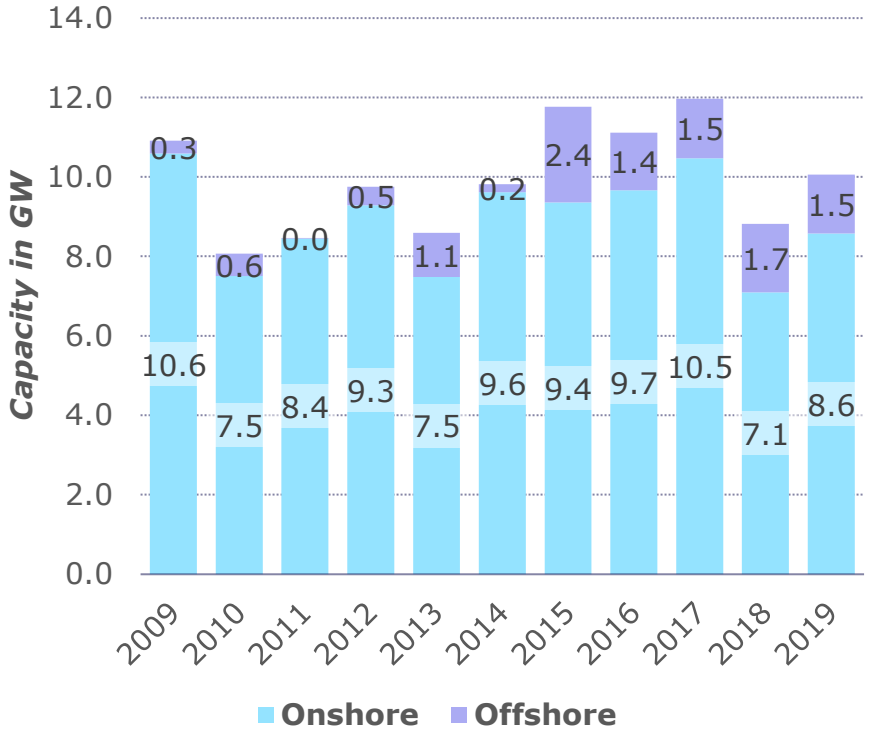
Ambitious EU targets should provide excellent framework for wind deployment





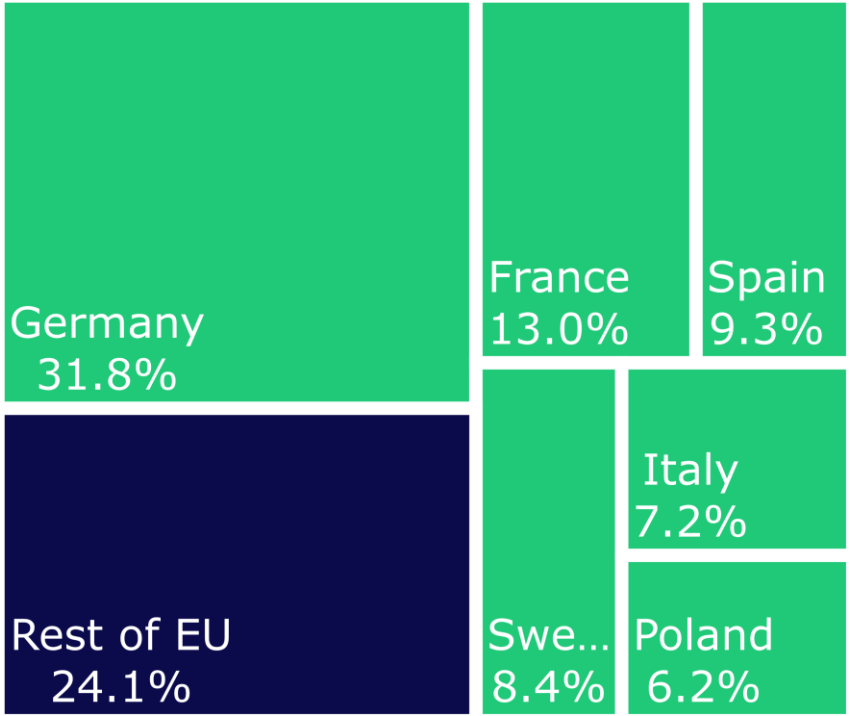
Deployment figures of the past 10 years do not live up to reality

- **Windpower development inconsistent across EU Member States**
- **Particularly weak deployment in the past 2-3 years**
- **Especially wind onshore deployment has recently suffered**



