

A Valorização Energética de resíduos no contexto da Transição Energética

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NEWES, New Energy Solutions

A Valorização Energética de Resíduos no contexto da Transição Energética e da Economia Circular

AVALER

Lisboa, 2 Dezembro 2019

- 1. A TRANSIÇÃO ENERGÉTICA NA UNIÃO EUROPEIA –
EVOLUÇÃO**
- 2. A TRANSIÇÃO ENERGÉTICA NA UNIÃO EUROPEIA –
ALGUMAS IDEIAS-CHAVE**
- 3. UM NOVO QUADRO CONCEPTUAL PARA COMPREENDER E
REALIZAR A TRANSIÇÃO ENERGÉTICA**

1. A TRANSIÇÃO ENERGÉTICA NA UNIÃO EUROPEIA – EVOLUÇÃO

“Given that energy production and use are the main sources for greenhouse gas emissions, an **integrated approach to climate and energy policy** is needed to realise this objective.

Integration should be achieved in a mutually supportive way.”

European Council, March 2007



2020

The 2020 package is a set of binding legislation to ensure the EU meets its climate and energy targets for the year 2020.

The package sets three key targets:

- 20% cut in **greenhouse gas** emissions (from 1990 levels)
- 20% of EU energy from **renewables**
- 20% improvement in **energy efficiency**

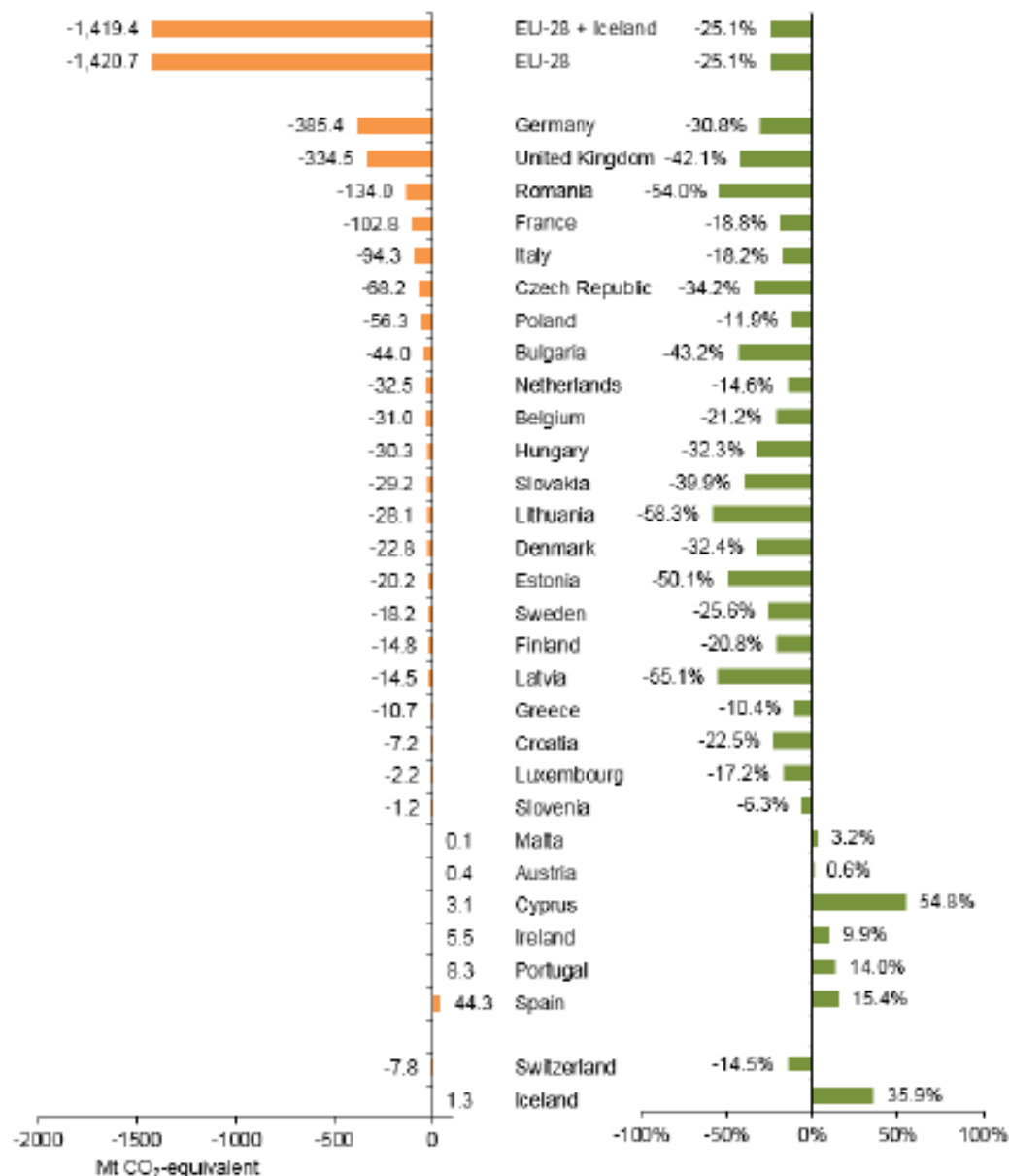
The targets were set by EU leaders in 2007 and enacted in legislation in 2009

Figure 5 Member States emissions, change 1990-2018

Annual European Union approximated greenhouse gas inventory for the year 2018

EEA Report No 16/2019

ISSN 1877-8449



Note: Total GHG emissions without LULUCF including indirect CO₂.

