



SHREC

Interreg Europe



European Union
European Regional
Development Fund

*Regional Analysis on Policies for the
Transition to Low Carbon Energy*

*Energy transition in South Muntenia Region
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Regional Analysis on Policies for the Transition to Low Carbon Energy



The **EU policy** for the energy transition to green (renewable) energy



National and regional policies and current status related to energy transition shifting towards renewable energy



Financial instruments that supports the promotion of use of RES/ low carbon economy



Consumers at the heart of energy transition

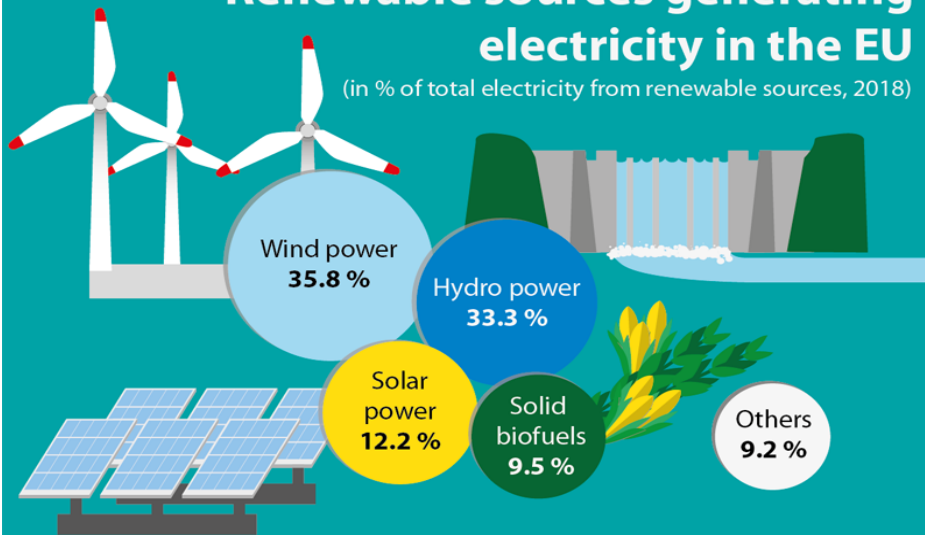


Key findings

Current situation in SHREC countries related to RES

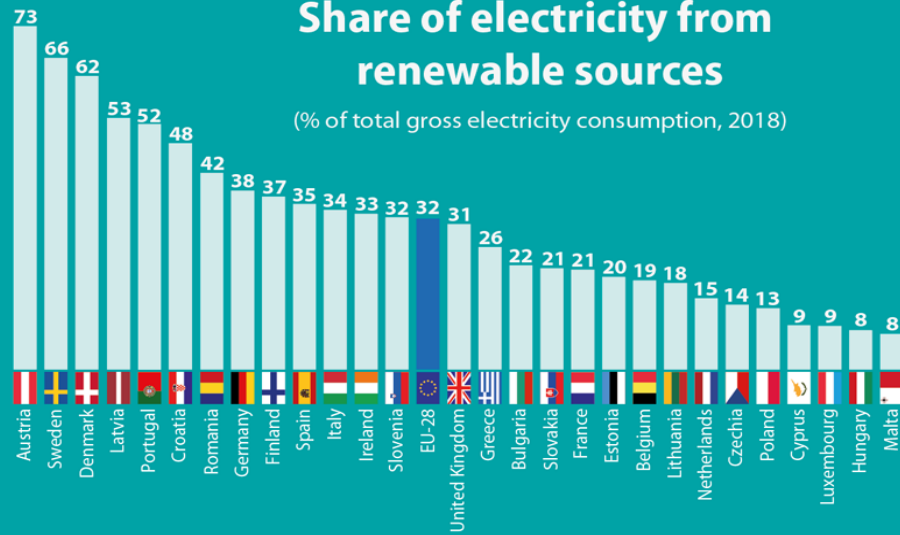
Renewable sources generating electricity in the EU

(in % of total electricity from renewable sources, 2018)



Share of electricity from renewable sources

(% of total gross electricity consumption, 2018)



- Potential of the country/ region related to renewable energy
- Main steps taken and planned in order to meet the EU targets
- The process that all countries have passed through in their process of transition to clean energy