Wind power deployment inconsistent over EU Member States

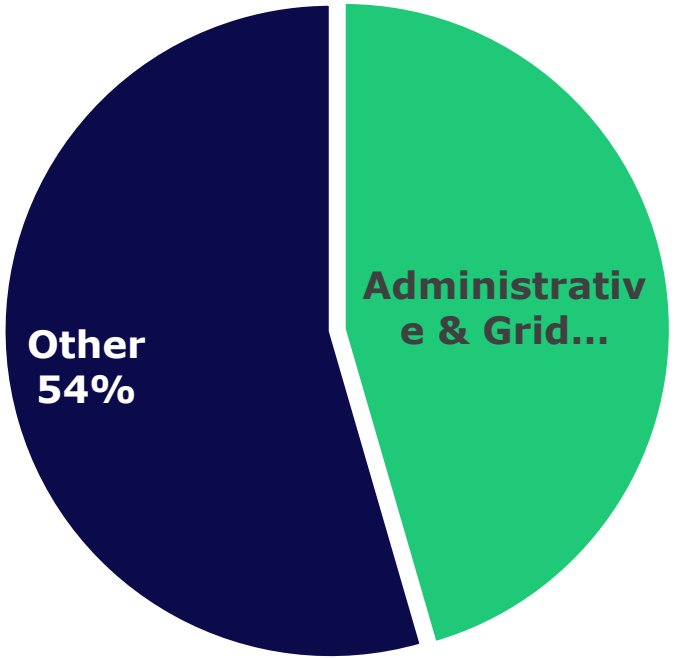
- More than 75% of wind power deployment in only 6 markets
- Historic deployment out of proportion to economic, spacial, population etc indicators
- Huge potential for additional growth in many markets



eclareon (data from Eur'Observer)

Administrative barriers & grid issues important factors for slowed deployment

- Administrative & grid issues make up nearly half of the existing barriers
- Ongoing trends of business models that are less dependent on support schemes (PPAs, zero bid tenders)
- Increased importance of non-financial barriers such as administrative barriers to be expected



REveal database

Mission

Improvement of administrative & grid connection procedures for renewable energy installations in EU Member States through

- Research, analysis & benchmarking of status quo
- Identification of best practices & policy recommendations
- Dissemination & communication of results

Mapping

- Mapping of administrative & grid connection processes
- Production of 29 comprehensive country reports on administrative & grid connection processes, barriers & good practices
- Identification of approx. 400 barriers & 50 good practices

Identification

- Monitoring of EU Member States according to quantitative and qualitative performance indicators
- Identification of good practices

Dissemination

- Workshops and events at national and EU level
- Regular bi- and multilateral meetings and exchanges

Selected set of technologies for the mapping of permitting procedures in the 27 EU Member States, Iceland and Norway

	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HR	HU	IE	IS	IT	LI	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK
Wind Onshore	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Wind Offshore		✓				✓	✓								✓								✓		✓			✓		
PV ground-mounted	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		✓			✓	✓		✓	✓	✓		✓	✓
PV rooftop	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓			✓		✓	✓	✓	✓	✓		✓	✓	✓		✓	✓
Biomass								✓						✓					✓		✓									✓
Hydro	✓											✓																	✓	
Geothermal										✓																		✓		
Ambient heat										✓																				

- **Focus on the RES-E sector**

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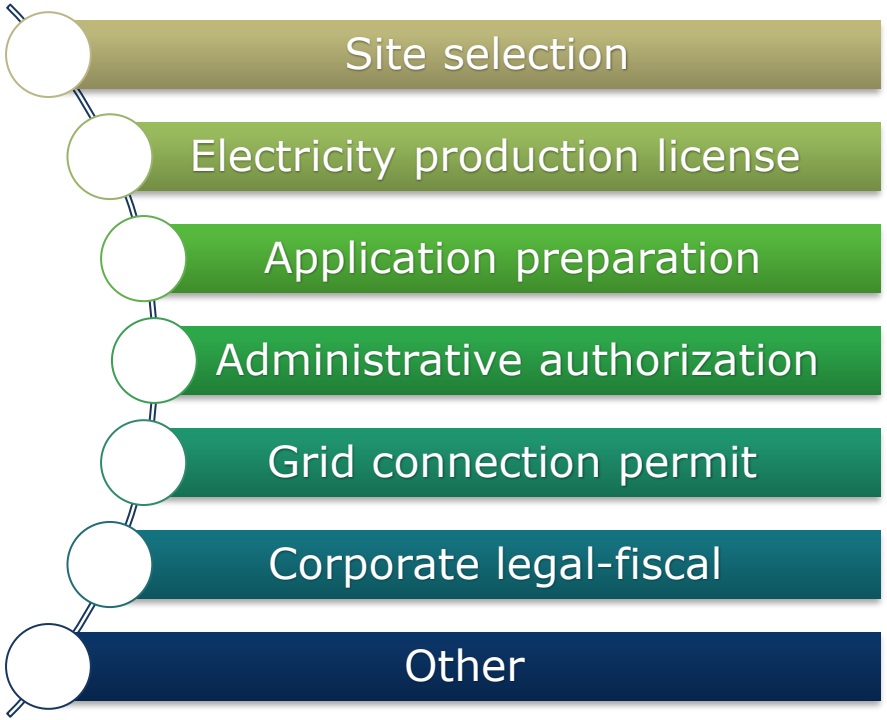
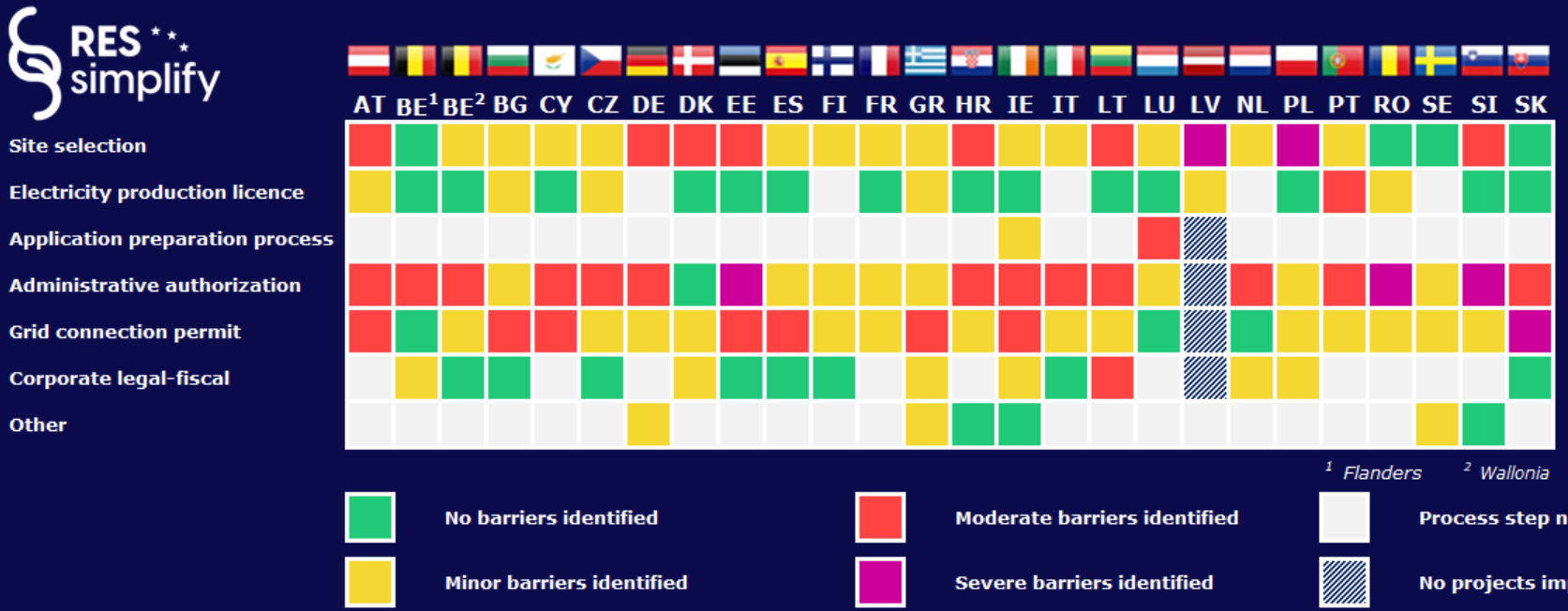
Generalized description as starting point of the assessment

