



A New Reality - eceee Summer Study on energy efficiency
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Assessing country readiness for energy communities development. A case study on Italy

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- eCREW in 1 slide
 - Premises and questions
 - Energy Communities in light of the EU directives
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eCREW in 1 slide



CHALLENGES

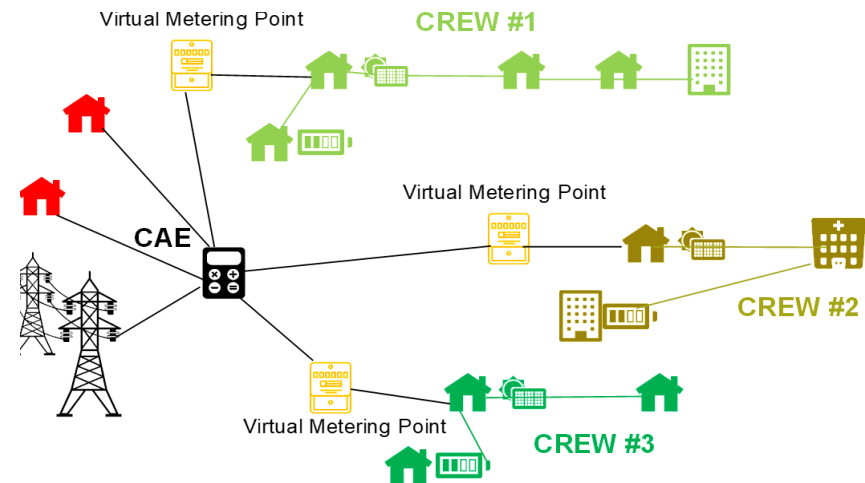
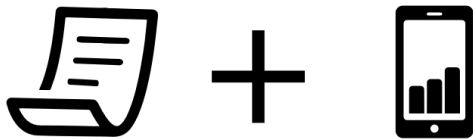
- EU directives (REDII2018/2001 & ED 2019/944) unleashes potential of citizens' cooperation through establishment of two types of energy communities (CEC and REC)
- CECs and RECs require establishing legal entities that come along with effort and possibly financial entry barriers
- eCREW aims at lowering possible entry barriers, beside and beyond EU directives

eCREW vision

Billing and provision of the App is done by local retail energy companies which form the

Crew Administering Entity (CAE)

**Only a CREW-contract
and the smartphone
App is needed – as
simple as that**



Premises and objectives



Premises

- Involvement of society at large crucial for ET
 - Improving acceptance and enhancing adoption
 - grasping citizens needs and meet their expectations
 - market tailoring of services/products
- Emerging of EC in the past 2 decades as a way to address this need and challenge the incumbent fossil based system (closely linked to FIT schemes for PV incentives)
- Formal recognition of their relevance (EU directives, Green Deal and Next Gen EU)
- Need to explore enabling conditions and obstacles to ensure exploitation of EC full potential

Objectives

- a first contribution to this effort through the provision (and test) of a structured set of aspects conceived as an assessment of the feasibility of energy communities in a specific socio-economic and institutional environment.
- To test the effectiveness of this assessment on Italy

Energy Communities in light of the EU directives



An informal definition

groups of citizens (or rather, juridical persons) who voluntarily decide to associate to meet their energy needs through the collective production, consumption and purchase of energy

