International Forum
White Certificates: an instrument to recognize savings and efficient use of energy in Mexico?

Mexico City – October 23th, 2018

White certificates:

The French experience

Jean-Sébastien Broc

IEECP (Institute for a European Energy & Climate Policy)

and Broc Research & Consulting

Background of the French scheme

- **Increasing objectives** for energy efficiency (Kyoto protocol, reducing energy imports, etc.)

while **limiting the use of public budget**

- General **move towards more market**:
  - Progressive market opening for electricity & gas from 2000
  - Involving private stakeholders and fostering cost-effective ways to achieve energy savings (in all sectors)

- Change in the approach of the policy instruments:

move from a focus on **means** (how much is invested) to focus on **results** (how much is achieved)

Discussions started in 2004, created by Energy Law of July 2005, official **start in July 2006**

Scope and focus

Basis to calculate the target:

Final consumption of electricity, natural gas, heat, cooling, heating oil in the **residential and service** sectors

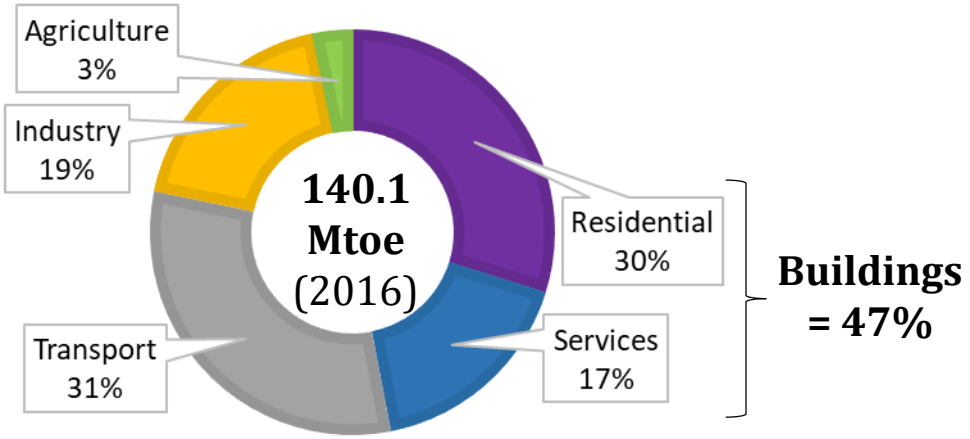
+ final consumption of fuels for vehicles (**transport** ; since 2011)

+ Initial focus on existing building (renovations): large potentials, but difficult to reach (very high number of buildings, small projects)

+ separate **target on fuel poverty** (from 2016)

Sectors where actions can be done:

All sectors (except sites covered by the Emission Trading Scheme; this will change in the coming months)



Final energy consumption per sector in France (2016)

Actors and roles

ESC: Energy Savings Certificates

Public authority

Ministry (DGEC: General Directorate for Energy and Climate) —*dedicated unit*→ PNCEE: National Centre for White Certificates