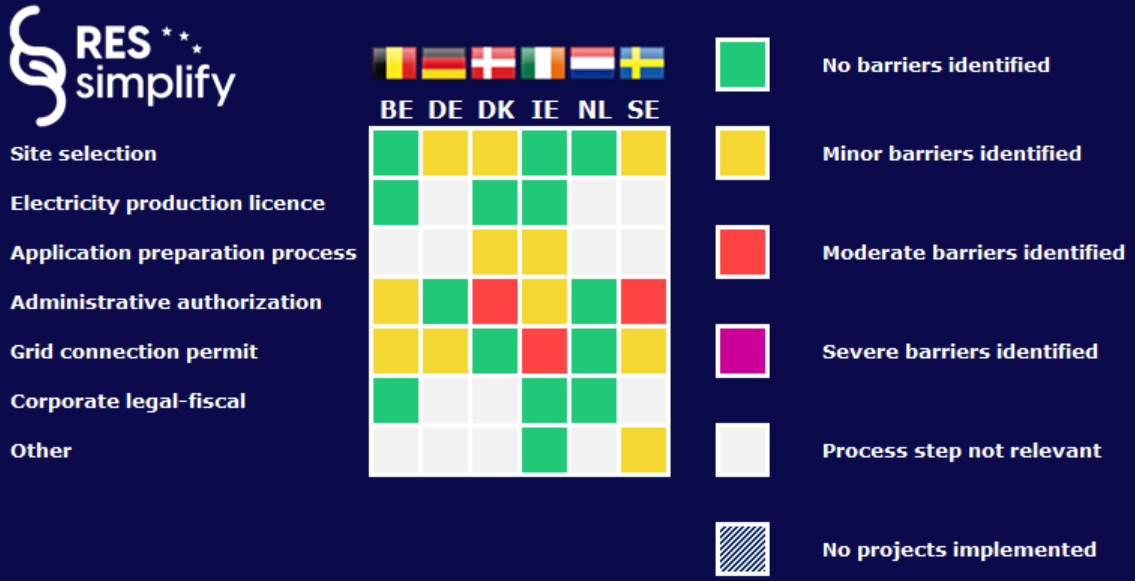
- **Simplified description of wind power deployment process**
- **Goal is comparability and identification of barriers & good practices (and not to produce comprehensive guidelines)**
- **Chronological order differs across Member States**