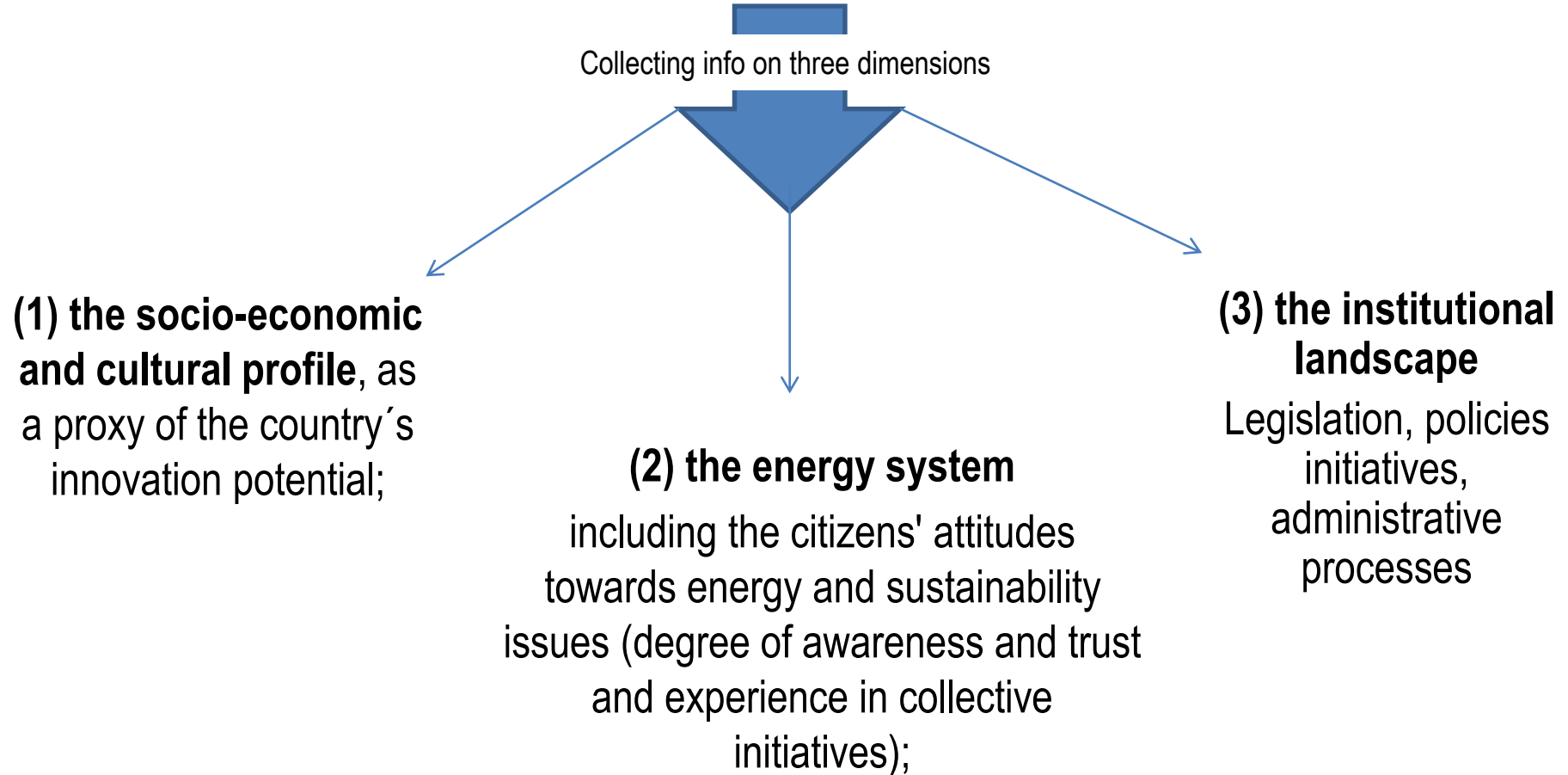
A formal definition

		Renewable Energy Communities (EU) 2018/2001	Citizen Energy Communities (EU) 2019/944
Commonalities	Governance	Participation must be 'open and voluntary' and any citizen should be allowed to participate as well as to leave	
	Ownership and control	effective control by citizens, local authorities and smaller businesses whose primary economic activity is not the energy sector	
	Purpose	generate social and environmental benefits rather than focus on financial profits and use revenues to provide services for members and/or the local community	
Differences	Geographical scope	'proximity' local communities organized 'in the proximity' of renewable energy projects	'no proximity' no need for the same location between generation and consumption
	Activities	energy at large (electricity and heating)	electricity
	Participants	natural persons, local authorities and micro, small and medium-sized enterprises (energy sector not the primary activity)	natural persons, local authorities and micro, small, medium and large enterprises (energy sector not the primary activity)
	Effective control	micro, small, and medium-sized enterprises that are 'located in the proximity' of the renewable energy project	exclusion of medium-sized and large enterprises from being able to exercise effective control



Identifying dimensions for country readiness assessment

The EC model is promoted **by citizens and social actors** within a specific **energy system** in the context of a specific (EU, national and local) **regulatory framework**