Source: EEA, based on the 2019 Member States' GHG inventories submitted to UNFCCC for the years 1990-2017 and proxy estimates for 2018.

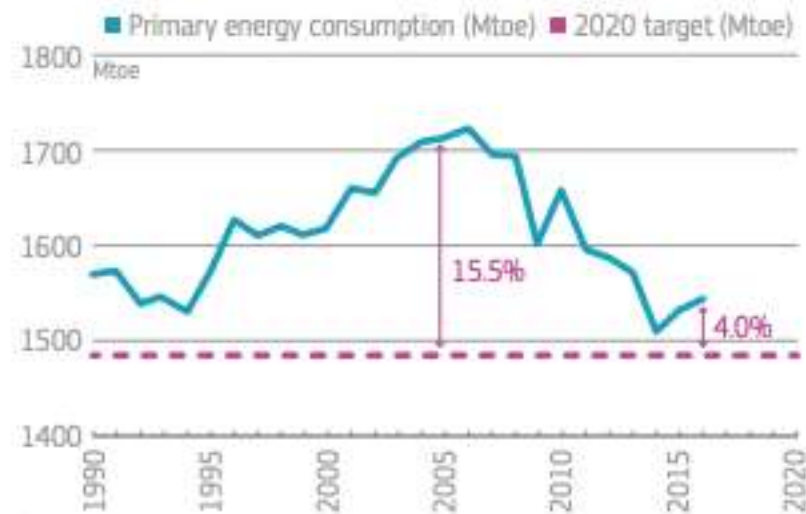
Share of energy from renewable sources in the EU Member States

(2017, in % of gross final energy consumption)



Recent years see setback in EU energy efficiency progress

Primary energy consumption (million tonne equivalents) in the EU 28 2020

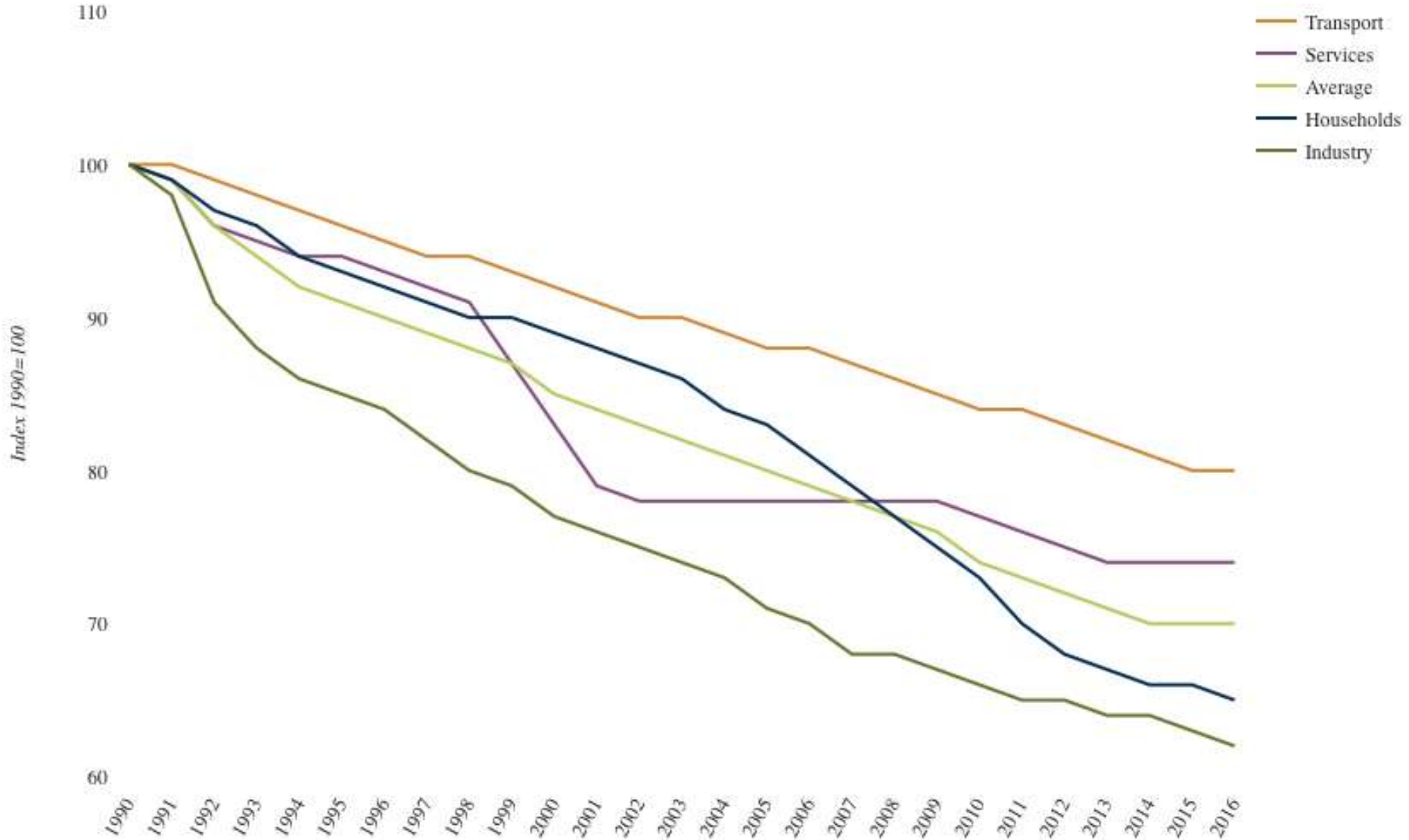


Source: Eurostat

Key messages

Over the period 1990-2016, the energy efficiency of end-use sectors improved by 30 % in the EU-28 countries at an annual average rate of 1.4 %/year.

