

Cape Clear Renewable Energy

Oileán Chléire (Éire / Ireland)

CE4EUI Forum at Ponta Delgada, Azores -
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Day 1, Breakout session #1: Renewable Energy Generation

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Cape Clear Energy Group

The Island Energy Group

- ❑ Newly Formed **Energy Group** (2024)
- ❑ **Clean Energy for EU Islands** Official Launch 2023
- ❑ **Partners:** Local Reps, Comharchumann Chléire, Údarás na Gaeltachta, Cork County Council
- ❑ The target is to achieve **energy self-sufficiency** in the coming years by advancing wind and solar energy projects

Finalised and ongoing activities

- ❑ EV public transport: operational.
- ❑ Anaerobic digestion: operational.
- ❑ **Wind energy: planned / preplanning stage.**
- ❑ **Solar PV: existing and expanding.**
- ❑ **Solar thermal: distillery.**
- ❑ **Heat pumps: planned.**
- ❑ **Energy efficiency roadmap: under preparation, with archetypal building models.**

Cape Clear and its energy system

The island

- ❑ Southernmost island of Ireland
- ❑ Fastnet Rock Lighthouse
- ❑ Gaeilge / Irish Language
- ❑ **Population: 100** (increases to 500 Peak summer)
- ❑ **Economic Sectors:** Tourism, Farming, Community Dev., Language College, Marine Leisure, Fishing & Distilling.
- ❑ **Ferries:** Regular services to Trá Chiaráin (North Harbour)

<https://clean-energy-islands.ec.europa.eu/resources/mediahub/30-2030-cape-clear>



Energy consumption

Energy vector	Quantity	Unit	Quantity [MWh]	Share
<i>Electricity</i>				
Total electricity			417	23%
<i>Transport</i>				
Diesel: public transport	2546	l	25	1%
Petrol: cars	8004	l	80	4%
Diesel: agriculture	51048	l	510	28%
Total transport			616	34%
<i>Cooking</i>				
Gas: domestic cooking	2858	kg	38	2%
Gas: commercial cooking	1927	kg	26	1%
Total cooking			64	4%
<i>Heating</i>				
Kerosene	34049	l	358	20%
Coal	20.8	t	173	9%
Smokeless coal	4.8	t	47	3%
Peat briquettes	4.8	t	21	1%
Timber	24	t	123	7%
Coal briquettes	0.8	t	4	0%
Total heating			728	40%
TOTAL			1825	