Set the RULES

ADMINISTERS the scheme

ADEME

Technical expertise

Actors of the ESC market

Can get ESC

Obligated parties: energy **suppliers**

Must ACHIEVE targets

Can transfer its obligation →

Can get ESC

Delegated contractors

Must ACHIEVE targets

Can get ESC

Eligible parties

NO target

Middle actors

ESCos and consultancies

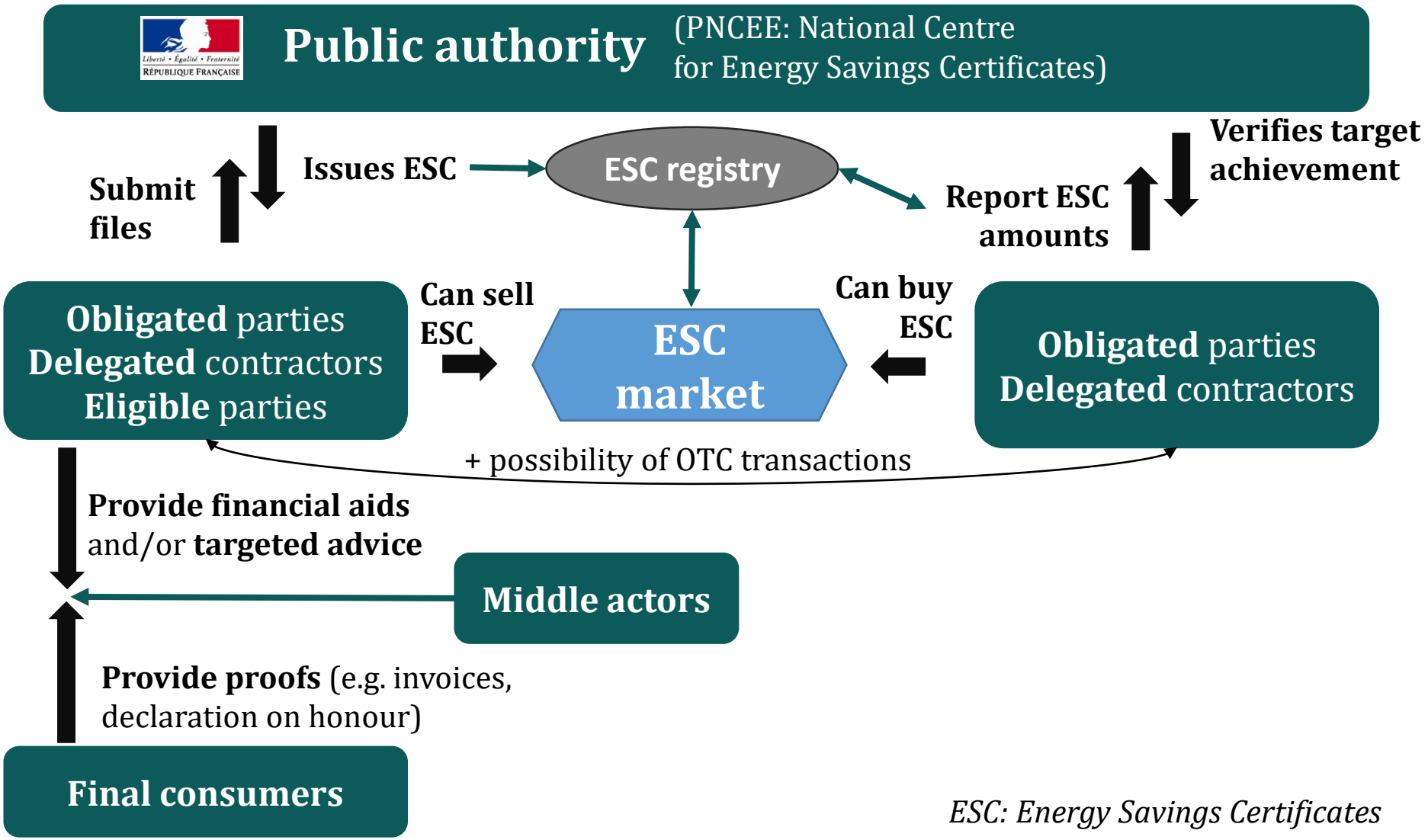
Provide technical, administrative or other kind of support

Retailers, installers, etc.

Supply the products / services

Final consumers — **Receive support to do actions**

How the French scheme works



ESC: Energy Savings Certificates

Options for the obligated parties

✓ **Produce** ESC (Energy Savings Certificates)

Standardised actions	Specific actions	ESC programmes
• Official catalogue with predefined **energy savings ratios per action** • Files directly processed by PNCEE • **90%** of the ESC (2015-2017)	• **Guidelines** to present and evaluate the action • Files examined by ADEME (technical) and PNCEE (administrative) • **6%** of the ESC (2015-2017)	(since 2010) • **Special topics** defined by the Ministry + call for proposals • Predefined **ratios of ESC per euro funded** • **4%** of the ESC (2015-2017

✓ **Buy** ESC

ESC **market**

or **OTC** transactions

✓ **Transfer its obligation** to delegated contractor(s)

If **non-achievement** of the target → **discharge penalties** (20 euros/MWh cumac up to 2018; now 15 euros/MWh cumac)

Choice of the energy suppliers

✓ direct contacts with end-users

✓ marketing capabilities

✓ previous experience with energy efficiency programmes
(for the two former monopolies for electricity and gas
→ they represented 80% of the obligations in the first period 2006-2009)

In Europe:
13 countries with Energy Efficiency Obligation
11 on energy suppliers / 2 on energy distributors
(Denmark, Italy)

→ depends on the national context: history with energy efficiency, number of actors, regulation framework, etc.