EU-28 — Energy efficiency index (ODEX) for final consumers in the EU



***“reducing greenhouse gas emissions by 80-95% by 2050
compared to 1990 as agreed in October 2009 will require a
revolution in energy systems which must start now”***

European Council, February 2011

“The European Council endorsed a binding EU target of an at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990. (...)

An EU target of at least 27% is set for the share of renewable energy consumed in the EU in 2030. (...)

An indicative target at the EU level of at least 27% is set for improving energy efficiency in 2030 compared to projections of future energy consumption based on the current criteria.”

European Council, October 2014

A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change

Political Guidelines

for the next
European Commission

Opening Statement

in the European Parliament
Plenary Session

Jean-Claude Juncker

Candidate for
President of the European Commission

Strasbourg, 15 July 2014

3. A Resilient Energy Union with a Forward-Looking Climate Change Policy

Current geopolitical events have forcefully reminded us that Europe relies too heavily on fuel and gas imports. I therefore want to reform and reorganise Europe's energy policy into **a new European Energy Union**. We need to pool our resources, combine our infrastructures and unite our negotiating power vis-à-vis third countries. We need

European Parliament

Statement

in the European Parliament
plenary session ahead
of the vote on the College
Plenary Session

Strasbourg, 22 October 2014

The completion of this new energy rulebook – called the **Clean energy for all Europeans package** - marks a significant step towards the implementation of the energy union strategy, adopted in 2015.



Based on Commission proposals published in November 2016, the Clean energy for all Europeans package consists of eight legislative acts. After political agreement by the Council and the European Parliament in 2018 and early 2019, enabling all of the new rules to be in force by mid-2019, EU countries have 1-2 years to transpose the new directives into national law.

Legislation

- [Energy Performance of Buildings Directive 2018/844](#)
- [The recast Renewable Energy Directive \(EU\) 2018/2001](#)
- [The revised Energy Efficiency Directive \(EU\) 2018/2002](#)
- [Governance of the energy union and climate action \(EU\) Regulation 2018/1999](#)
- [Regulation on risk-preparedness in the electricity sector \(EU\) 2019/941](#)
- [Regulation establishing a European Union Agency for the Cooperation of Energy Regulators \(EU\) 2019/942](#)
- [Regulation on the internal market for electricity \(EU\) 2019/943](#)
- [Directive on common rules for the internal market for electricity \(EU\) 2019/944](#)



2030

Key targets for 2030:

- **At least 40% cuts in greenhouse gas emissions (from 1990 levels)**
- **At least 32% share for renewable energy**
- **At least 32.5% improvement in energy efficiency**

The framework was adopted by the European Council in October 2014

The targets for renewables and energy efficiency were revised upwards in 2018

Brussels, 28.11.2018
COM(2018) 773 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN
ECONOMIC AND SOCIAL COMMITTEE, THE COMMITTEE OF THE REGIONS
AND THE EUROPEAN INVESTMENT BANK

A Clean Planet for all
A European strategic long-term vision for a prosperous, modern, competitive and
climate neutral economy

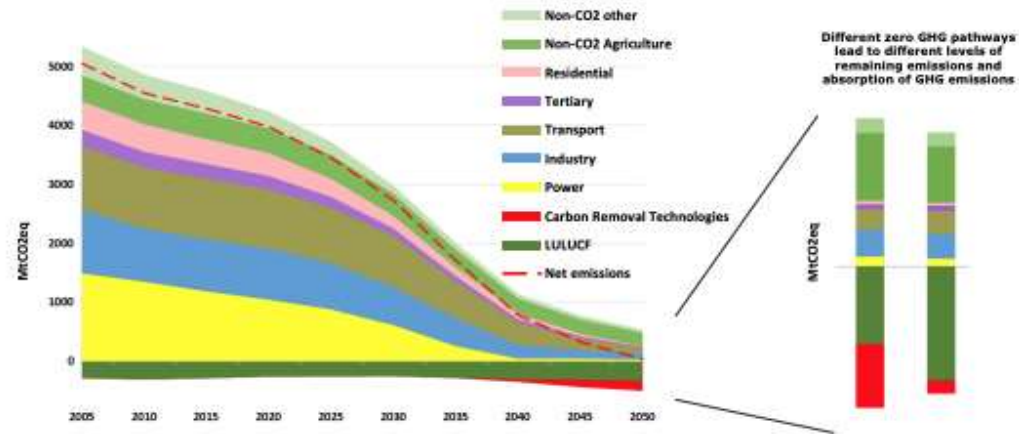


Figure 6. GHG emissions trajectory in a 1.5°C scenario⁸

“The aim of this long-term strategy is to confirm Europe's commitment to lead in global climate action and to present a vision that can lead to achieving net-zero greenhouse gas emissions by 2050 through a socially-fair transition in a cost-efficient manner.”



