

Energy Digitalization a good deal for citizens and  
business.

The new Eu rules and the contractual  
arrangements

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- Digitalization is necessary for the energy transition to renewable sources.
- How can the regulation help the use of digital technologies in the energy sector?
- The contractual arrangements to optimize the support of digitalization tools

# Why is digital necessary for the energy transition?



- (i) Matches consumption and production
- (ii) Optimizes the use of the grids
- (iii) Makes possible aggregation

# How does the digital technology works?



**Collection and prompt management of data** (production data, consumption data, grid stability information);

**Remote Management of consumption and production units**

**Management of flexibility tools** (storage, heating pumps, electric cars, domotic systems, ecc)

**Automatization of demand response mechanisms**

# Digital help citizens

- (i) Ability to **aggregate** and therefore to directly participate to all the energy markets in active way;
- (ii) Ability to give **automatic responses**
- (iii) **drives consumption** and injection of energy self- produced into the grid to maximise self-consumption and consumption of renewable energy so **reduces the bill of electricity**

# The new rights of the digital customer (recital 25 of the draft of energy market directive)



Right to:

**Actively participate to all energy markets**

**Adjust the consumption on the basis of market signals**

**Have prices reflecting promptly the market situation**

**Have flexible network tariffs** (tariff is reduced for who reduces the costs of the network acting on a demand response basis)

# What is technically necessary to implement such rights?

THE REQUISITES	WHERE WE ARE IN ITALY
<b>FIT METER</b> NEAR TO REAL TIME	2G UNDER INSTALLATION TO BE ASSESSED LIMITS
<b>CERTIFICATION</b> OF THE DATA (BLOCKCHAIN OR OTHER SYSTEM OF CERTIFICATION)	STANDARD SYSTEMS FOR CERTIFICATION NOT YET ACTIVATED
ABILITY TO <b>MATCH THROUGH SOTWARE</b> AND REMOTE AUTOMATIC SYSTEMS <b>CONSUMPTION AND PRODUCTION</b>	OPPORTUNITIES TO IMPLEMENT IT ARE MISSING
AVAILABILITY OF <b>FLEXIBILITY TOOLS</b> (STORAGE, HEATING PUMPS, DOMOTIC, ELECTRIC CARS, ECC)	STORAGE IS ALLOWED
<b>ACCESS TO THE DATA</b> OF THE METERS	DIFFICULT

# What is necessary in the regulation?

REQUISITES	WHERE WE ARE IN ITALY
DINAMIC PRICES	DIFFICULT DUE TO THE DELAY IN THE INSTALLATION OF NEW METERS AND LACK OF SPECIFIC REGULATION
FLEXIBLE NETWORK TARIFFS	TO BE MODIFIED THE TARIFF FOR THE DISTRIBUTION NETWORK THAT CURRENTLY IS A FIXED FLAT TARIFF
RIGHT OF THE CITIZENS TO AGGREGATE AND TO PARTICIPATE TO ALL THE MARKETS	DIFFICULT DUE THE DELAY IN THE NEW METERS AND ABSENCE OF ANCILLARY SERVICES TAILORED FOR CITIZENS AND DISTRIBUTED GENERATION
RIGHT TO JOINTLY SELF-CONSUME	IT IS FORBIDDEN SHARING OF THE ENERGY SELF-PRODUCED



# What are the contractual arrangements for digital customers?



**Energy Communities** where is shared among the members the energy collectively produced

The new digital energy performance contracts based not only on saving of energy but also on smart management of consumption

**Dynamic price PPAs**

Agreements for the **aggregation**

**PPAs for phisical and virtual (peer to peer/proximity self-consumtion) self-consumption**

So called **Corporate PPAs** where interest to match production and consumption is high for both parties

# Sharing of energy in energy communities



Production meter of the community and consumption meter of the member of the community shall interact to meter the energy instantaneously self-consumed that is shared

**The manager of the distribution grid shall facilitate**

The energy shared shall pay the charges on the basis of cost benefit analysis (**with discounts**)

**Digital technologies increase simultaneous self-consumption and meter it**

# Dinamic price PPAs

Electricity supply contracts that reflect the price variation at the market settlement frequency

**By digital tools the customer may automatically manage its flexibility tools (storage, heating pumps, domotic) to consume energy when energy is cheaper (because PV plants are working**

# Virtual (peer to peer/ proximity) self-consumption



By use of digital tools:

**Consumption units and nearby production units connected through the public network may agree virtual self-consumption,** where transaction is recorded through the interface of the meters

The supply shall concern only the energy virtually **istantaneously self-consumed**

**Network tariffs shall be paid but discounted** being close production and consumption

# The new digital energy performance contracts



Premium to Esco not just on savings

Consumption driven through digital tools to match production and needs for grid ancillary services

Premium to Esco on

- (i) **Match between consumption and production (or best dynamic prices)**
- (ii) **Energy available for grid ancillary services**

# Thanks for your attention

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