Main challenges

Main goals/ potential



Netherlands

- find **green alternatives** for natural gas
- **protect citizens** against earthquakes
- **go green**
- achieve **EU targets** in terms of RES

- **reduce to zero gas extraction**
- build a extra **nitrogen plant**
- upgrade **biogas to natural gas** quality (biomethane or green gas) and inject it into the distribution grids
- **Blue and Green hydrogen/** start the hydrogen programme
- Establishment of **wind parks**



Slovakia

- **optimize the energy mix** in terms of energy security
- achieve the highest possible **energy efficiency**
- **environmental protection**
- Efficient use of **forrest** and **agricultural biomass resources**

- increase the production of renewable energy **large & small hydropower plants**
- **biomass - highest technical potential**
- **Solar energy** has the greatest total potential

Main needs/ achievements

Main goals/ potential



Lithuania

- **energy supply** routes and sources has **increased**
- the **cost of energy** resources to consumers has **fallen**
- **first** technology neutral **renewable energy auction** was **finished**

- **100% renewable energy targets**
- offshore **wind energy** development in the **Baltic Sea** was published
- **opening of Power Purchase Agreement market**
- **Lithuanian companies launch the first in the world online consumer platform** where everyone can purchase a part of remote solar plant



Romania

- well-balanced mix of energy sources making **Romania the lowest dependency on energy imports in Central and South - Eastern Europe**
- one of Europe's **highest potentials for commercial renewable energy sources**

- **surpassed 2020** obligations of 24%, reaching 24.6% of renewables in final energy consumption (including hydropower and biomass) in 2017
- **challenges** related to **sustainable biomass industry**:
 - *it must be environmentally friendly;*
 - *climate responsible, socially acceptable;*
 - *cost competitive*

Main needs/ achievements

Main goals/ potential



Italy

- most of the used energy is based on **oil products** and **natural gas**

- **RES to final consumptions** is about **18%**
- most of the consumptions are concentrated in the **transport** and **building sector**

- **share the national 2020 target** for renewables among the Regions

- this implies also the **identification**, by the Regions, of the areas for the construction of the **plants powered by RES**
- identify areas with an **energy vocation**



Spain

- one of the European countries with the **highest potential** for exploiting renewable energy

- In 2019 had the **highest increase in renewable installed power** capacity in the **last ten years**, almost **14%** more than in 2018

- **50.1% of the complete set of electricity** generation facilities in Spain corresponds to renewable energy, mainly photovoltaic systems

- **Wind energy** is the most important renewable technology in the national generation mix, accounting for **20.8% of the total production**

- is making **progress in the process of decarbonisation**

- In 2019, recorded the **lowest share of coal-fired technology**. It represented just 4.3% of the total generation compared to 14.1% in 2018.

Main needs/ achievements

Main goals/ potential



France

- Renewable energy had a **23%** share in total power consumption in 2019
- **Wind farms** generated 34.1 TWh, boosting production by 21.3% year-on-year and recording an overall annual share of 7.2%
- **Solar power production** rose by 7.8% year-on-year to 11.6 TWh, accounting for a 2.5% share in the annual consumption.
- After 21 MW of **new hydro installations**, hydro succeeded in covering 11.7% of consumption needs
- The Auvergne Rhône-Alpes region has **favourable weather conditions** for the production of electricity from renewable sources
- **renewable electricity covered 45%** of regional consumption



Sweden

- **Hydropower and bioenergy** are the top renewable sources in Sweden
- **Hydropower** mostly for electricity production and Bioenergy for heating
- Wind power has also increased reaching 3,600 wind turbines
- The largest source of **bioenergy** in Sweden is the forest and has more forest than most other countries – 63% of land cover
- Using **hydrogen** is another potential means of decreasing carbon dioxide emission. Among with many other countries, Sweden is looking into the possibility of using hydrogen as fuel, or for electricity or heating.

