

The framework for energy efficiency in France

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March, 6th 2018

- 1) The energy transition and green growth act & its tools
- 2) France and the energy efficiency directive (EED)
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LA TRANSITION ÉNERGÉTIQUE pour la CROISSANCE VERTE

France validated its new energy model on 17 August 2015 by enacting the energy transition act for green growth that sets out **medium & long-term objectives for national energy production and consumption:**

Reduction of France's primary fossil fuels cons.
 (30% by 2030*)



Decreasing in the share of nuclear (50% of electricity production by 2025)



Final energy cons. reduction
 (-50% by 2050*)



Inc. in the share of REN
 (32% of final energy cons. 40% of elec. prod. & 15% in final fuel cons. by 2030)

Inc. the quantity of REN heating & cooling + recov. delivered by district grid
 (X 5)

Reduction of waste going into landfills
 (50% by 2050)



GHG emissions reduction to achieve the EU target
 (-40% by 2030**/div. by 4 by 2050)

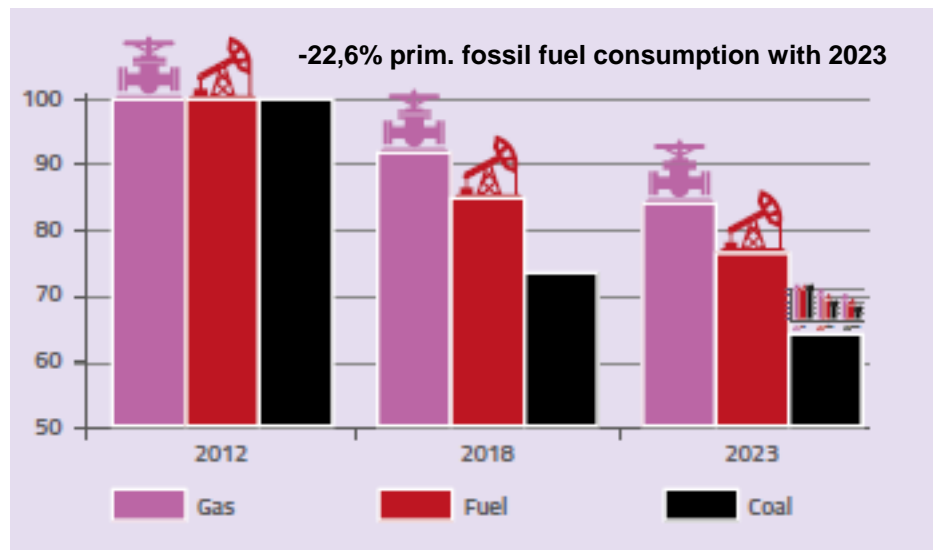


Carbon pricing limit. at €56 per ton by 2020 & at €100 by 2023 (for the carbon component of the tax on energy products cons.)