New EU chief flags climate policy as Europe's 'new growth strategy'

The new President of the European Commission, Ursula von der Leyen, cited climate policy as the most pressing issue facing her new executive team, which was officially confirmed by a vote in the European Parliament on Wednesday (27 November).



Circular economy erected as 'number one priority' of European Green Deal

The circular economy, including new waste and recycling laws, will represent "half" of the EU's effort to achieve net-zero carbon emissions by 2050, and will be erected as "the number one priority" of the upcoming European Green Deal, officials have said.



LEAKED: Brussels' draft proposal for a European Green Deal

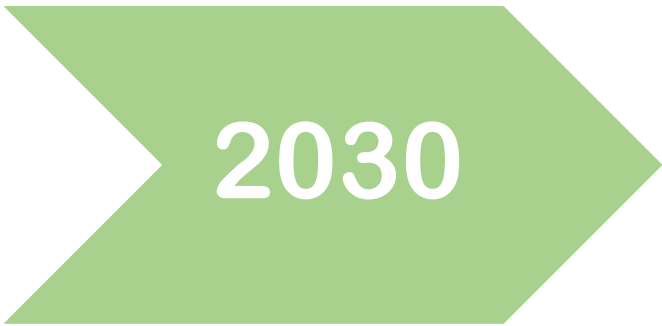
[DRAFT] Communication on the European Green Deal

Although the von der Leyen Commission has yet to take office, the Commission's DGs are already working on a draft Communication on the European Green Deal which is expected to be published on 11 December. Below is a summary of the early draft of this Communication, for internal use only. Please keep in mind that the information below is from a working document, and the content could change before becoming official Commission policy. Missing information is indicated by brackets.

Designing a set of deeply transformative policies

Putting 2050 climate neutrality into law and increasing our climate ambition for 2030

- The Commission will propose the first European 'Climate Law' enshrining the 2050 climate neutrality objective into law by March 2020
- The Commission will present a comprehensive plan on how to increase the EU's greenhouse gas emission reduction target for 2030 to at least 50% and towards 55% in a responsible way by October 2020
- The Commission will review and potentially revise all relevant legislative measures to deliver on this renewed ambition by [XX]



2030

50-55%



At least ~~40%~~ cuts in **greenhouse gas emissions**
(from 1990 levels)



The Commission will review and potentially revise
all relevant legislative measures to deliver on this
renewed ambition by [XX] ?