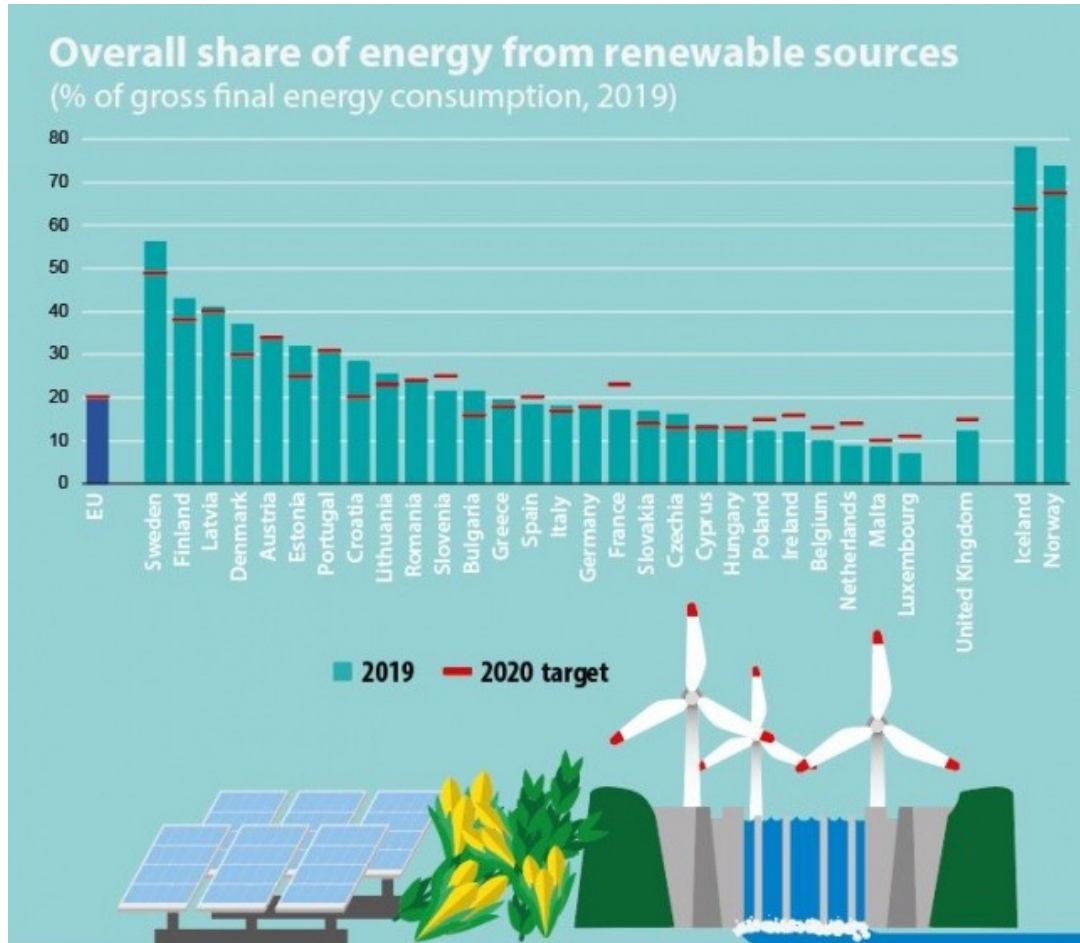
National policies related to RES

In SHREC countries, the main policy that is setting up the directions for the implementation of EU policies is the represented by the **National Energy And Climate Plan**. The national energy and climate plans (NECPs) were introduced by the Regulation on the governance of the Energy Union and Climate Action (EU)2018/1999, agreed as part of the Clean energy for all Europeans package which was adopted in 2019.

The national plans outline how the EU countries intend to address:

- energy efficiency*
- renewables*
- greenhouse gas emissions reductions*
- interconnections*
- research and innovation*

National policies related to RES



SHREC countries that achieved the 2020 target are:

- Sweden
- Lithuania
- Romania
- **Slovakia**
- Italy

SHREC countries which didn't manage to achieve their targets:

- Spain
- France
- Netherlands

National policies related to RES

Partner countries	Strategies/ plans/ agreements / laws related to the Transition to a Low Carbon Economy in SHREC countries – national level
Netherlands	<ol style="list-style-type: none"> 1. Urgenda case: Process in the climate case brought by Urgenda against the State of the Netherlands 2. Climate Act legally enshrines the (long-term) objectives of the climate policy for 2030 and 2050 3. Climate Agreement 4. Energy agreement - over 40 organisations established their shared ambitions for sustainable growth, and made specific agreements to achieve these ambitions.
France	<ol style="list-style-type: none"> 1. The National Low Carbon Strategy (SNBC) is France’s roadmap for its transition to low-carbon society 2. National policy plan for energy and climate 3. Law on Energy Transition for Green Growth
Lithuania	<ol style="list-style-type: none"> 1. National Energy Independence Strategy goal is to produce all the country’s electricity from renewable sources by 2050. 2. Other national strategies and plans related to renewable energy are: <ol style="list-style-type: none"> a. First technology neutral auction for developers of renewable energy projects b. Offshore wind potential study done by scientists revealing the potential of offshore wind energy in Lithuania’s marine areas in the Baltic Sea c. Power Purchase Agreements - legislative changes to remove administrative barriers for corporate Power Purchase Agreements (PPAs) - provide the opportunity for businesses to sign PPAs with renewable energy project developers and use clean electricity in their operations.
Romania	<ol style="list-style-type: none"> 1. The National Renewable Energy Action Plan 2017-2020 NEEAP IV. The specific objectives is represented by the increase of energy production from less exploited renewable resources (biomass, biogas, geothermal). 2. The Energy Strategy of Romania 2019-2030, targeting 2050 3. Integrated National Plan in Energy and Climate Change 2021-2030 set national targets and contributions to achieving the EU's climate change objectives.

National policies related to RES

Partner countries	Strategies/ plans/ agreements / laws related to the Transition to a Low Carbon Economy in SHREC countries – national level
Italy	<ol style="list-style-type: none"> 1. National Plan for Climate and Energy constitutes the instrument with which Italy establishes its contributions to the 2030 European objectives on energy efficiency and renewable sources.
Slovakia	<ol style="list-style-type: none"> 1. Act No 309/2009, on the promotion of renewable energy sources and high-efficiency cogeneration 2. National action plan for renewable energy sources 3. Energy Policy 4. National Reform Programme 5. The Slovak Republic National Strategy for Sustainable Development 6. Strategy of adaptation to climate change of the SR 7. Strategy of Economy policy of SR until 2030 8. Greener Slovakia – Strategy of the environmental policy of the Slovak republic until 2030 9. Low-Carbon Development Strategy of the SR until 2030, with a View to 2050
Sweden	<ol style="list-style-type: none"> 1. The Climate Act (2017) represents a climate policy action plan 2. Sweden long-term energy policy

Regional policies related to RES

Country/region	Strategies and objectives of the strategies
France	<ul style="list-style-type: none"> • AURA Region Energy Strategy by 2030 - a reduction of GHG emissions by 32% in 2030; - a reduction of total energy consumption per inhabitant by 23% in 2030; - an increase of renewable energy production by 36% in 2030.
Netherlands	<ul style="list-style-type: none"> • Regional Energy Strategy - assess renewable electricity generation, the heat transition in the built-up environment and the related storage and infrastructure needed • Transition Vision Heat12 - each municipality indicates how the city will become disconnected from the natural gas system or at least the use of natural gas for heating and cooking
Italy	<ul style="list-style-type: none"> • Regional Environmental Energy Plan Proposal aims to increase of energy production from renewable sources; - achievement by 2030 of a share of 27.6% of final energy consumptions produced by RES.
Spain	<ul style="list-style-type: none"> • Climate Change Strategy of Basque Country 2050 - To reduce GHG emissions by at least 40% by 2030 and by at least 50% compared to the year 2005 - To achieve 40% of renewable energy consumption out of the final consumption by 2050 - To ensure the resilience of the Basque Territory to climate change. • Gipuzkoa Klima's strategy aims: - To Reduce Greenhouse Gas Emissions (GHG) at least 40% by 2030 from 2005, and 80% by 2050 from 2005 - Reach the 80% of renewable energy in the final energy consumption mix in 2050
SWEDEN	<ul style="list-style-type: none"> • Visions, goals and focus areas for Middle Norrland 2020-2030 are: - Free from fossil fuels 2030. - A reduction of greenhouse gas of 10 % annually between 2020-2030.
Lithuania	<ul style="list-style-type: none"> • Lithuania's Law on Energy from Renewable Sources sets energy targets to be achieved by 2020 such as 20% of gross annual energy consumption and 60% of district heating generated by renewables and a target of 20% renewable energy in the transport sector.
Romania	No regional strategy – Some bigger cities have developed SECAPs as members of Covenant of mayors
Slovakia	No regional strategy - Some bigger cities have developed SECAPs as members of Covenant of mayors

