



# LECo

Local Energy Communities



Northern Periphery and  
Arctic Programme  
2014-2020



**EUROPEAN UNION**

Investing in your future  
European Regional Development Fund



HOW TO BECOME AN ENERGY CHAMPION:  
DEVELOPMENT OF EXEMPLARY PROJECTS



*“Without citizens and communities demanding change and being part of the transition, the transition will not happen. Without value for citizens and communities they won’t demand change”*

Paul Kenny, Chief Executive Tipperary Energy Agency

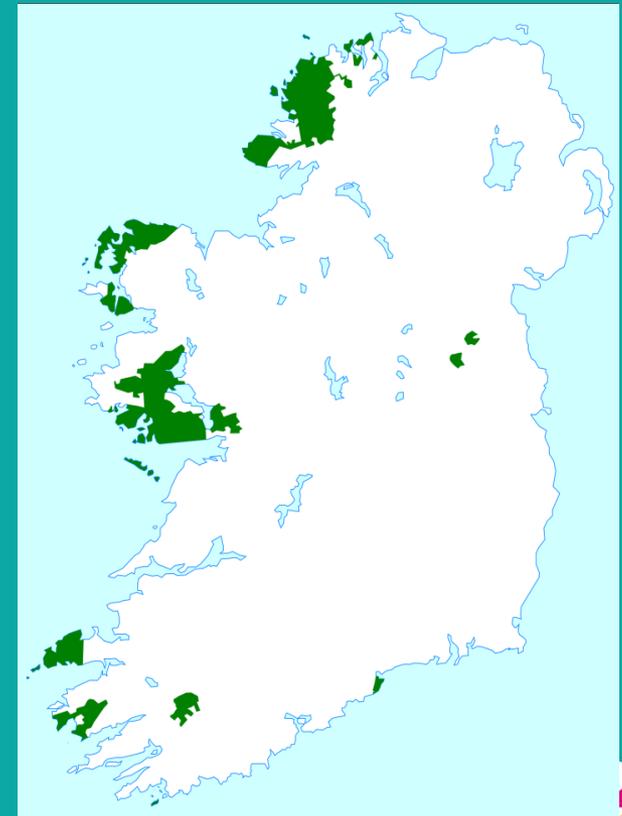




*Údarás na Gaeltachta*

## Tá Gaeltacht Regions

- ✓ Údarás na Gaeltachta is responsible for the economic, social and cultural development in Irish speaking regions.
- ✓ c.100,000 living in the Gaeltacht
- ✓ 7,000 people working in Údarás supported businesses
- ✓ Network of community groups
- ✓ Huge natural potential (wind, wave, sun, biomass)



# Why become an energy champion?

- Reducing energy consumption
- Supporting your community
- Driving local economic development
- Enabling skills development
- Supporting personal growth



# How to become an Energy Champion

- Building strong relationships with communities
- Liaising with local partners and other partners
- Delivering energy efficiency advice/ training and workshops.



# Practical Steps- Ownership Models

## ✓ Ownership Models for Local Energy Communities

The following models are the most common forms of community energy in practice.

- ✓ **The co-operative model:** membership based and democratic
- ✓ **The joint venture:** co-ownership between cooperatives, municipalities and energy companies
- ✓ **The local company:** initiated by a local entrepreneur with support from the community
- ✓ **The municipal utility:** a municipality owns and operates an energy utility.



# Funding Models

- ✓ Grant Aid
- ✓ Loans
- ✓ An Energy Service Company (ESCO)
- ✓ Renewable Energy Feed-In Tarriffs (REFIT's)
- ✓ Tax Incentives
- ✓ Green Bonds