Community Led Wind Turbine

Historical Wind Project

- ❑ 1980's wind mills - ahead of their time



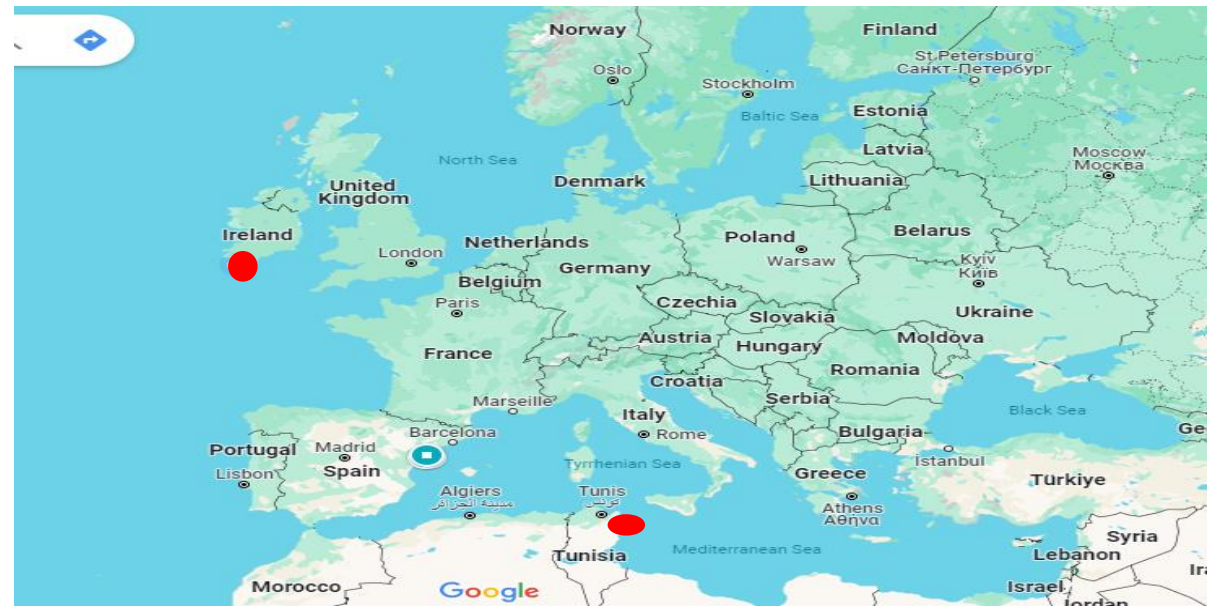
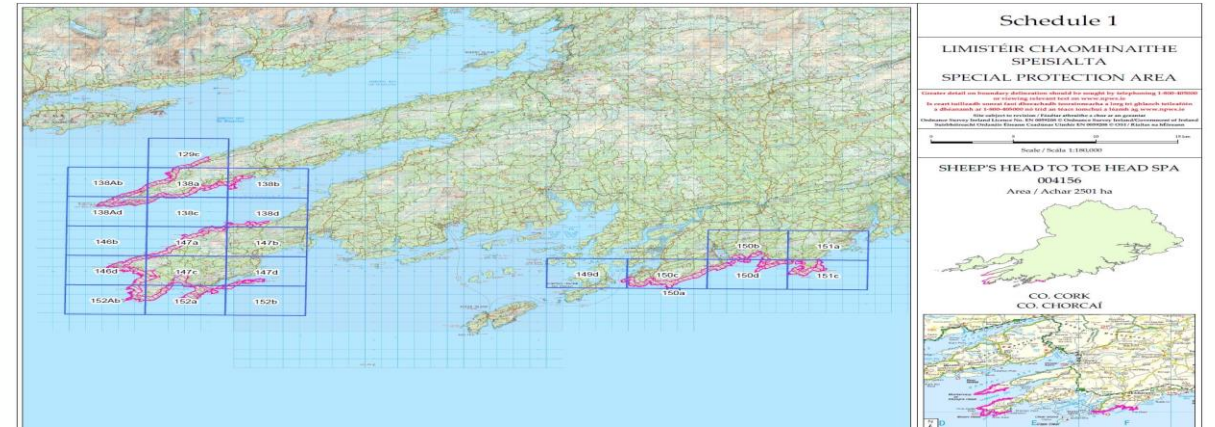
<https://www.rte.ie/archives/2017/1020/913985-innovative-wind-technology-on-cape-clear/>

Future Wind project

- ❑ **Community Wind Turbine project by Island Energy Group**
- ❑ This project aims to harness wind energy to provide a sustainable and renewable source of power for the island.
- ❑ Grid connection secured: 300 kW (+ 300 kW possible).
- ❑ Sufficient to potentially reach a fully renewable island.
- ❑ Bird survey completed by Geoff Oliver.
- ❑ Technical feasibility study done by the CE4EUI Secretariat & Riccardo Novo
- ❑ Complex planning process with planning authority.