Onshore wind



Offshore wind



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Wordcloud of identified barriers gives first clue on dominating issues

eclareon (worldcloud from https://www.jasondavies.com/wordcloud/

Cross-country identification of patterns and definition of barrier categories

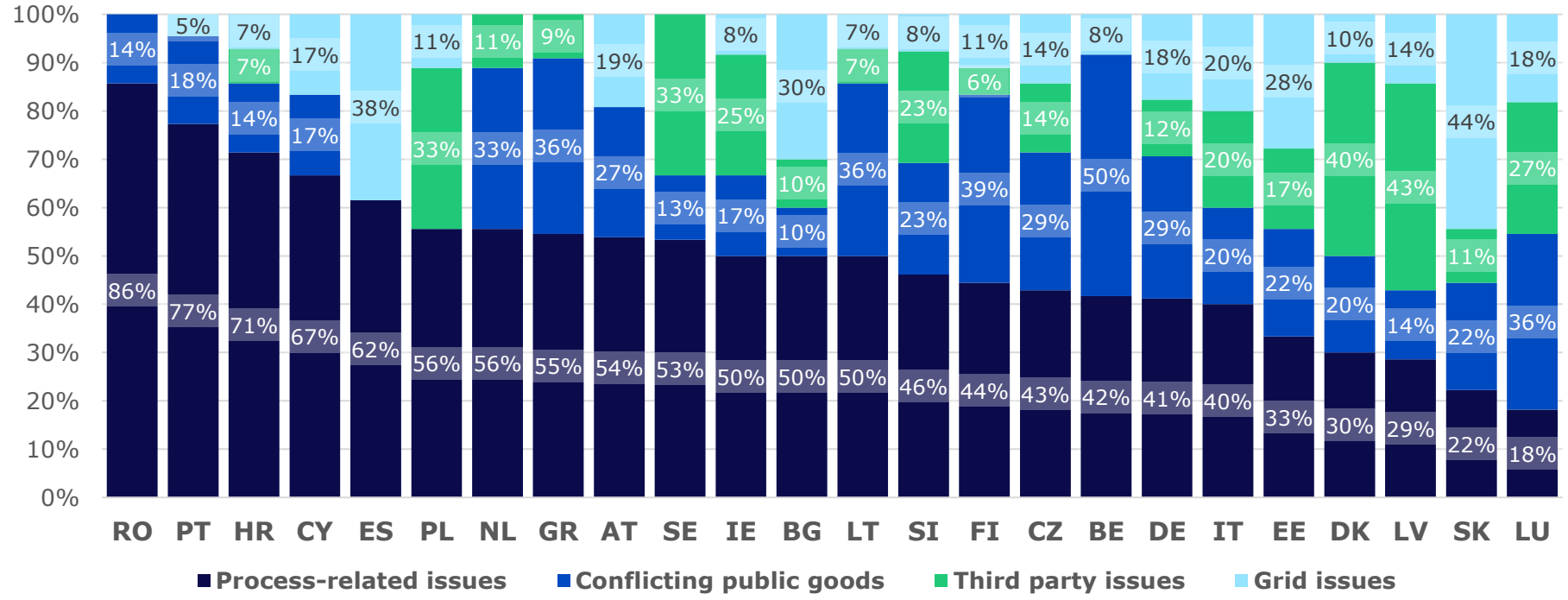
Conflicting public goods
- Environment
- Aviation & Military
- Land use conflicts

Process-related issues
- Bureaucracy
- Insufficient spatial planning
- Lack of expertise
- Lack of framework/guidelines
- Staff
- Non-transparent process
- Political pressure
- Lack of legal coherence
- Lack of support

Third party issues
- Public resistance
- Third party complaints
- Lack of political interest
- Lack of public interest

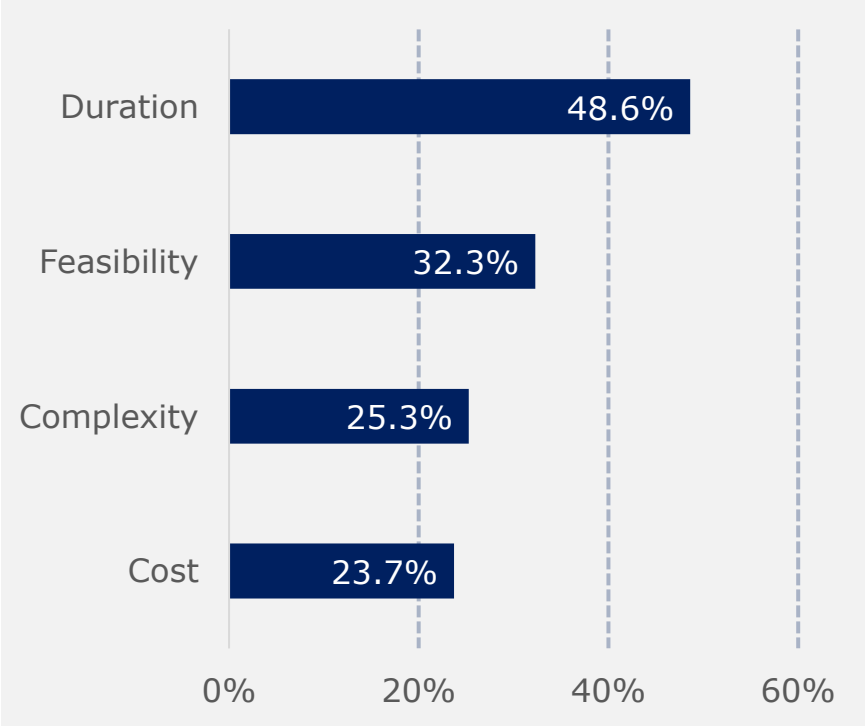
Grid issues
- Grid infrastructure
- Cost of grid connection/expansion
- Grid connection duration
- TSO/DSO problems
- Grid limit