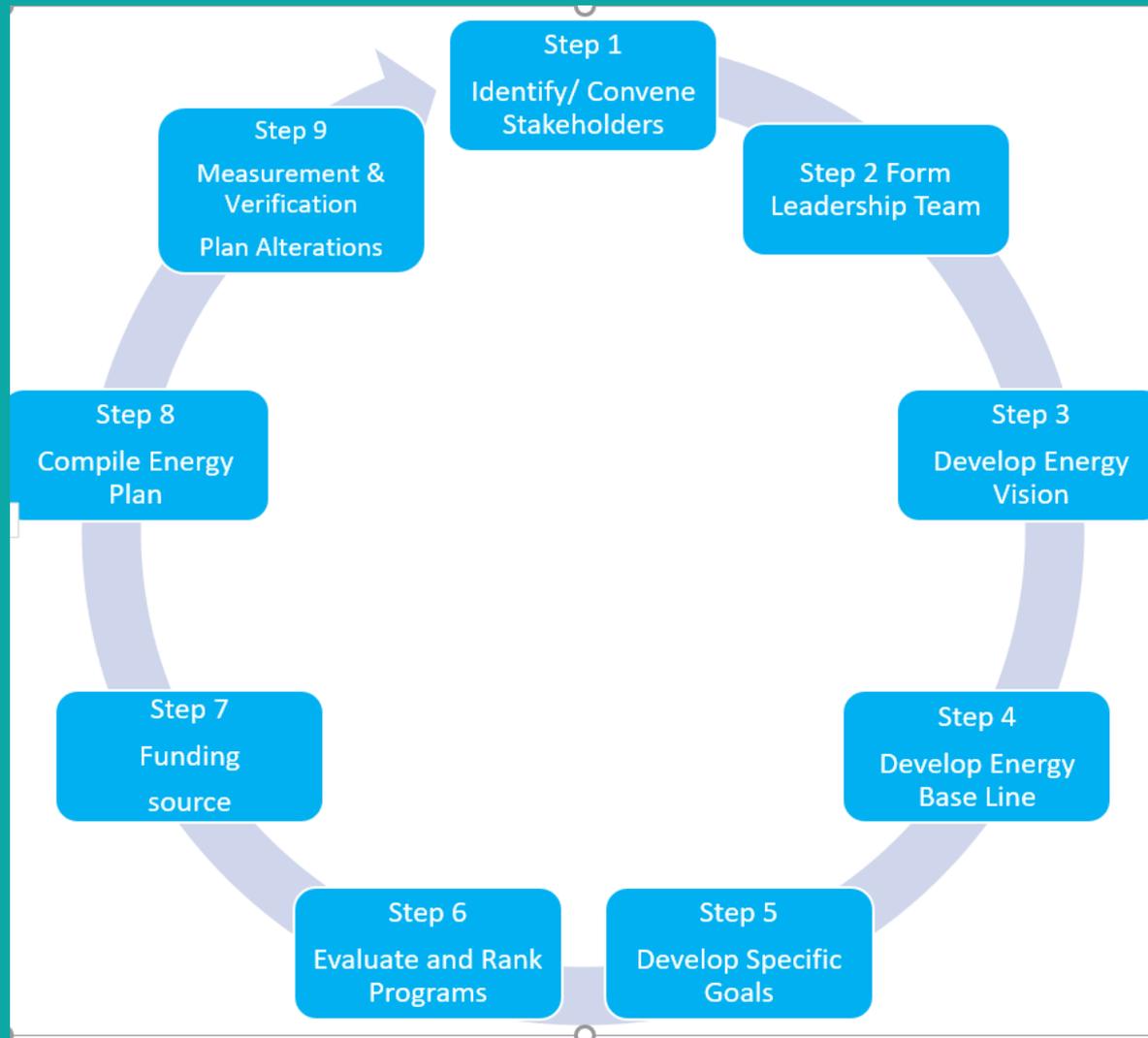
# LECo approach

The LECo approach to local community energy focused on three main pillars.

- ✓ Engagement, raising awareness and best practice;
- ✓ Energy Modelling and scenarios and delivering specifically Community Sustainable Action Plans; and
- ✓ Development of 'Energy Village' Strategic Planning and implementation.



# Strategic Energy Planning Process



# Development of Exemplar Projects

## FINLAND

A local resident initiated a wind farm project in 2001 in Larsmo near Kokkola. A 1 MW wind turbine was erected by a company called **Larsmo Vindkraft Oy**. The company consists of 200 local private individuals as shareholders.

Lessons learned include:

Regular information events for local residents are important to reduce resistance.

Raise a larger share of own equity, 30-40%.

Do not assume that the price of electricity will rise.

Ensure own consumption share of generated electricity is high.

Engage a consulting company, who acts as a technical advisor.

The **Lohtaja Heat Cooperative** (Fi=Lohtajan energiaosuuskunta) consists of 40 agriculture and forestry members which built, own and operate a wood-chip fired heat plant, which replaced oil heating. The lessons learned were largely positive, only that the wood-chip storage room and the boiler room could have been bigger, which was mentioned in the interviews.