Financial instruments which aim to increase the renewable energy production and consumption

The main financial instruments in SHREC countries are represented by ERDF funding for supporting energy efficiency and low carbon economy.

- ❑ **Netherlands** subsidizes renewable energy in the electricity, heat and gas sectors by covering the **unprofitable top. Zip Code Regulation** - supporting scheme - large-scale projects that generate renewable energy.

- ❑ **France** - financial instruments to support renewable energy in the electricity sector, heat sector, thermal energy in the collective residential, tertiary, agricultural and industrial sectors.

For **individual households**, the development of renewable thermal energy mainly involves three support tools:

- the **energy transition tax credit** (was targeted at the most energy-efficient equipment & equipment using renewable energies),
- the **zero-interest eco-loan** (finance major energy renovation work)
- the **energy saving certificate** system.

The Heat Fund supports the development of the use of renewable thermal energies: biomass (forestry, agriculture, biogas, etc.), geothermal energy (in direct use or via heat pumps), solar thermal, recovery energies, as well as the development of heating networks using these energies.

Financial instruments which aim to increase the renewable energy production and consumption

- ❑ **Lithuania** has several mechanisms for supporting implementation of renewable energy sources (RES):
 - *Support scheme for electricity produced from RES;*
 - *Financial support for producing consumers. Supported activities – installation of low-power solar plants;*
 - *Promotion of highly efficient cogeneration.*
 - *Support for the construction of biofuel boiler houses;*
 - *Guarantees of origin for gas produced from RES.*

- ❑ **Romania** provides loans dedicated to the investments aimed at saving energy and capitalizing on renewable energy sources. **The Norwegian Financial Mechanisms** provide support in following areas: energy efficiency in buildings (owned by non-economic entities); industry; infrastructure; energy performance of products and in transport sector.

- ❑ The main program relevant for private households to support energy efficiency is the “**Casa Verde**” or “**Green House**” Program. The grants for households are provided for installation of solar panels, gas based thermal energy pellets, briquettes, wood chips, and any plant debris and waste from agriculture/ forestry and heat pumps.

Financial instruments which aim to increase the renewable energy production and consumption

- ❑ **Italy** focuses on qualification of plants powered by renewable sources. The most effective schemes for energy efficiency are the **renewable energy for heating and cooling support scheme** (supporting the production of thermal energy from renewables, as well as small-scale interventions of energy efficiency for private organizations and the Public Administration) and the **Tax Deductions System** (for the energy retrofit of the buildings heritage (Ecobonus) and the so called Home Bonus for general building retrofit).
- ❑ **Slovakia** supports and promotes the production and distribution of energy produced by RES in households and blocks of flats, through **Operational Programme Quality Of Environment (OPQE)**. OPQE helped to increase the share of RES in FEC mainly via **National project Green to households**.
- ❑ **Spain** has two main support schemes which are dedicated to renewables:
 - **Lines of Aid for Investment in Renewables**, namely thermal and electric Co-financed with European Union Funds;
 - **The Aid program for energy efficiency actions in SMEs and large companies in the industrial sector (FNEE)**

Consumers at the heart of energy transition

- ❑ The citizens of **Netherlands** have a high interest in the renewable energy sector, due to the fact that the natural gas drilling has caused earthquakes so severe and frequently that (older) houses are no longer safe to live in. For this reason, acceptance and interest in finding alternatives is higher than in Romania, for instance.
- ❑ In **Lithuania**, the state sets mandatory actions for ministries to provide information and educational programmes about the practical opportunities and benefits of developing and using RES. Exchange of experience in the field of RES use is organised between state institutions, enterprises, companies and private undertakings, and examples of good practice are available and are trying on raise awareness on this issue.
- ❑ In **Slovakia**, consumers are involved in energy transition within two national projects: NP Live by Energy and NP Green to households (phase I and II)
- ❑ In **Romania**, citizens show a low interest concerning the means to reduce energy consumption as well as energy efficiency solutions, according to the Eurobarometer. Although there are several agencies and associations in Romania that are trying to raise the awareness and to promote the active involvement of the population, however, the results are low, compared to other countries such as Netherlands, Italy or France.

