ERSE ENTIDADE REGULADORA DOS SERVIÇOS ENERGÉTICOS

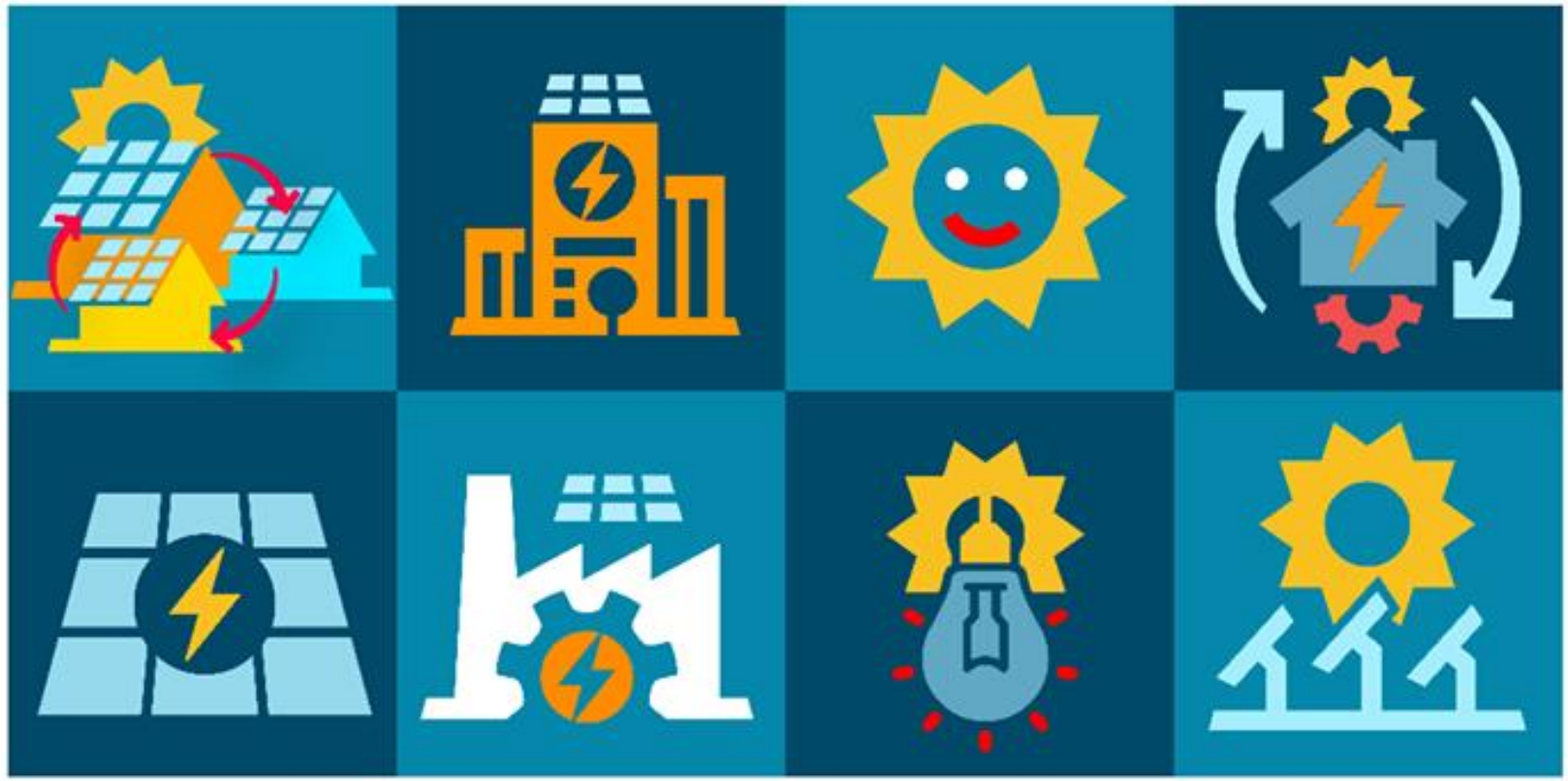
Para uma melhor cultura da energia e da regulação em Portugal

webinar

PARTILHA DE ENERGIA NO AUTOCONSUMO COLETIVO

25 de junho de 2020

14h30 -16h00



The Energy Communities In EU - Trends

selfenergy

optimeyes innovative energy solutions

CONFIDENTIAL – DRAFT FOR DISCUSSION ONLY

ENERGY TRANSITION TO DECENTRALISED AS-A-SERVICE MODEL

In the last decade, we have seen 2 Industries fundamentally disrupted

Standardised fees
Monopolised market
Equipment and services charged separately

TELECOM INDUSTRY

Flexible, customized plans
Liberalized market
Unique bill to cover communication-as-a-service (CaaS)