## IRELAND

The **Aran Islands Energy Cooperative** or **Comharchumann Oileáin Árann Teoranta** (CFOAT) is a community based Energy Co-Operative representing the three Aran Islands. It grew out of a community development cooperative. Every resident from the Aran Islands has an opportunity to become involved as a shareholder. CFOAT currently has about 100 shareholders. CFOAT aims to drive the transition on the Aran Islands to carbon neutrality. Part of this challenge is to insulate all the buildings to a high standard, replace oil and coal with heat pumps, solar PV and battery storage, promote electric vehicles, and tap the sources of green energy on the islands to produce enough power to make the islands self-sufficient.

Lessons learned:

- ✓ Cooperative rules were adapted to suit the island's particular situation and goals.
- ✓ It is important to set clear goals and aims, which provided cohesiveness and inspiration
- ✓ Information and education of members and citizens is crucial.
- ✓ Communication to members and citizens is essential.
- ✓ All would work better if public sector bodies and local authorities could get more supportive



## SWEDEN

The **Jokkmokk Eco-municipality**, Norrbotten County, owns and operates a small district heating system, which is fired by wood chips. The district heating system supplies 522 buildings in total including public buildings and private households. Insulation and new meters on the consumer side and efficiencies in flue gas condensation on the supply side have contributed to reduced losses and improved efficiency.

Lessons learned:

- ✓ Energy efficiency projects are successful and have a short payback time.
- ✓ Recruiting competent staff is a challenge for a small and remote community.
- ✓ Better metering has detected losses and a new control system has been introduced.
- ✓ An efficiency strategy with a long-term perspective has been developed.

**Vilhelmina municipality**, Norrbotten county, constructed a heat pump in its waste water treatment system to recover heat from the sewage and which reduces heating costs for the building.

Lessons learned:

- ✓ Energy efficiency projects are considered attractive for the municipalities because of their short payback period and environmental benefits.
- ✓ It is important to consider operational and life-time costs at the planning stage



## Germany

The “**Outdoor pool society of Dingden**” was formed as the result of a citizen’s initiative. The society installed a rooftop Solar PV system at the public outdoor pool facility in Dingden, Hamminkeln, Germany. The electricity generated is sold to the grid and revenues contribute to maintenance of the outdoor pool.

Lessons learned:

A small membership fee of only 6 EURO per year was essential for citizens to become members. The society had 3100 members by 2019.

Citizens/members get a sense of contributing to maintain the outdoor pool, which is an important facility to the community.

A **local energy cooperative in Kappel**, consisting of 470-inhabitants in the state of Rhineland-Palatinate, Germany, operates a district heating network based on local bioenergy. Three local farmers own and operate the biogas plant and they sell the biogas to the cooperative. The cooperative owns and operates all facilities in the heating centre (boilers, buffer tank, wood chip storage, pumps etc) and the heating grid itself. The heat transfer stations and all heating facilities on the customer side are in ownership of each customer.

Lessons learned:

The Kappel energy cooperative demonstrates, how local citizens, businesses and the municipality can cooperate to establish an efficient and sustainable heat supply infrastructure with stable and affordable prices.

Strong support from municipal policy was essential in promoting this project. These policies aim to save energy, promote renewable energy and bolster the local economy and quality of life in rural areas.



# Difficulties

- Lack of technical support
- Lack of administrative support
- Planning process too long
- Grid connection
- Funding



# Success Strategy

- ✓ Bottom up approach
- ✓ Community trust and buy-in
- ✓ Engaging with young and old citizens
- ✓ Liaising with multiple stakeholders and exploring the potential of multiple projects
- ✓ Exploring multiple funding mechanisms to deliver a project
- ✓ Value for money
- ✓ Capacity building



*Community Energy Champions light the way to a better energy future*

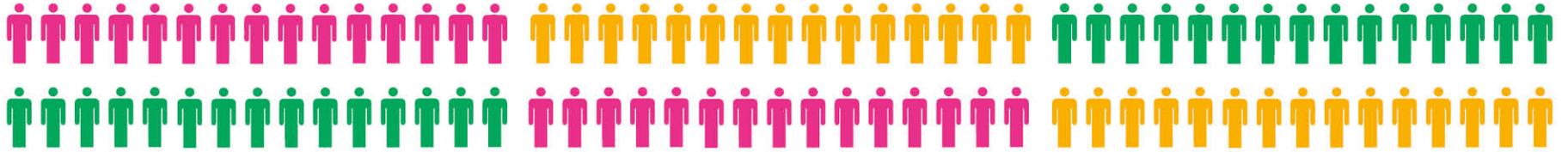




## The Project Partners

Centria University of Applied Sciences (Lead Partner) (FIN), Western Development Commission (IRL),  
The Gaeltacht Authority (IRL), Luleå University of Technology (SWE),  
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# Thank you for your interest!

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