Consumers at the heart of energy transition

- ❑ **Italy** supports the establishment of **Renewable energy communities**, which involve groups of citizens, social entrepreneurs, public authorities and community organisations participating directly in the energy transition by jointly investing in, producing, selling and distributing renewable energy.
- ❑ In **Spain**, there is a new legislation, which benefits shared self-consumption, and supports the creation of **energy communities**, in which active clients capable of consuming and generating their own energy, can exchange the surplus they do not consume with other members of the energy community.
- ❑ In **France**, since 2011, **Centrales Villageoises**, companies formed locally by citizens, companies and communities to develop renewable energy projects, have been supported. Village power plants are an illustration of the appetite of citizens to develop joint projects to efficiently produce renewable energy in conjunction with local authorities.
- ❑ In **Sweden**, advisors financed by the municipalities and Swedish Energy Agency inform the consumers on how to build their houses in an energy effective way, how to equip solar panels on their house and invest in heat exchangers.

Key findings

- ❑ A main conclusion of the current report is the fact that all SHREC countries have taken several measures in order to reach EU Commission targets. Despite of the common efforts, not all countries managed to reach their goals (Spain, France and Netherlands).
- ❑ However, there are several countries which have managed to reach and, in some cases, surpass successfully their targets, here being the case of Sweden, Lithuania, Romania, Slovakia and Italy.
- ❑ Analysing the efforts made, the policies, financing schemes and the community engagement and awareness, the situation is not the same. Thus, it has been noticed a high interest for RES research, investment and policies with high objectives are being implemented in the countries such as: Netherlands, Sweden and Lithuania.
- ❑ In **Netherlands**, it was noticed a high involvement of citizens in the energy transition. This was mainly due to the fact that public awareness, compared to other EU countries, such as Romania, is very high, this being translated into the Urgenda case.
- ❑ Although **Romania** is one of the EU countries with the highest natural potential in terms of renewable energy sources, the resources are not that very well exploited. Also, the citizens show a low interest concerning the ways to reduce energy consumption and energy efficiency solutions, according to the Eurobarometer.

Key findings

- ❑ SHREC countries have taken several measures in order to reach EC targets. Despite of the common efforts, not all countries managed to reach their goals (Spain, France and Netherlands).
- ❑ However, there are several countries which have managed to reach and, in some cases, surpass successfully their targets, here being the case of Sweden, Lithuania, Romania, Slovakia and Italy.
- ❑ Considerables efforts - the policies, financing schemes and the community engagement and awareness - were made in countries such as: Netherlands, Sweden and Lithuania.
- ❑ **Netherlands** - a high involvement of citizens in the energy transition. This was mainly due to the fact that public awareness, compared to other EU countries, such as Romania, is very high, this being translated into the Urgenda case.
- ❑ Although **Romania** is one of the EU countries with the highest natural potential in terms of renewable energy sources, the resources are not that very well exploited. Also, the citizens show a low interest concerning the ways to reduce energy consumption and energy efficiency solutions, according to the Eurobarometer.

Key findings

- ❑ In **France**, citizens develop joint projects to efficiently produce renewable energy in conjunction with local authorities.
- ❑ The **Slovak** government, set as one of the priorities in next programming period 2021-2027 to create ***regional centers for sustainable energy*** which will help to create regional strategies for development to implement the national policies and strategies at regional level.
- ❑ In the period 2020-2030, **Lithuania** encourages investments into sustainable forms of energy production for increasing energy production from renewable sources.
- ❑ In **Spain**, the new legislation, which benefits shared self-consumption, opens the door to the creation of ***energy communities***.
- ❑ In order to reach 2030 goals, **Italy** aims at promoting ***energy communities***.



Thank you!

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