Local decentralized applications
Hardware intense
Equipment and services charged separately

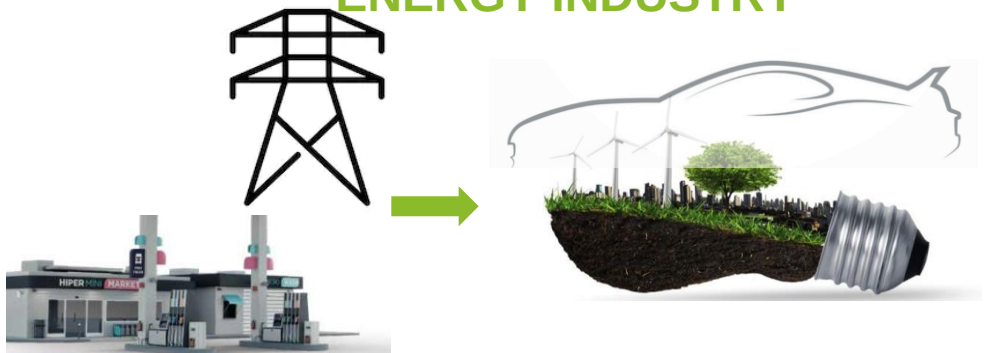
SOFTWARE INDUSTRY

Personal Computer, cloud-based solutions
Flexible consumption model, Software-as-a-Service (SaaS)
Automated operations

The Energy(utilities,Oil&Gas) will be next – it is happening and it is inevitable!

Centralized, infrastructure intense
Long planning cycles, slow adoption
Marketing push, Fossil Fuels driven

ENERGY INDUSTRY



Decentralized, Customer success drives adoption
Data driven, interconnected, Marketing pull, Renewable Energy/ Zero Carbon/ Circular driven
Energy Communities
Energy-as-a-Service Model (EaaS) `

ENERGY COMMUNITIES DEFINITIONS (EU)

Citizen Energy Communities(CEC) + Renewable Energy Communities (REC)

European Commission

JRC SCIENCE FOR POLICY REPORT

Energy communities: an overview of energy and social innovation

Aura Caramizaru
Andreas Uihlein

2020

Renewable energy community

- Focus on activities similar to REC in RED II
- Electricity sector (renewable energy based)
- Considering a customized support scheme
- Considering local grid tariffs
- Different production license procedures
- Concept is open to any local entity

Portugal adopted a Decree-Law on October 25th 2019 that introduces the concept of collective self-consumption and 'Renewable Energy Communities'. The Decree-Law will enter into force on January 1st, 2020 for self-consumption and Renewable Energy Communities with intelligent counting system and installed at the same voltage level, and in 2021 for other self-consumption activities. The Law-Decree can be seen as a direct implementation of the framework for REC in RED II.

A Renewable Energy Community is allowed to produce, consume, share, store and sell electricity generated from renewable energy.

The definition of the concept reiterates the governance principles and requirements attached to the concept of REC in the RED II, but leaves space for all kinds of entities to participate, provided that they are located in close proximity of the energy projects or develop activities related to the respective energy projects which are owned and developed by the renewable energy community.

Furthermore, the Decree-Law copies most of the provisions in article 22 RED II and delegates further implementation responsibilities to Government bodies and agencies, such as the national Government, the Directorate General for Energy and Geology (DGEG) and the Energy Sector Regulatory Authority (ESRA).