The case of Italy: socio-economic profile



The socio-economic dimension, 2019

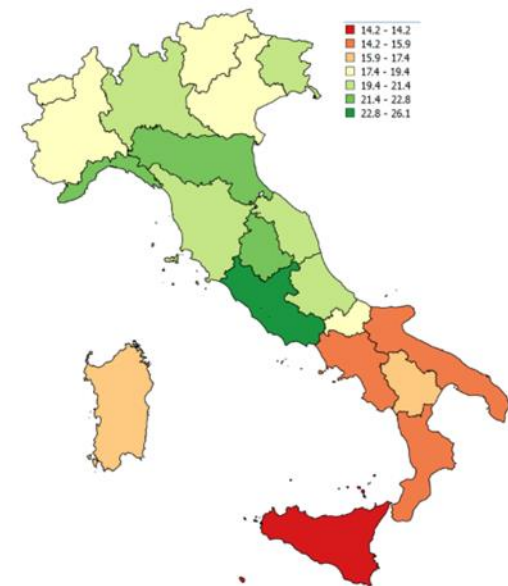
Macroarea	Surface (%)	Population (%)	Density (inhabitants/Km2)	Average income (€ per capita)	Employment rate
North	40,9	46,0	224,4	23501	67,7
Center	24,9	19,9	159,7	20168	63,3
South & Islands	34,2	34,1	199,6	12895	44,6
ITALY	100	100	199,8	19218	58,8
EU27	--	--	105,8	19300	67,6

Source: ISTAT – Italian National Institute of statistics, Eurostat

The ‘three Italies’

- a territorial gradient of economic (and social) development
- Indicators for North–Centre areas always in line (and often above) the average of the EU27, the South still affected by a historical delay
- North is home to half of the country’s enterprises and almost 60% of the entire workforce
- a dramatic educational gap separates Italy from the EU27 average for primary and tertiary education (respectively 37.8% vs 21.6% and 19.6% vs 31.6%).

Tertiary education attainment by region (age 25-64), 2019



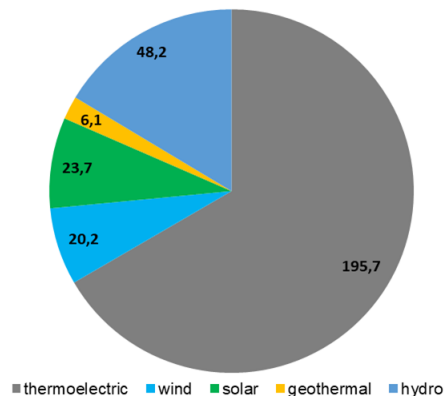
Source: ISTAT – Italian National Institute of statistics, Eurostat

The case of Italy: energy-system and energy innovative actors

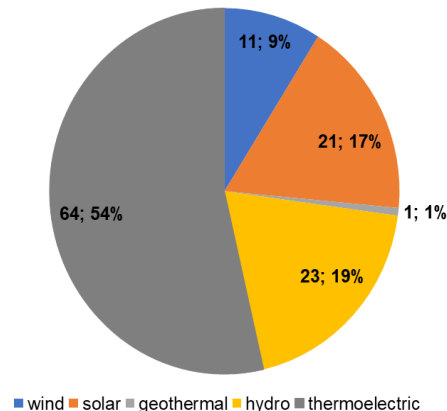
The electricity system (2019, TERNA)

- demand for electricity 318.6 TWh, 88.0% met by domestic production, **12% by import**
- non-renewable **thermoelectric ca 60.4% of the total energy produced** (5.2% solid fuels, 5.8% petroleum, **49.4% natural gas**)
- gross generation power **installed** in Italy 119.3 million kW. **53.6% thermoelectric**, 19.2% by hydroelectric plants, 27.2% other renewables
- photovoltaic (23 GWh) 52% industry, 20% tertiary, 15% domestic and 13% agricultural
- risk of overload in the North-West related to the lines from Switzerland and France, central Italy structural problems on the Adriatic Coast

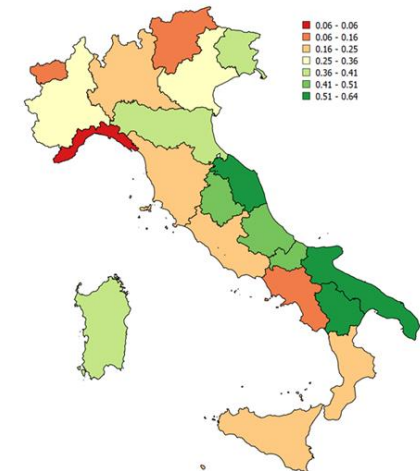
Electricity production by source



Power installed



PV installed (kw/capita)