* compared to 2012
 ** compared to 1990

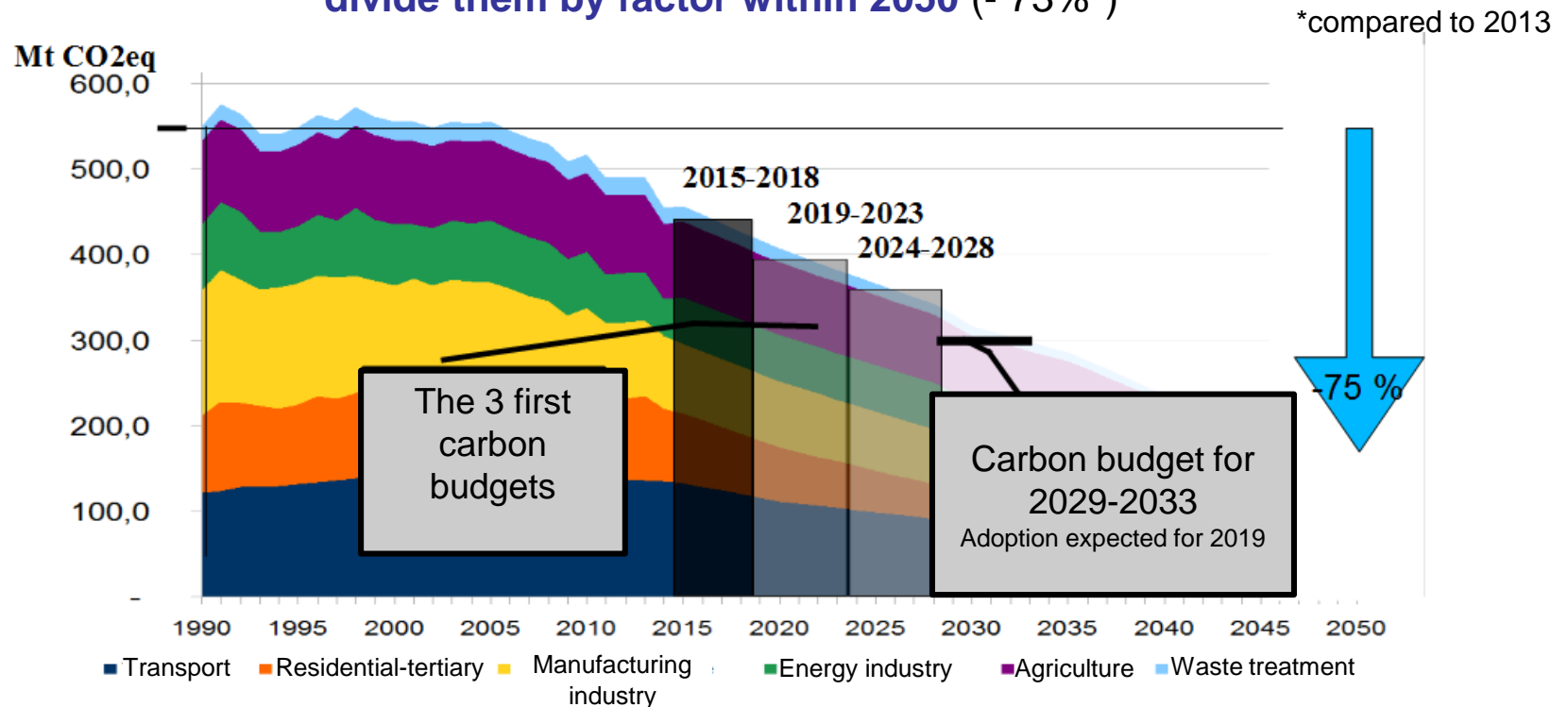
The “energy transition for green growth” act has also introduced **different strategical planning tools** such as the “**multiannual energy plan**” (MEP) (*Programmation Pluriannuelle de l'énergie*) to set out the government’s strategic priorities by types of energy sources for both continental metropolis and non-interconnected zones



Evolution of primary fossil fuel consumption by category for the first MEP period (base 100 in 2012, ref. scenario)