The DGEG will be in charge of implementing most of the rights and privileges in article 22.4 RED II. In addition, it will be in charge of accepting on a case-by-case basis new Renewable Energy Community projects until December 2020, as well as assessing the obstacles for and potential of Renewable Energy Communities within two years after the entry into force of this Decree-Law and

bridge HORIZON 2020

Energy Communities in the EU

Task Force Energy Communities

December 2019

UK MULTIFACETED Community Projects

£900k

Energy Centre for CityTowers and University Campus

- CHP, PV and District Heating, Car Park with EV chargers
- 300 residential units, 2 Hotels
- 10000 m2 Retail Areas, 5000 m2 Office Spaces
- Option to replicate in 5 other Energy Centres

£450k

Housing Association – Fuel Poverty

- Rooftop Solar PV
- LED lighting
- Energy monitoring system
- Battery Storage (any 2 houses)

350k £

Care Home Village:

- Biomass CHP boiler
- Battery storage
- Solar PV (200kWp+1,8MWp Phase 2)
- LED lighting

£100k x 100

KFC: Integrated Multi-site Energy Saving Solutions

- Solar PV (+ Battery Storage)
- BMS
- LED lighting
- Car Park with EV chargers

THE EXTENDED ENERGY COMMUNITIES – SHARE ALL

EC enables its customers to generate, store and manage their own renewable energy with ease. The EC platform manages the energy system and how it connects to the community grid and to the DSO grid, allowing Storage, P2P, participation in flexibility services and the balancing mechanism. Learning consumption patterns through AI and machine learning enables the platform to maximise revenue and savings to customer.

Demand Response

Customers' flexibility is aggregated and DSR services offered to National Grid and Piclo for local flexibility services.

Trading

We will trade our customer's spare capacity on the balancing mechanism to take advantages of volatility in the wholesale market prices

Technology / App / AI Integration

The Plattform will manage in real time all assets, both generation (solar, wind, CHP fuel cell), storage (batteries) or consumption (Heat pumps, Lighting, EV Chargers, etc)

CERs: oportunidade de investir e exportar?

Conceito

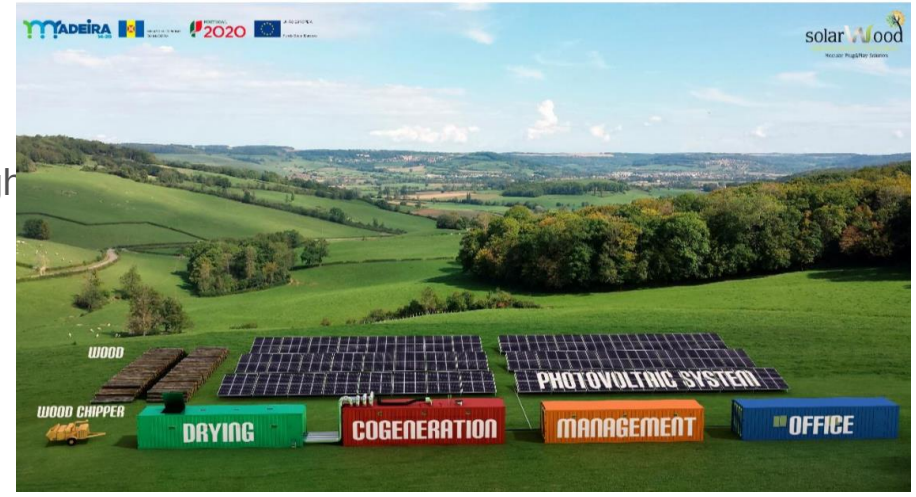
A SolarWood integra solar fotovoltaico com baterias de litio e um sistema de biomassa que permite fornecer energia 24h para um Hospital em Africa, longe da rede de distribuicao. Com 4 contentores previamente preparados, transportados e uma central solar, o sistema pode estar a funcionar em menos de 2-4 semanas
- Substituii 400 tonenalas carvao

90 kW solar PV + 120kW CHP biomass

Projeto

Cliente Hospital Good Sheppard
Local: Swaziland
Empresa: Multiply Energy + Wunderrsigh

- Solarwood teve apoio da Uniao Europeia
- Projecto em Africa teve um apoio de 50% de um Fundo Nordico
- Multuply Energy, uma empresa portuguesa investiu tambem no projecto e pode replica-lo
- Existe Corwdfunding aberto para restante em Portugal atraves de GoParity (150.000€)



Tópicos para discussão futura

- A venda de energia para a rede fora de pico não é o objetivo das Comunidades
- A venda de energia em pico, como resposta a eventuais serviços de flexibilidade, pode trazer ganhos adicionais, tal como o carregamento de carros elétricos de terceiros na comunidade
- A solução mais vantajosa tenderá a ser utilizar toda a energia na Comunidade, utilizando soluções de armazenamento em baterias ou mesmo em calor “elétrico” (ou não…)
- A chave de repartição dentro de comunidades pode ser totalmente ajustada ao investimento inicial, consumo e geração como a outros modelos dinâmicos. Uma chave fixa é restritiva.
- A hipótese de baterias ao nível de rede ou de cada participante deverão ser previstas
- Será que a Entidade Gestora da UPAC não poderá gerir a complexidade externa com a rede e fazer depois a alocação financeira adequada a cada participante, via APP, de comum acordo?
- O que fazer para poder “desligar”/ retirar benefícios a alguém que não pague? E o P2P?