Overview of barriers per category shows significant differences across MS



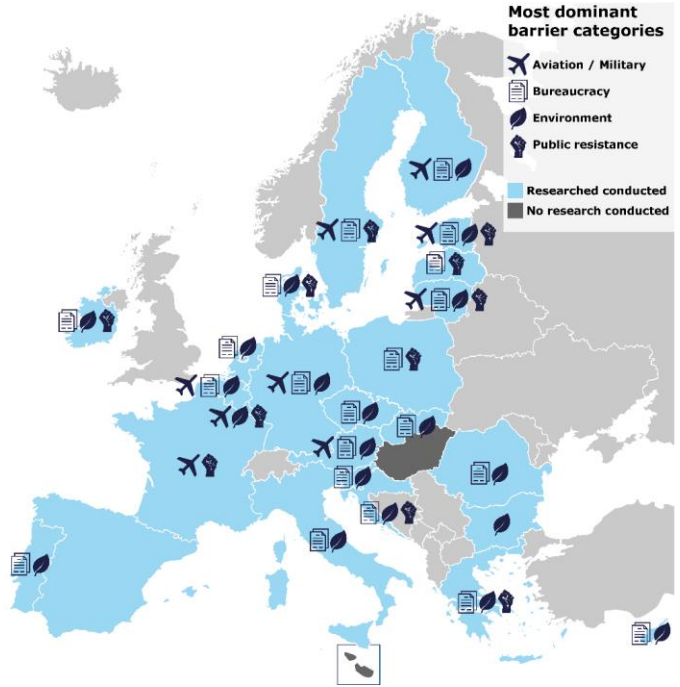
Consequences of the identified barriers for wind power projects

- **Delays of projects most common consequences**
- **Infeasibilty also very common (the worst)**
- **Increased complexity and costs less common but still often a problem**



Prevailing barrier categories for wind power

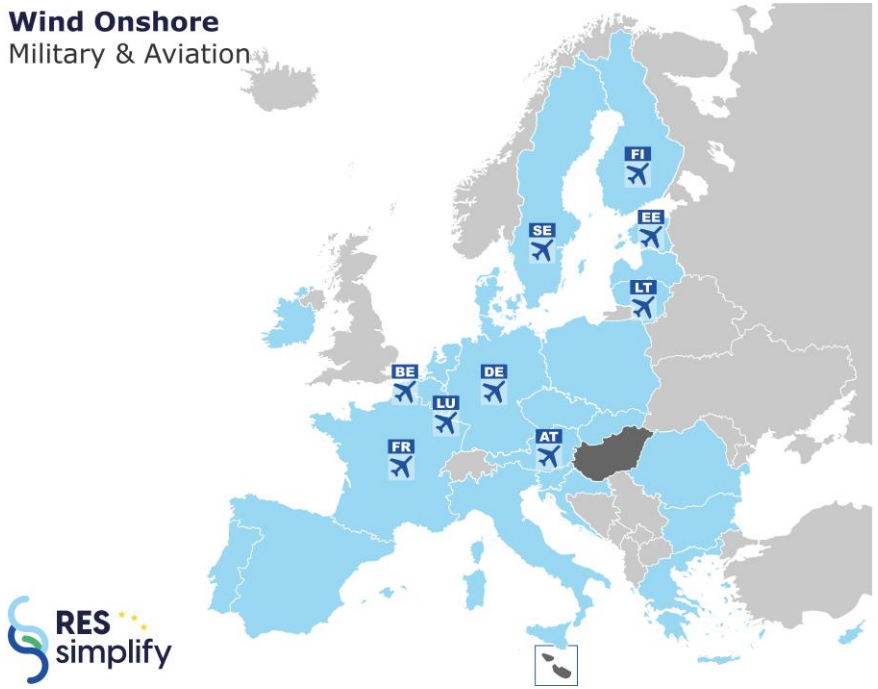
- **Bureaucratic issues (incl. repetetive inquiries from authorities) key barriers & prevalent in almost all MS**
- **Issues related to environment (both EIA processes and conflicts with environmental groups) widest spread barrier**
- **Conflicts with aviation & military concerns seem more proponent in North-Eastern Europe**
- **Barriers connected to (organized?) public resistance a bit less common but can be very detrimental to success of projects**