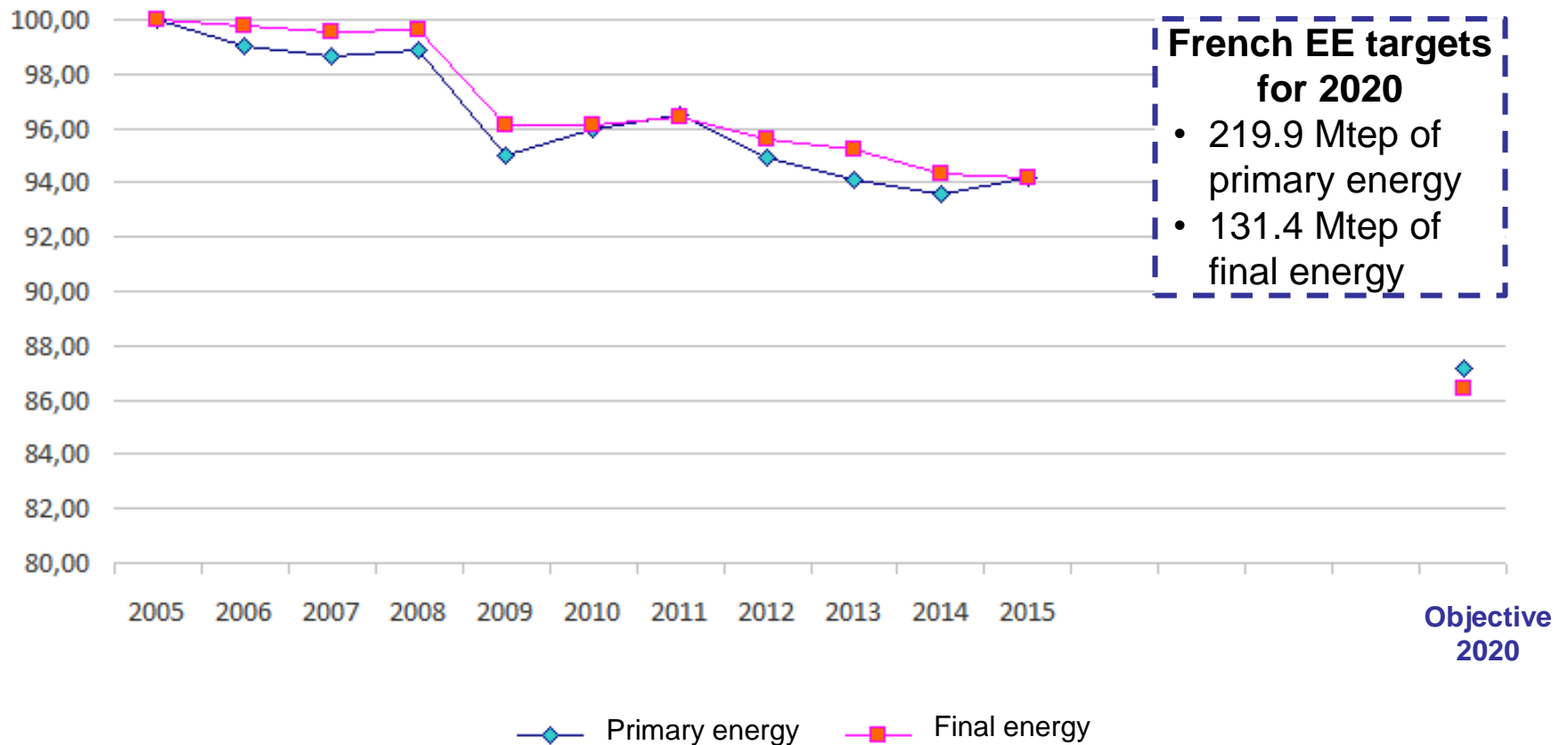
This MEP is consistent with the national low-carbon strategy adopted in October 2015, the tool used for the implementation of the Paris Climate Agreement

This policy tool gives strategical guidance to ensure the transition towards a low carbon & sustainable economy by setting up **GHG emissions reduction targets** at mid-terms by sector (called «carbon budgets») to **reduce GHG emissions of 27% within 2028*** & **divide them by factor within 2050 (- 73%*)**



The MEP & NLCS will be updated in 2018 to be consistent with the French Climate Plan published in July 2017 that targets the « carbon neutrality » within 2050 !

Final and primary energy consumption of France (except non energy uses & international bunkers) - base 100 in 2005



The main measures of the French EE policy

Measures	Targeted sector	Estimated final energy saving in 2020 in Mtep
Refurbishment works improving EE when important refurb. works are planned such as re-roofing (implementation of art. 14 of EED)	Residential & tertiary	0.26
Measures improving the perf. new vehicles (<i>bonus malus + EU regulation</i>)	Transport	0.846
Social eco-loan (<i>Eco-prêt logement social</i>)	Residential	1.03
Tax credit scheme for energy transition (<i>Credit d'Impôt Transition Énergétique-CITE</i>)	Residential	1.08
Thermal building regulation (<i>Réglementation thermique du bâtiment – RT</i>)	Residential & tertiary	1.68
Interior tax on energy products (<i>Taxe Intérieure de Consommation sur les Produits Énergétiques - TICPE</i>)	Mainly transport	1.9
White certificates (<i>CEE</i>)	All	13.1