Obrigado

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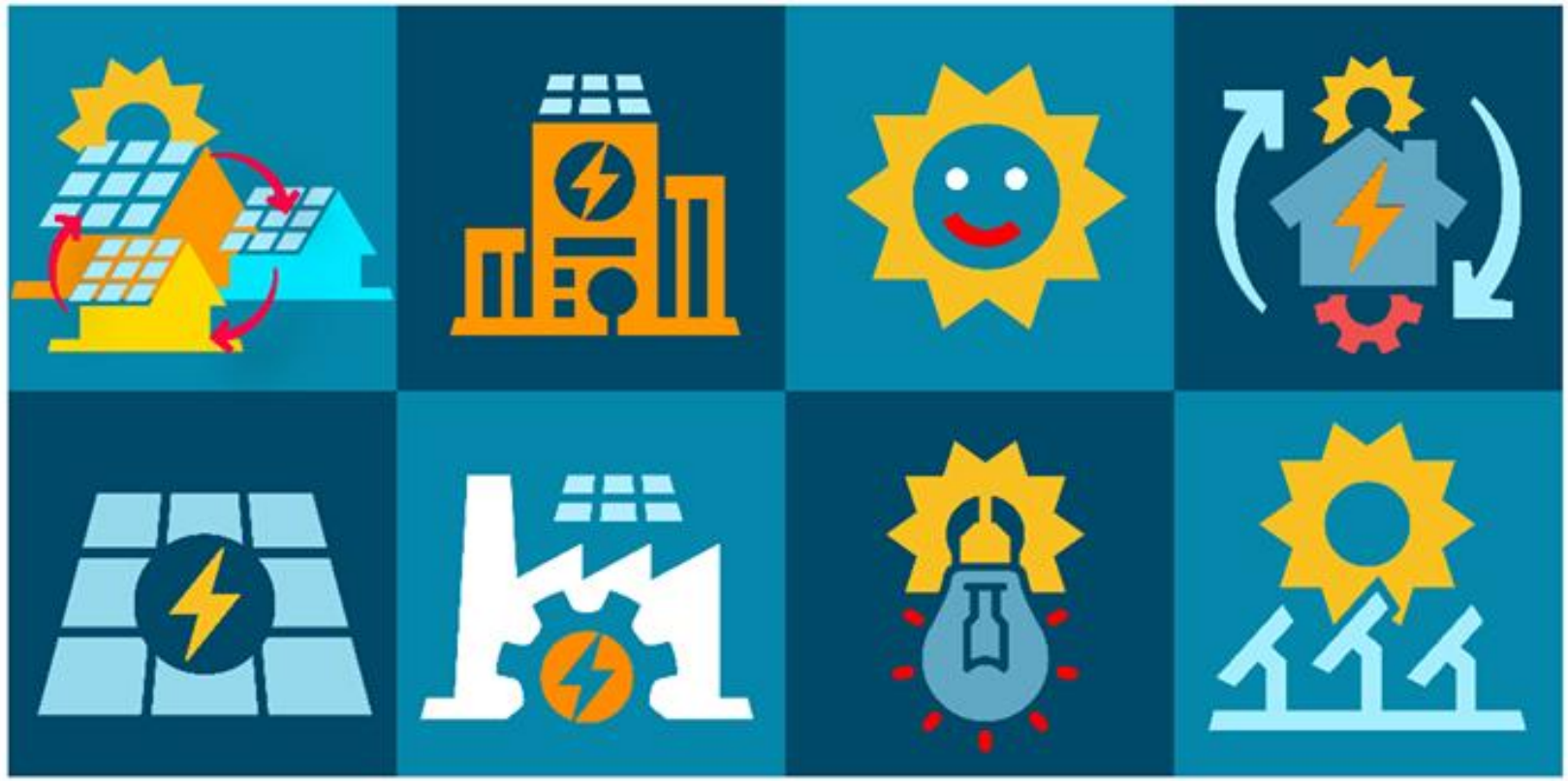
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