RES simplify

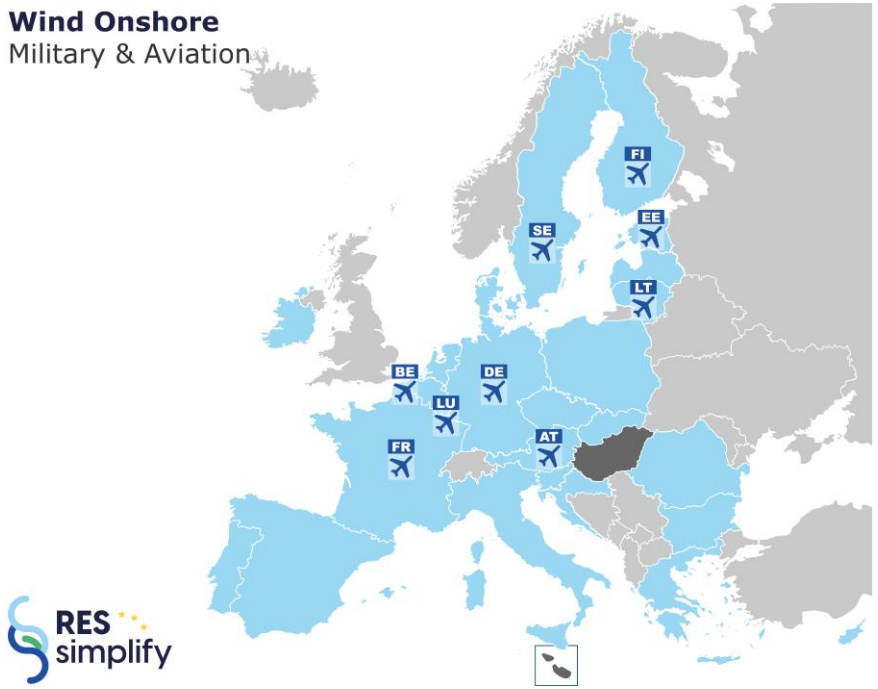
Germany

- **Distance requirements for radar zones & other civil/ military air safety requirements – restricting factor for onshore wind**
  - **> 1000 projects (4,800 MW) blocked due to restrictions for radar zones**
  - **> 900 projects (3,600 MW) blocked due to interests of military airspace use**
- **Distance rules of German air traffic control significantly higher than in many other EU MS**
  - **15 km in Germany, while in Spain 3 km**
- ***Consultations ongoing: To be examined if certain wind parks can be turned off remotely***



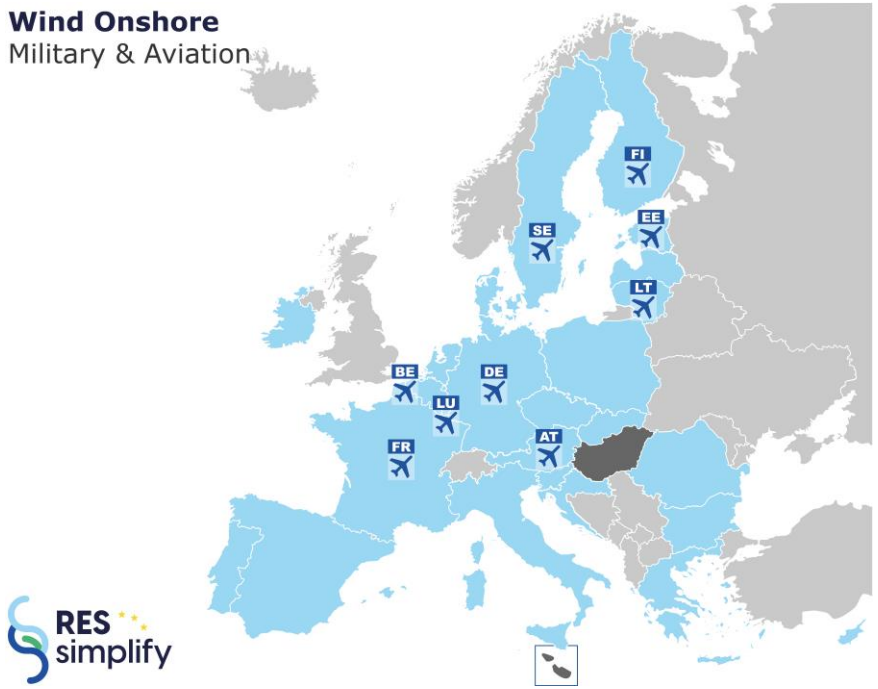
France

- **Aviation & military restrictions one of the biggest barriers to onshore wind**
- **Potential negative impacts on military radars, low altitude flights, meteorological & radio communication systems are assessed by French Civil Aviation Authority, Ministry of Defence & National Meteorological Service**
  - **Placement of wind turbines forbidden within 30 km radius of any radar installations -> 45% - 47% of new onshore wind projects affected by this ban**
- **Final authorisation to operate can be revoked due to changes in military safety standards**