- Introduced in 2005 (before the EED) by the French POPE law (art. 14 to 17) **to trigger final energy savings** in diffuse sectors such as building
- **Obliges energy suppliers and fuel distributors** (“obligated parties”) **to make end-use consumers** (“beneficiaries”) **save energy** by implementing EE actions
- EE actions can be implemented **directly by “obligated parties”** or **indirectly by third parties** (“eligible parties”) such as consultancy companies, local authorities, social landlords or the National Housing Agency (ANAH)

NB: ANAH helps low income owner-occupiers and landlords to improve energy performances of their housing

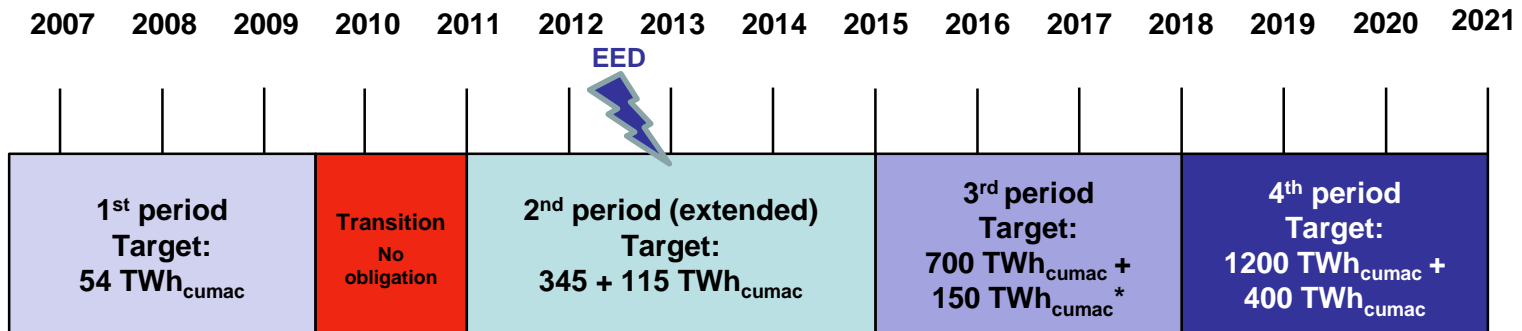
3 means to get white certificates

Standardized operations	Specific operations	Programs
90 % of delivered WC	6% of delivered WC (mainly for ind.)	4% of delivered WC
<ul style="list-style-type: none"> • Modalities set-up by decree • Fixed CEE amount per operation • Simplified procedures (enabling costs reductions and good practices use) 	<ul style="list-style-type: none"> • Specific modalities • Ad-hoc CEE amount (depending on operation) • Each request analyzed by ADEME 	Fixed CEE amount per € spent : <ul style="list-style-type: none"> • Training • Information • Innovation • Energy poverty