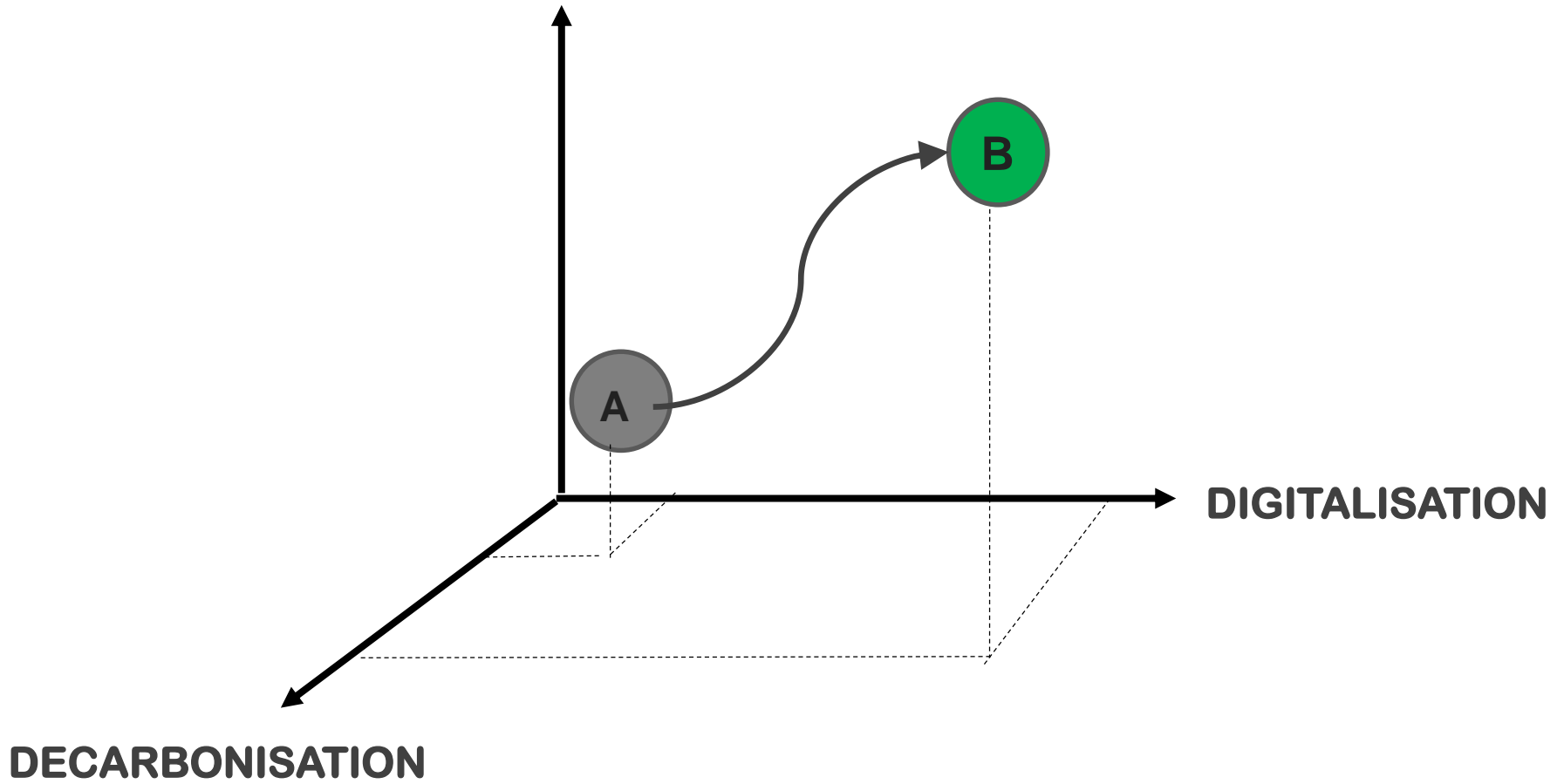


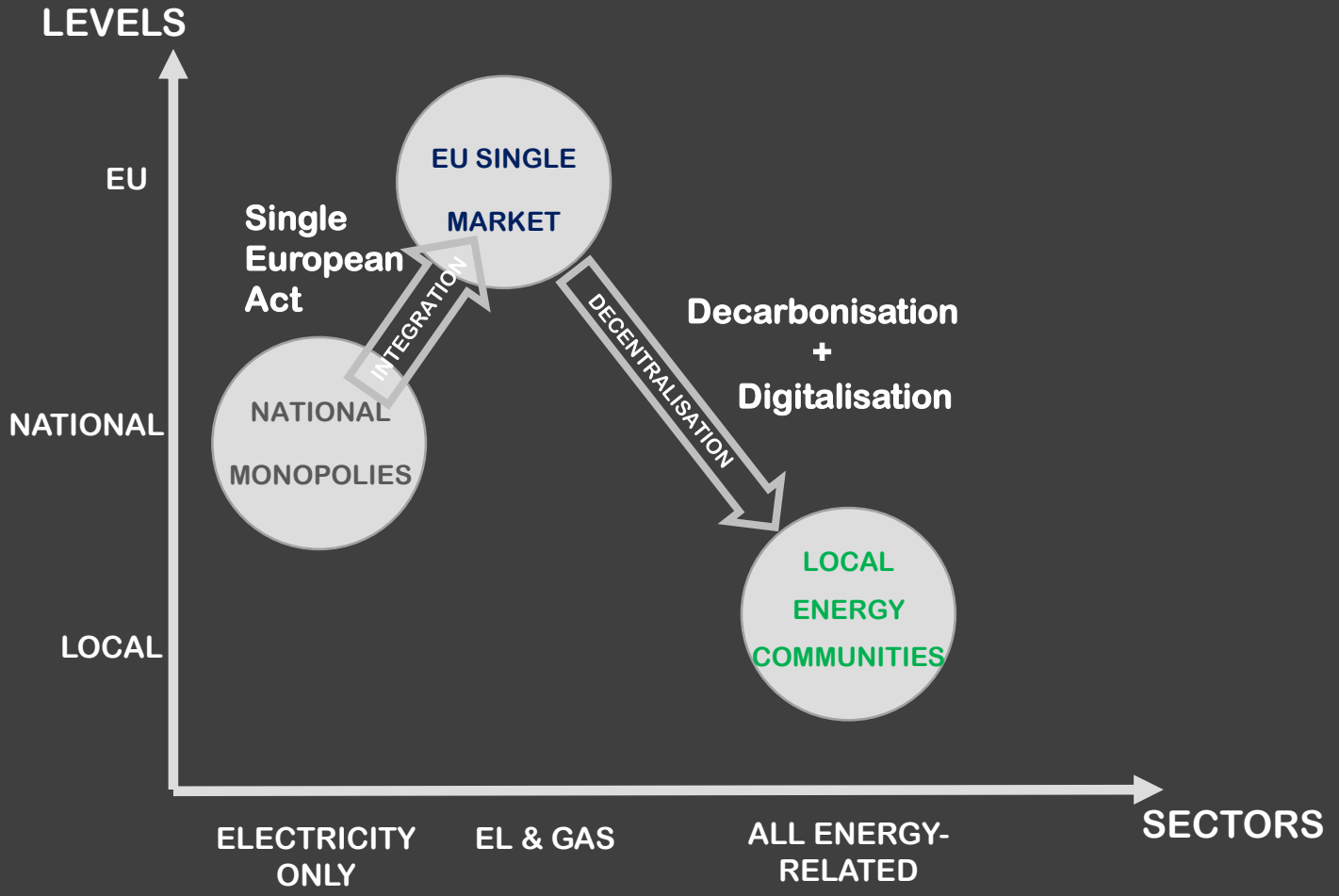
2050

2050 climate neutrality objective into law by
March 2020

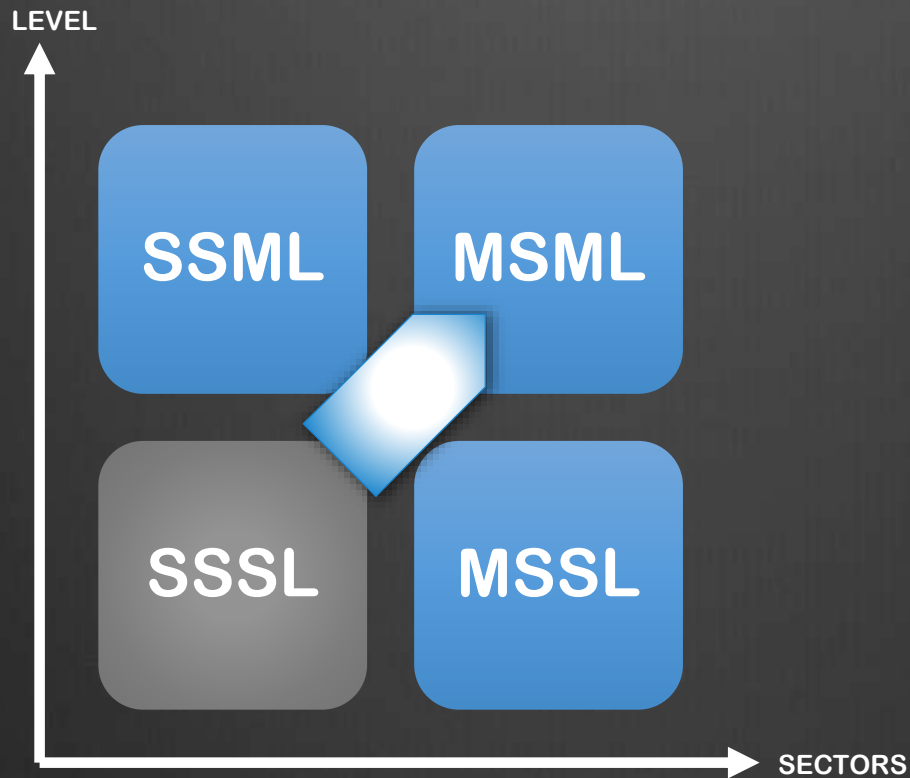
2. A TRANSIÇÃO ENERGÉTICA NA UNIÃO EUROPEIA – ALGUMAS IDEIAS-CHAVE

SUPRA-NATIONAL MARKET INTEGRATION





ENERGY SYSTEM ARCHITECTURE



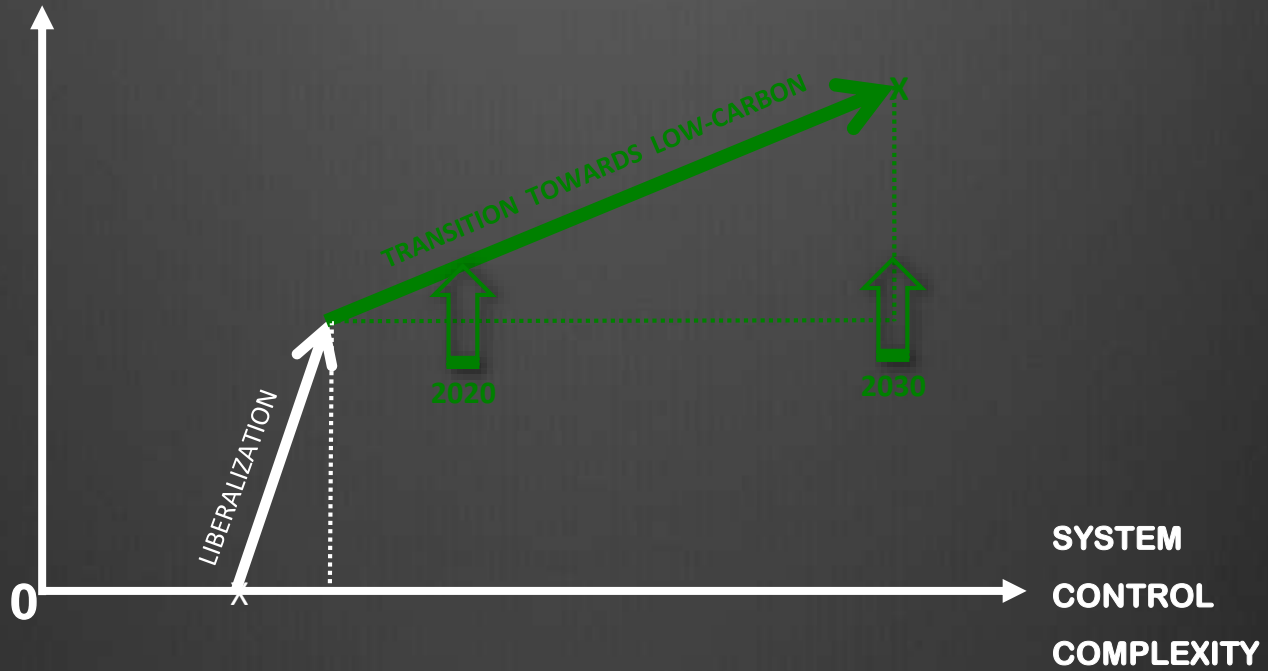
SSML: Single Sector
Multiple Level

MSML: Multiple Sector
Multiple Level

SSSL: Single Sector
Single Level

MSSL: Multiple Sector
Single Level

MARKET
COMPLEXITY



Control complexity, before and more than market complexity, is the problem

THE ELECTRICITY MARKET

DOESN'T EXIST

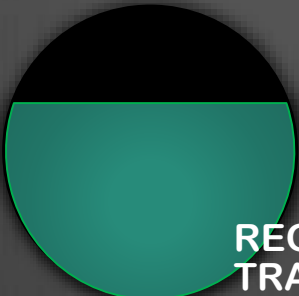
It will be a very different market place