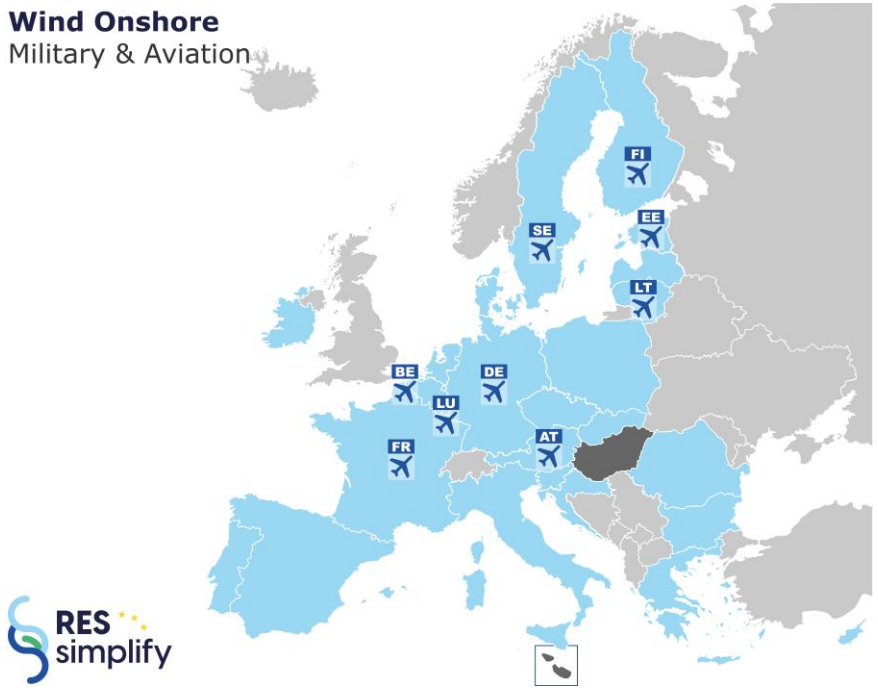
Austria

- No substantial amendments to Aviation Act since its adoption in 1957 -> doesn't meet current aviation safety standards for wind power
- Lack of national regulations -> aviation experts often rely on experience from other countries (e.g. Germany)
  - Some requirements are not easy to comprehend
- Conflicting requirements imposed by competent authorities in substantial law procedure
  - e.g. nature conservation procedure requires to switch the lights of wind turbines off and aviation authorities require to swich them on



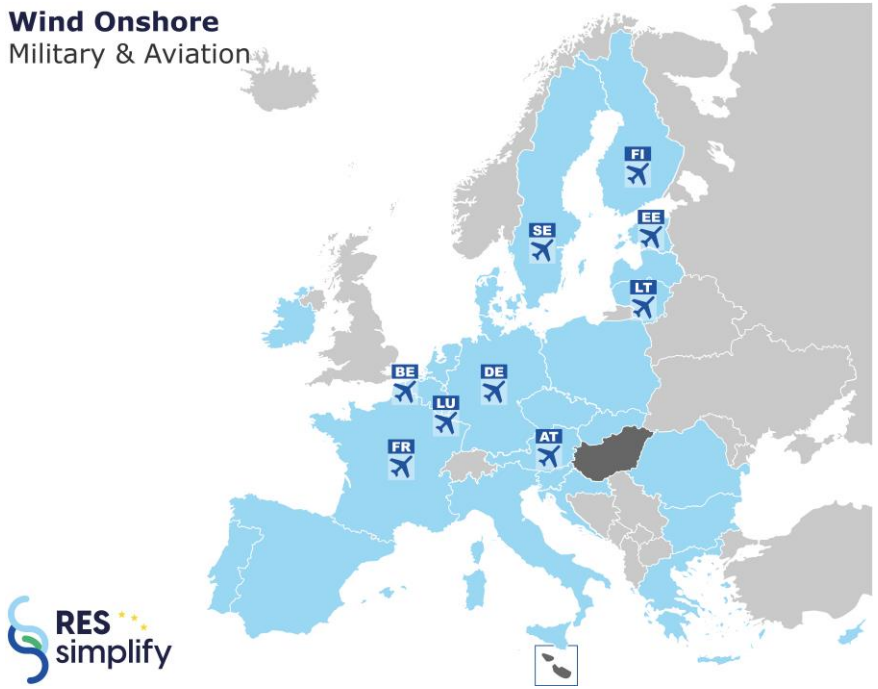
Finland

- **Consultation with Defence Forces perceived as most significant barrier to onshore wind**
- **Consultation is mandatory for all commercial wind power installations > 50 m in height**
  - **impacts very high share of wind power projects, especially in Eastern & Southern Finland (virtually impossible to get an approval here)**
  - **projects located in the Western part of the country (coastal areas) -> problems with the grid access expected to become worse**
- **Non-transparency of requirements for approval**
  - **Information on locations & military technologies not public due to national security reasons**



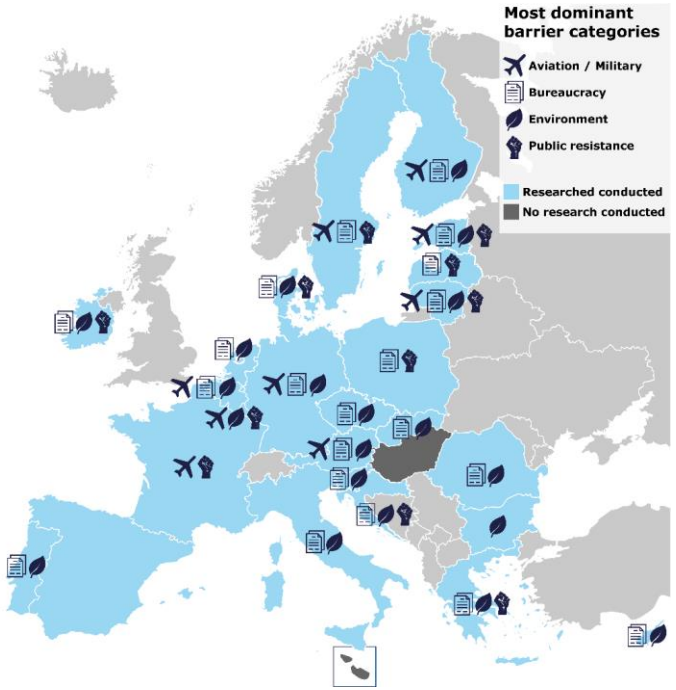
Sweden

- **Armed Forces have the right to require counties/ municipalities to withdraw granted permits (environmental, building) even after they have been issued**
- **Armed Forces have restricted certain areas for the development of wind power (restricted area was expanded in 2017)**
- **Wind turbines are questioned especially in the Southern & Eastern Sweden**