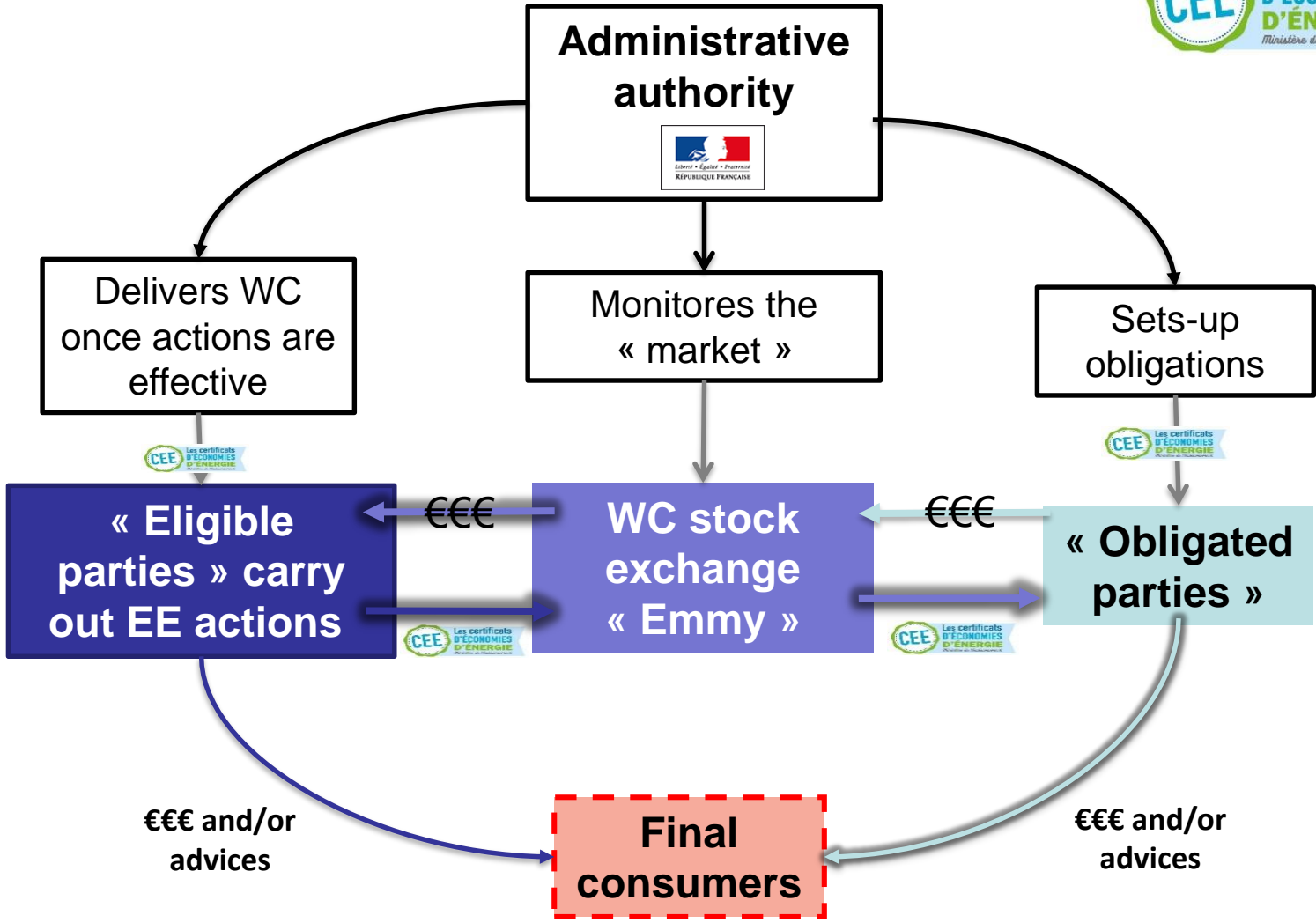


- Eligible parties can **exchange their certificates on a dedicated market** called « Emmy » (www.emmy.fr)
- Energy saving targets assessed in **kWh cumac** of final energy
 ➔ energy savings **cumulated over the life-time of the implemented operation and discounted** at 4%
- Energy saving targets are set by **3-year period** (except for the 2nd one) from estimation of potential energy saving led by ADEME and submitted to public consultation

1 CEE =
1 kWh
cumac



* 150 TWh cumac have been added to the 3rd period in January 2016 to support actions dedicated to households in fuel poverty situation



Many options for obligated parties

Incite energy
savings
actions
eligible to
white
certificates

Invest in WC
programs

Buy
certificates
on the
market

Delegate
their
obligation to
a 3rd party

Pay a
financial
penalty
20€/MWh_{cumac}

- “Principle of fungibility” → free choice of sectors, consumers and energy types
- Led by an economic logic and/or commercial efficiency



Residential-tertiary

- Building and hot water networks insulating
- perf. heating
- light-emitting diode (LED)



Industry

- Electronic speed variation for asynchronous motor
- Heat recovery on compressors



Agriculture

- High performance heating for greenhouses
- Climate computer
- Use of heat recovery