OLD REGULATION

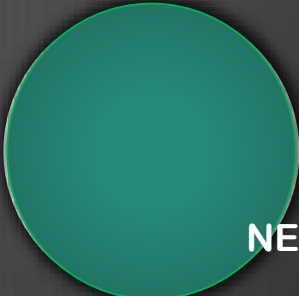
TODAY



REGULATION FOR
TRANSITION

TRANSITION

**TRANSITIONAL
REGULATION**



NEW REGULATION

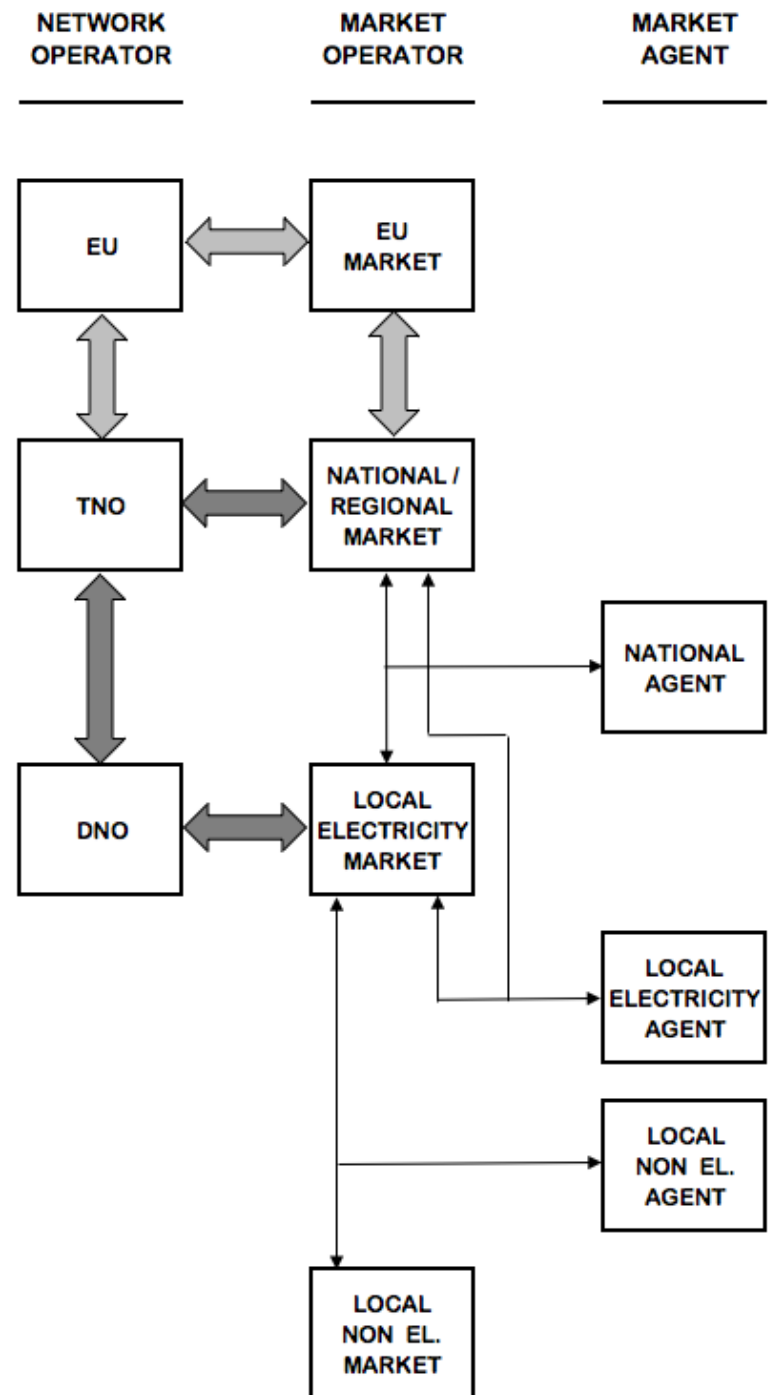
LOW CARBON
FUTURE

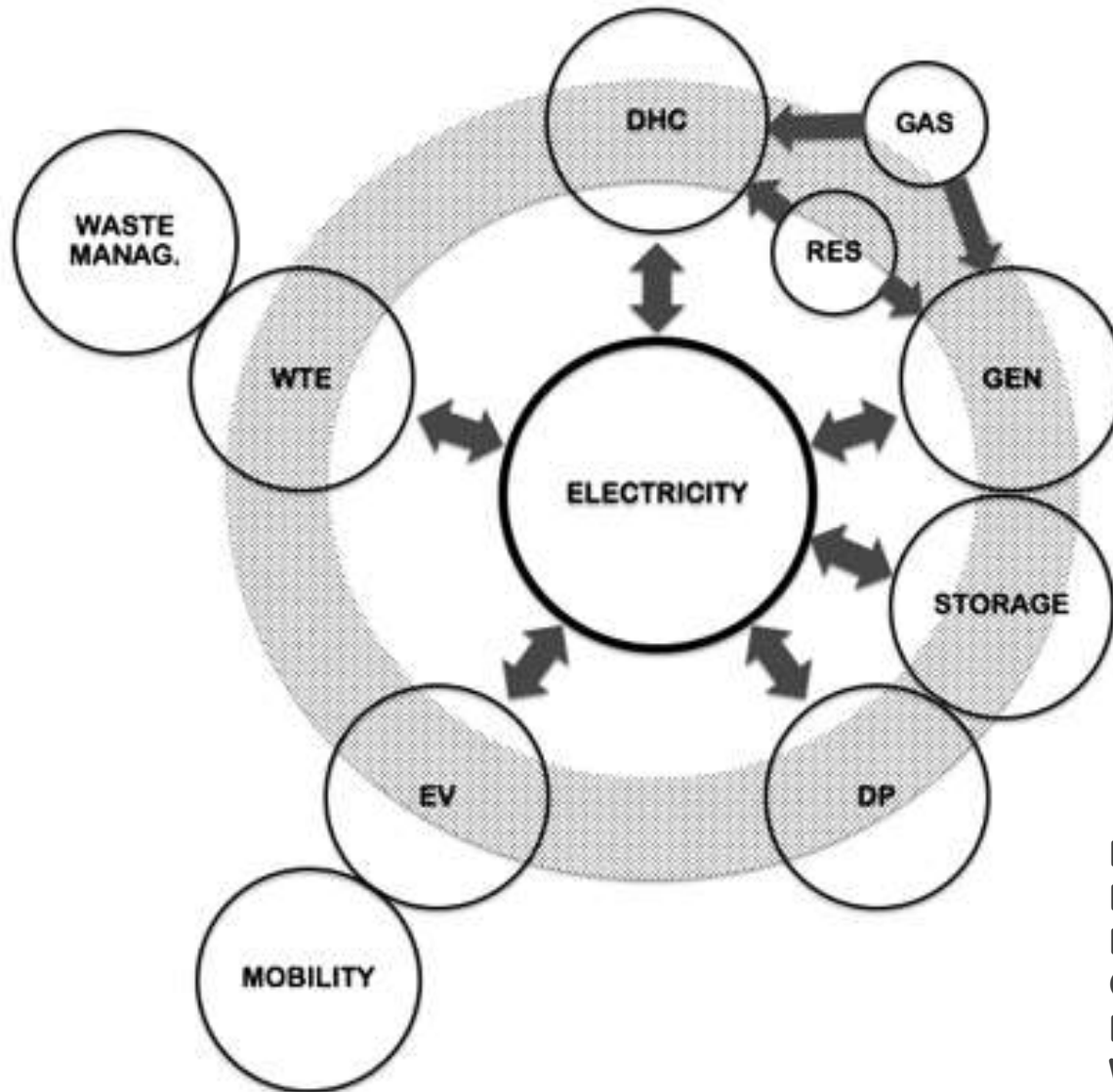
TRANSITIONAL REGULATION

**3. UM NOVO QUADRO CONCEPTUAL PARA COMPREENDER E
REALIZAR A TRANSIÇÃO ENERGÉTICA**

**VERTICAL
COORDINATION**

The new
electricity
functional
relational
map





ELECTRICITY AS A PLATFORM

DHC
DP
EV
GEN
RES
WTE

District Heating and Cooling
Demand Participation
Electric Vehicles
Electricity Generation
Renewable Energy Sources
Waste-To-Energy

TARIFFS /
REGULATION

TAXES

SUBSIDIES

CO₂ PRICING

...

LEVEL PLAYING FIELD

Importa assegurar a coerência dos quadros regulatórios dos resíduos e da energia, de forma a:

- partilhar de forma justa custos e benefícios entre consumidores de energia elétrica e utilizadores dos sistemas de gestão de resíduos urbanos;*
- proporcionar os sinais económicos apropriados a investimentos eficientes.*

É necessário reapreciar a valia da produção de energia elétrica a partir da valorização de resíduos no quadro da transição energética e das mudanças estruturais do sistema elétrico, nomeadamente no que diz respeito à importância de centrais despacháveis para a estabilidade e segurança do Sistema.

A possibilidade da produção simultânea de energia elétrica e térmica a partir da valorização de resíduos deve ser cuidadosa e sistematicamente analisada, removendo barreiras administrativas e regulatórias e proporcionando incentivos adequados.





REPÚBLICA
PORTUGUESA

AMBIENTE E TRANSIÇÃO ENERGÉTICA

PNEC 2030

PLANO NACIONAL ENERGIA-CLIMA

Portugal, 07 de maio de 2019

(DOCUMENTO PARA CONSULTA PÚBLICA)

Por forma a completar esta estratégia de descarbonização, há ainda que incidir sobre o setor dos resíduos e águas residuais, que embora com pouca expressão no cômputo geral das emissões, é um setor onde, no horizonte 2030, se preveem vir a existir mudanças substanciais com vista ao cumprimento das metas da Diretiva Aterros que prevê a deposição em aterro de apenas 10% dos resíduos urbanos produzidos até 2035. Haverá assim uma mudança de paradigma também na necessidade de maior reutilização e reciclagem de resíduos, apostando numa economia mais circular e com menor desperdício.

Obrigado pela vossa atenção

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