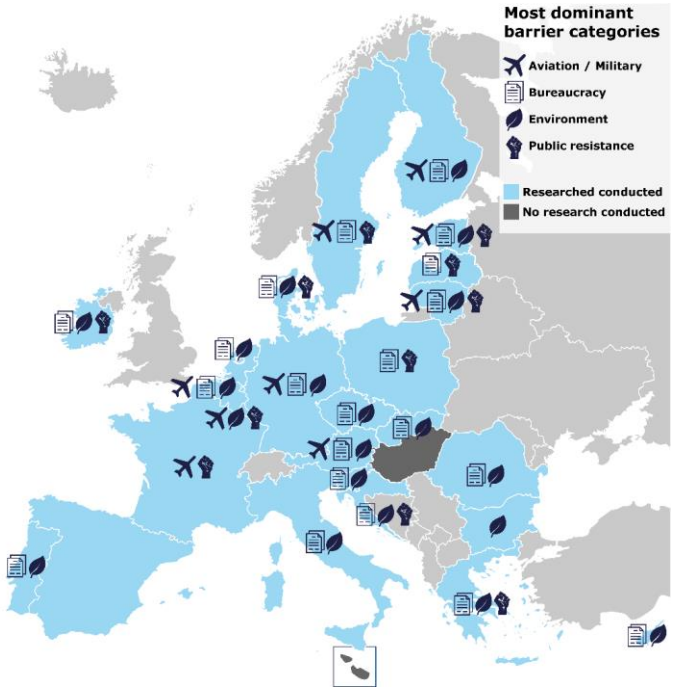
Lithuania

- **Armed Forces adopted a map with red & yellow zones for the construction of wind power plants**
  - **due to potential negative impact on air surveillance radars, wind power development is prohibited/ limited in ~1/3 of Lithuanian territory**
  - **limitations result from lacking investments in new air monitoring systems**
- **Lack of deadlines for the construction of radars by the Armed Forces after provision of compensatory measures by project developers**



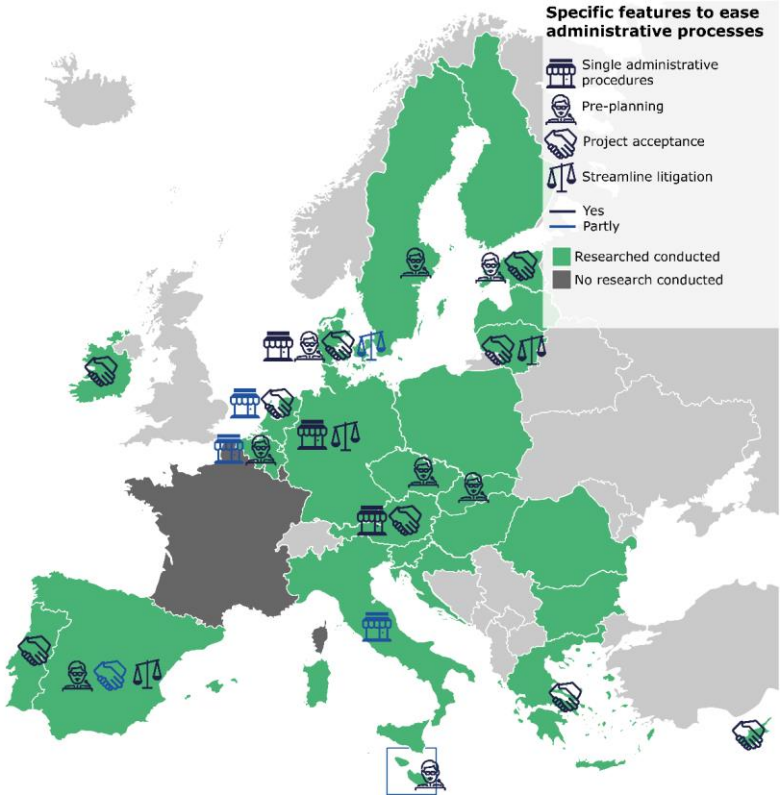
Estonia

- **Due to national security reasons, large share of locations with good wind conditions cannot be used for wind energy development**
  - **one of the biggest barriers in Estonia**
  - **No wind power plants became operational since 2016, partly due to the lack of suitable sites**
- **Additional investments in radars are needed**



Another type of barrier: the lack of features to ease administrative processes

- One-stop-shops wide-spread, but often only for certain technologies/ projects
- Deadlines from RED II (2+1 and 1+1 rules) applied in only in 3 markets
- Pre-planning little used and partially in markets that are less relevant for wind power
- Project acceptance measures become more popular
- Streamlining of litigation applied in only 4 markets



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Conclusions

- Ambitious targets set, however deployment figures of the past 10 years do not live up to reality
- Process-related issues account for 50% of all identified barriers for wind power
- Bureaucratic, environment related issues (e.g. EIA processes), conflicting interests with aviation and military as well as public resistance are among prevalent barriers in EU MS
- Still much room for improvement with regard to features to ease permitting procedures
- Procedural improvements crucial to ensure achievement of ambitious targets at EU & national level
- With optimised permitting procedures in place, lower cost energy can be generated
- RED II & RED III - window of opportunity, but MS should go beyond

Project team

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