Impact on fauna: bird survey

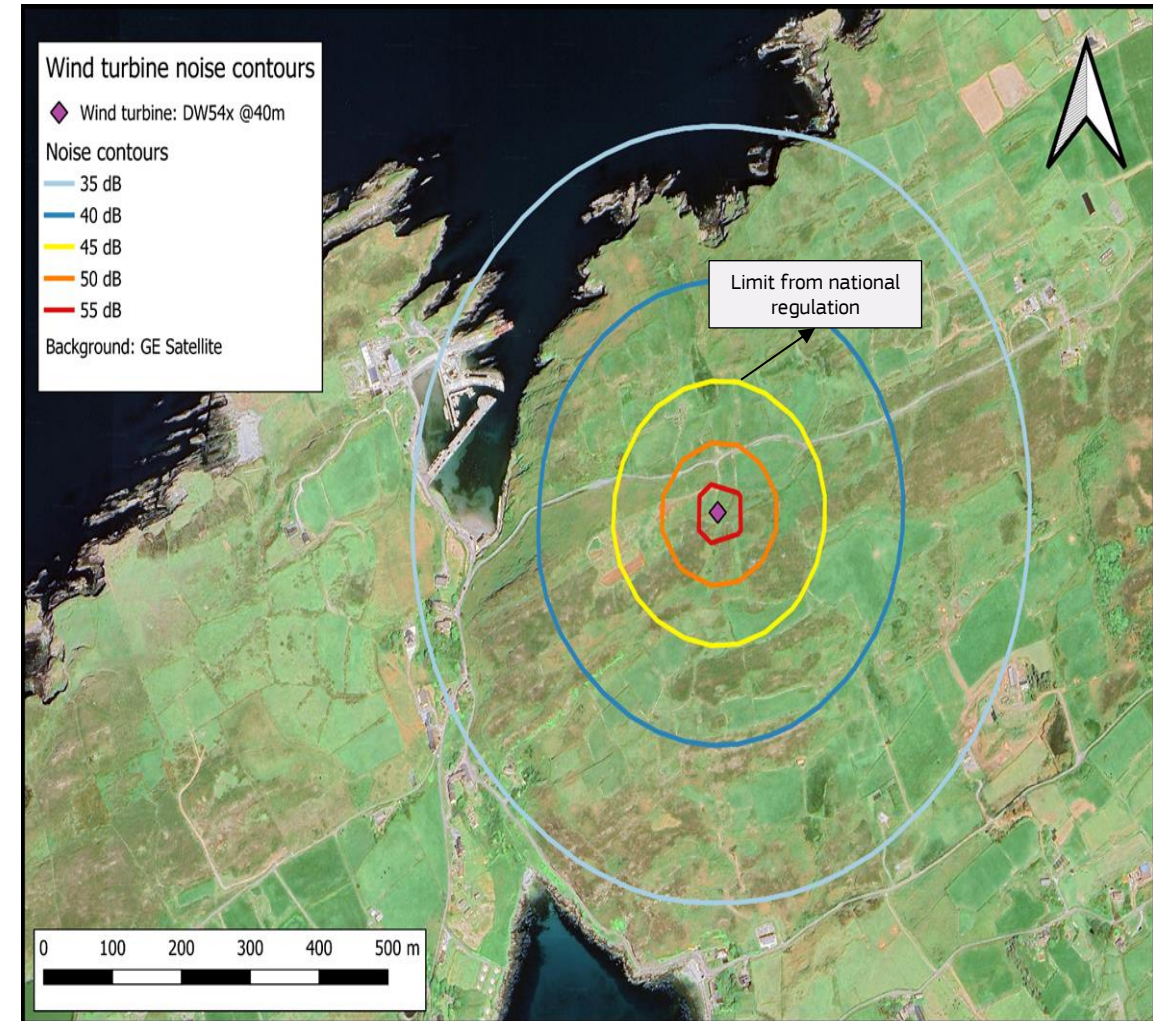
- ❑ Bird Survey conducted and is an ongoing process
- ❑ Results are positive for the project
- ❑ A wind turbine on the island would not affect the Special Area of Conservation as the site is outside the SAC.
- ❑ The application is for a single turbine in an area where bird populations are relatively low and unlikely to be affected.
- ❑ As a result of this bird survey it is considered that the proposed development would not in any way have an adverse effect on the neighbouring Natura 2000 sites.



Social impacts

Different wind turbine configurations (rotor diameter & hub height) evaluated in terms of:

- ❑ **Landscape modification:** photomontage to support public discussion.
- ❑ **Noise:** maps to verify compliance with national regulation on each residential building.
- ❑ **Shadow flicker:** maps to verify compliance with national regulation on each residential building, and assess the need of mitigation (shut down at sunrise and sunset)



Environmental and Societal Contrasts

Planning laws & Community

- ❑ County Cork Development Plan (2022), the whole island is designated as “**Commercial wind energy developments: normally discouraged**”.
- ❑ Community Resource: The electricity will be consumed locally and the excess is to be exported.
- ❑ A shared ownership of the plant is foreseen.

Next Steps

- ❑ The initial planning submission has been withdrawn to strengthen our case
- ❑ Further impact studies conducted under the CE4EUI contract strongly support the business case
- ❑ Second pre-planning meeting requested
- ❑ Finalise second bird survey (on-going) and feasibility study

Solar Energy Opportunities

2025 Solar Survey

- Island Survey to be completed
- Energy demand of island to be analysed
- Technical solutions to be proposed
- Information provided by Kevin McCann (Comharchumann Chléire)



Provisional Survey Recommendations

- The number of solar panels needed for the island to be identified
- Site locations to be identified
- Two small scale wind turbines to be proposed



Go raibh maith agaibh / Thank you

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