The (innovative) actors

- involvement of civil society in the production and management of renewable energy dates back to the first half of the 20th century in Trentino Alto Adige. 30 cooperatives still exist in this area, large organizations selling to thousands of customers
- another wave of EC development around 2010, Small local EC triggered by FIT scheme
- at present, around 35 Ecovillages, 60 Alpine Coops (a descendant of the historic hydroelectric cooperatives) and around 20 of the second wave Ecs

The case of Italy: the institutional landscape



A) EC discipline

- a **transitory regulation for REDII (2018/2001)** in view of the complete transposition of (Law 8/2020) : small-scale collective self-consumption of renewable energy plants below 200 kW for customers linked to the same medium-low voltage cabin + methods and conditions create renewable energy communities
- some **regional disciplines** on the subject between 2018 – 2020 (Piemonte, Puglia, Liguria, Campania, Calabria)
- **Not yet implemented ED (2019/944)** but set up the procedure with the **Draft Law of European Delegation for the years 2019-2020**

B) specific loans and guarantees schemes (Decree MISE 16/ 2020) for accumulation of the PV economic incentive with tax credit derived from energy efficiency works on buildings

C) RSE (Research Energetic System) a public society is studying 9 pilot projects for self-consumption and 6 for Energy Communities analysing the energetic, economic, environmental and social costs and benefits

D) In the lack of a complete legislative framework **first implementation of the EC model** as set by the EU directives (Magliano Alpi)

E) cooperation between MISE and ARERA (national authority for energy regulation) in the definition of measures and strategies designed to establish favorable administrative, economic and social conditions to develop energy communities

Main results: strengths and limits



A) Socio-economic profile

- EC as technological and organizational innovation -> age and education, income, and structural economic profile of the target area can be considered as indicators for EC success;
- Ec as Social Innovation -> other territorial features and dynamics (social interaction, trust and solidarity) not easy to be grasped

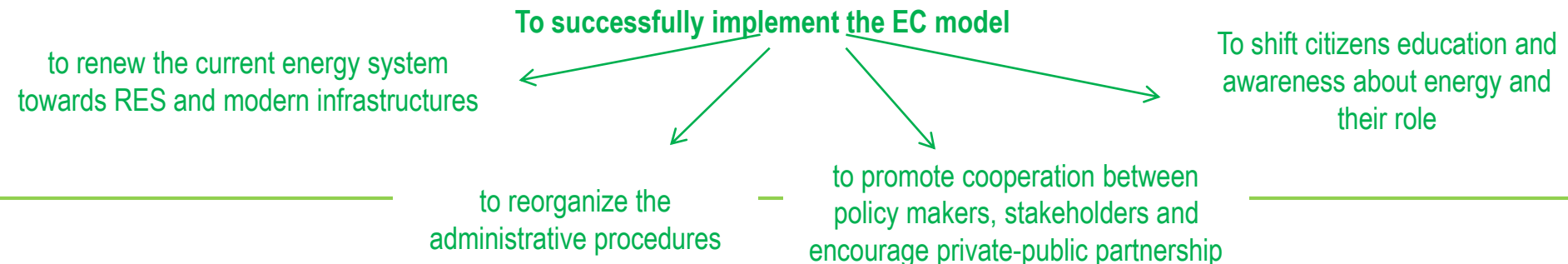
Italy is heterogeneous and for EC implementation the distribution of certain variables and social characteristics across the country should be taken into account

B) Energy systems

- RES have gained relevance but the **system is still fossil-based**, with a strong dependence on gas imports.
- effort has to be made while planning country's **infrastructural investments** with the aim of creating a more efficient and sustainable system
- **cultural, educational and informative work** should be done to improve Italians' awareness on how individuals' actions could contribute to energy transition process.
- EC approach could be facilitated by the **previous experience of energy cooperatives** of the Italian system

C) Institutional landscape

- Italy is among the first countries in the EU to adopt a **temporary transposition** of the EU directive
- in light of both its heterogeneity and the temporariness of the current legislation, the Italian Parliament should consider **regions differences** and, consequently, to **set a discipline capable of enhancing the most backward territories**





Thank you for your attention!

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