Choice of 3-year periods

- Providing **visibility** to stakeholders:
  - shorter period would create instabilities (+ constant negotiations)
  - longer period would be risky: actors might wait before delivering (see Bulgarian example) + difficult to anticipate trends and changes (see Danish example)
- When issuing certificates → **no need of annual reporting**:
  - Limited time to submit files after actions are implemented
  - Issuance of ESC enables on-going monitoring of achievements (in most EEO without certificates, obligated parties must report achievements each year)

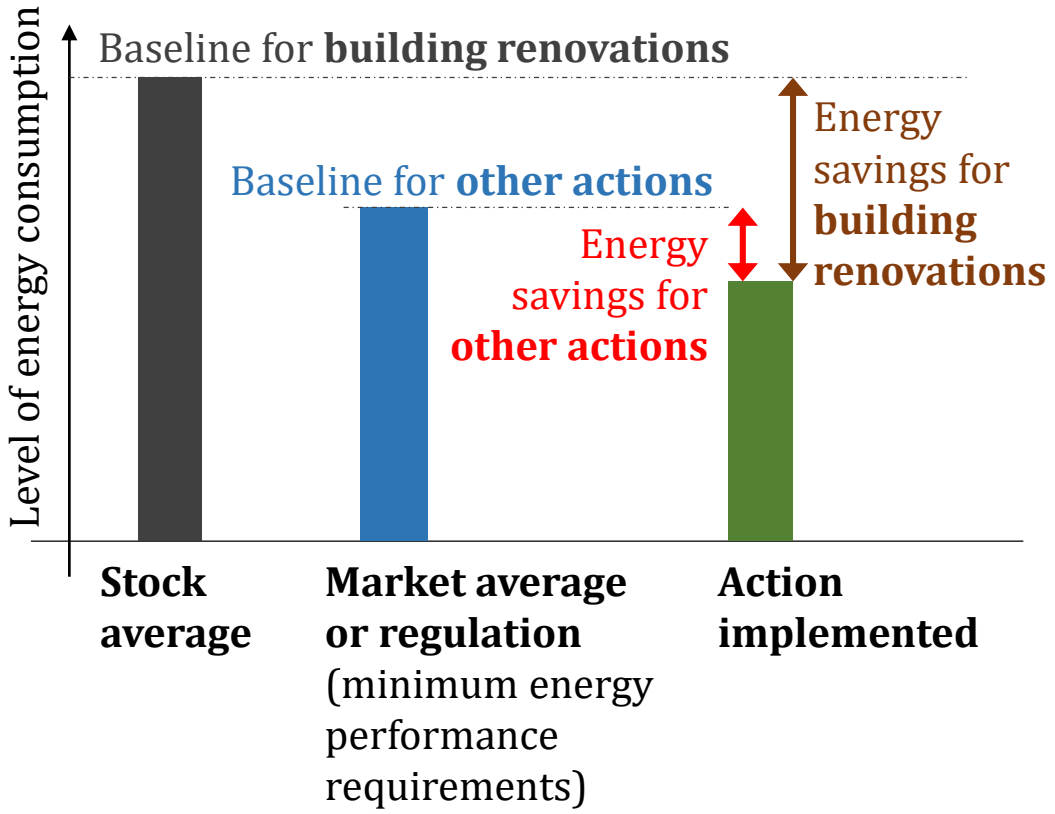
+ continuation of the scheme over longer period set by law
→ favoring the development of long term strategies

Accounting rules for ESC

- ESC **unit**: kWh **cum** **ac** → **ac**tualised (4% discount rate) → ESC = tradable goods issued at once
  lifetime-**cum**ulated → valuing actions with long lifetime

- **baseline** for energy savings

→ pragmatic way to handle additionality



Reporting & verification

- Obligated/eligible parties can **submit** a file to get ESC at any time

- **verification** of the files → reliability vs. limiting admin burden

✓Standardized actions:

- 2006-2014: before issuing ESC + all
- 2015 on: after issuing ESC + samples

→ change needed to streamline the process and avoid bottlenecks when increasing the targets

✓Specific actions:

- before issuing ESC (including a technical review by ADEME) + all

- **Reporting** about target achievement: at the end of each period

Interactions with other schemes

Overlap allowed

- **Public incentives** (e.g. tax credit for renovation works), **EXCEPT**
- Energy and carbon taxes
- Public programmes for information, energy advice/audits, training