Transport

- Carpooling
- Railroad Expressway Wagons
- Energy-saving lubricants
- Combined rail-road transport units
- Eco-driving training

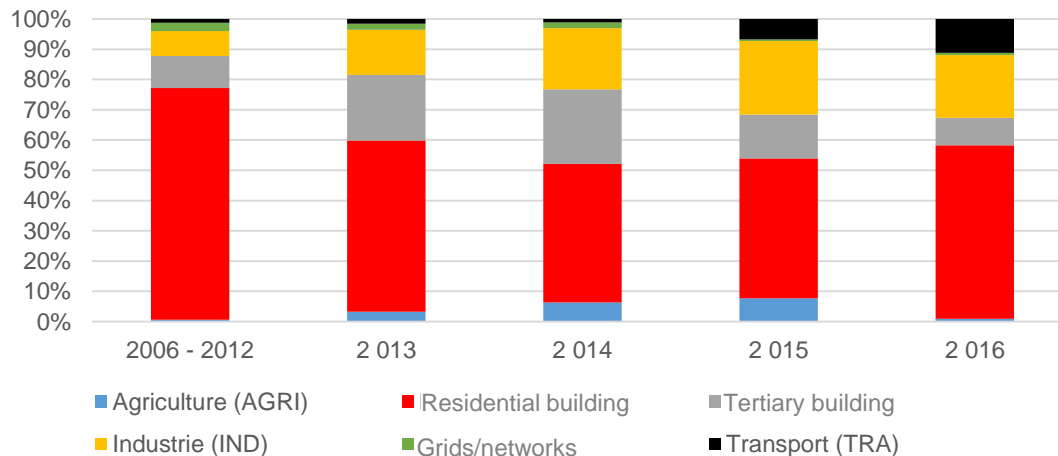


Grids

- High performance street lighting
- High efficiency transformer



Sectoral evolution (per commitment date)



Objectives for the public bodies



1. Improve the transparency and “readability” of the scheme (half-yearly publication of energy bond coverage data, specific operations analyses every year, mandatory framework for offer targeted dwelling)



2. Strengthen control & monitoring procedures (raising the level of requirement for the delegates, int. of minimum threshold of delegation -150 GWh cumac or min. qualification certification, quotation archiving)



3. Strengthen the efficiency of the scheme and simplify it (qualification requirements for auditors/alignment with mandatory energy audits for large companies, progressive revision of standardized operations sheets..)

Perspectives for the French white certificates

- **Oil obligation:** transfer the obligation of fuel distributors to consumer from 2019 ("hydrocarbons" law)
- **Experimental opening** to operations carried out on **ETS installations subject to CO₂ quotas** (legislative provision requirement)
- Publication of a **short-term trading price indicator** ("spot")
- **Recast of the WC "boost"** (premiums for replacing an oil-fired boiler with equipment using renewable energies)

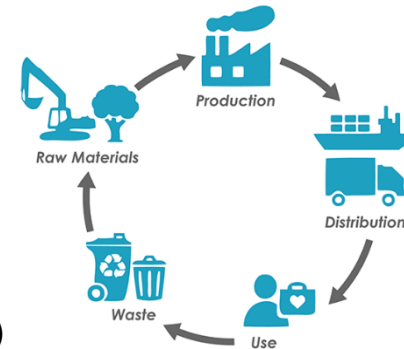


- Reinforcement of **monitoring and verification** procedures to **improve the quality** of EE services

- **Consideration of life cycle analysis (LCA)** in order to take into account impacts on resources depletion (energy + materials) during the entire life cycle

➔ Current experimentation of a such approach to prepare the future thermal building (see. label E+/C- for more information

www.ecologique-solidaire.gouv.fr/batiment-energie-positive-et-reduction-carbone)



- **Benefit from opportunity offers by digitization and smart metering**
 - ➔ Experimentation of a digital book to report maintenance & monitoring actions on building for all new blg & for all residential building transformed from January 1st 2025
 - ➔ Exp. of blockchains use to secure data exchanges when energy is self produced

Thank you for your attention