Overlap NOT allowed

- ADEME subsidies for investment by companies or local authorities
- Actions on sites covered by the **Emission Trading Scheme** (this will change in the coming months)
- Actions that only meet the minimum requirements set in current **regulations**

Interactions with regulations

- Catalogue of standardised actions regularly updated to take into account changes in regulations (and market trends)
- Energy performance required for standardised actions might help smoother transitions towards reinforcements of regulations

Value added of the scheme

- Better knowledge and **visibility** of the energy savings potentials
  - sectoral **working groups** gathering about 150 experts
  - **catalogue** of close to 200 standardised actions (with regular updates)
- **Flexibility** + giving **signals** to market actors (e.g. by using bonuses, adding/removing action types)
- Stimulating various ways to promote actions (obligated parties are free in their strategies + new comers / new offers) → "**multiplier**" effect
- Increasing **credibility** of energy saving actions ("official stamp")
- Making energy savings a **tangible product**, with a **value chain**
- Promoting **quality and performance** (upgrading the markets) → requirements in the definition of the standardised actions
- **Capacity building** of stakeholders (to be able to take part in the scheme)

Lessons learnt: 1) prerequisites

- **Clear definitions of objectives, roles, rules and responsibilities**
  → *consultation and negotiations*
- **Legal preparatory work:** the Law set the general principles, then many by-laws, decrees, etc. needed to create the legal framework
- **Technical and practical preparatory work**: calculation methods, eligibility criteria, testing procedures, etc.
  → *working groups involving all stakeholders*
- **Capacity building** is critical on both sides: public authorities and stakeholders (15 regional workshops in 2006-2007, 450 participants)

→ **Importance of a learning phase** + expanding progressively the scope (cf. transport added in second period from 2011 ; more action types)

→ **High upfront investment**: worth it if for many years

Lessons learnt: 2) about targets

- Importance of setting achievable and high enough targets:
  - **If too high**:

    legitimacy of the scheme might be questioned
    + higher risks of frauds (high ESC prices make the scheme attractive for "cheaters") → higher needs in resources for verification & controls (see also UK, Denmark and Italy)

  - **If too low**:

    low additionality vs. business as usual

    + low ESC prices = low (or no) attractiveness for middle actors

  + taking into account ESC transfers from previous periods (hidden reduction of the target)

Lessons learnt: 3) implementation feedback

- Importance of **communication** with stakeholders (regular feedback, consultation, steering committee)
- Complex for the actors but **simple** (even sometimes transparent) **for the end-users**
- Need to **streamline** the application/issuance process to avoid bottlenecks when increasing targets
- Preparing new periods takes time (+ risks with transition periods: banking, "stop-and-go", etc.)
- Providing **stability and visibility** vs. constant need to **fine-tune** the scheme
- Major changes can affect the rate of delivery and ESC prices

→ this can endanger middle actors

Lessons learnt: 4) focus on M&V

- Example of common pathway (**continuous improvement**)

Learning phase	Increasing targets	Optimising
• **ex-ante validation** (before crediting) • identifying **key information** to document • building mutual **trust**	• **simplifying** the procedures (from ex-ante validation to ex-post controls) • involving obligated parties more through **quality insurance** guidelines	• **targeting** verifications and controls (**risk-based** approaches) • **quality of actions** (ensuring satisfaction of end-users)

Weak M&V = higher risks of frauds (+ bad press)

+ beyond M&V, also a need of **ex-post evaluations**

(see Denmark and UK + currently France) → "actual" energy savings and additionality, reviewing costs and assessing cost-effectiveness, satisfaction of stakeholders, other impacts (energy prices, market transformation, …)

Lessons learnt: 5) results & impacts

- Targets always over-achieved so far
- Effective to foster single actions, but less for comprehensive approaches + more difficult to achieve savings in transports
- Most of the savings achieved by a few action types, but "top actions" change and distribution of the actions more balanced over time
- Main costs of energy efficiency programs transferred from public bodies (i.e. taxpayers) to energy suppliers (i.e. consumers)

  → risk of **distributional effects** (cf. impacts on energy prices), hence the new target on fuel poverty

Results: outputs

Key figures

Residential sector:

2006-2016
900 000 individual boilers with high efficiency
insulation actions in 600 000 dwellings

3rd period (2015-2017)
160 000 individual boilers with high efficiency
insulation actions in 370 000 dwellings (250 000 attic/roof insulations; 100 000 wall insulations; 20 000 ground floor insulations)
100 000 individual wood heating systems

Services:

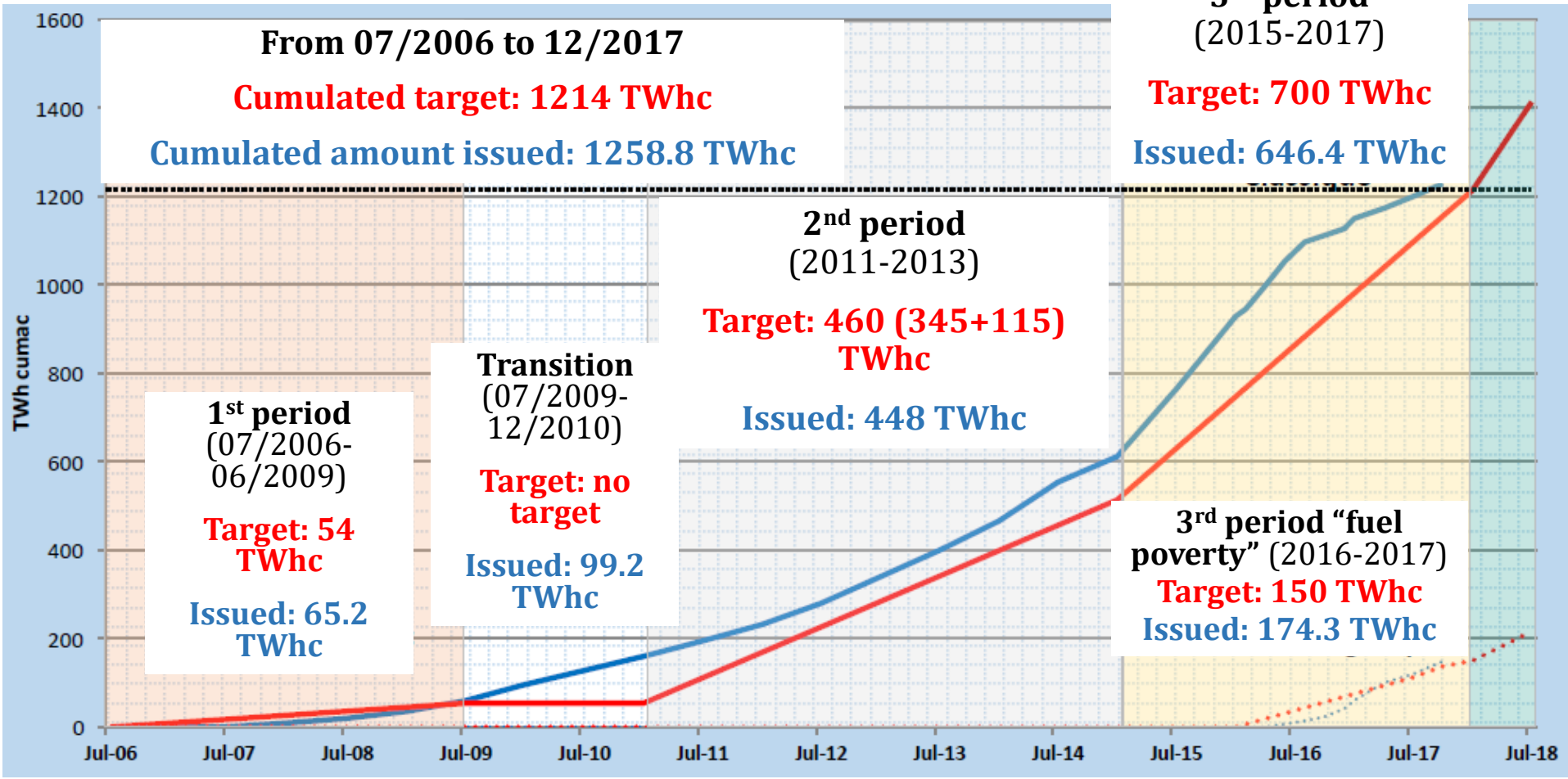
3rd period (2015-2017)
New heating systems for buildings equivalent to 1.25 million m^2
1.7 million m^2 of attic or roof insulations

Transports:

3rd period (2015-2017)
11 000 HGV (Heavy Goods Vehicles) improved/optimized
27 000 drivers trained to eco-driving

Source: ADEME

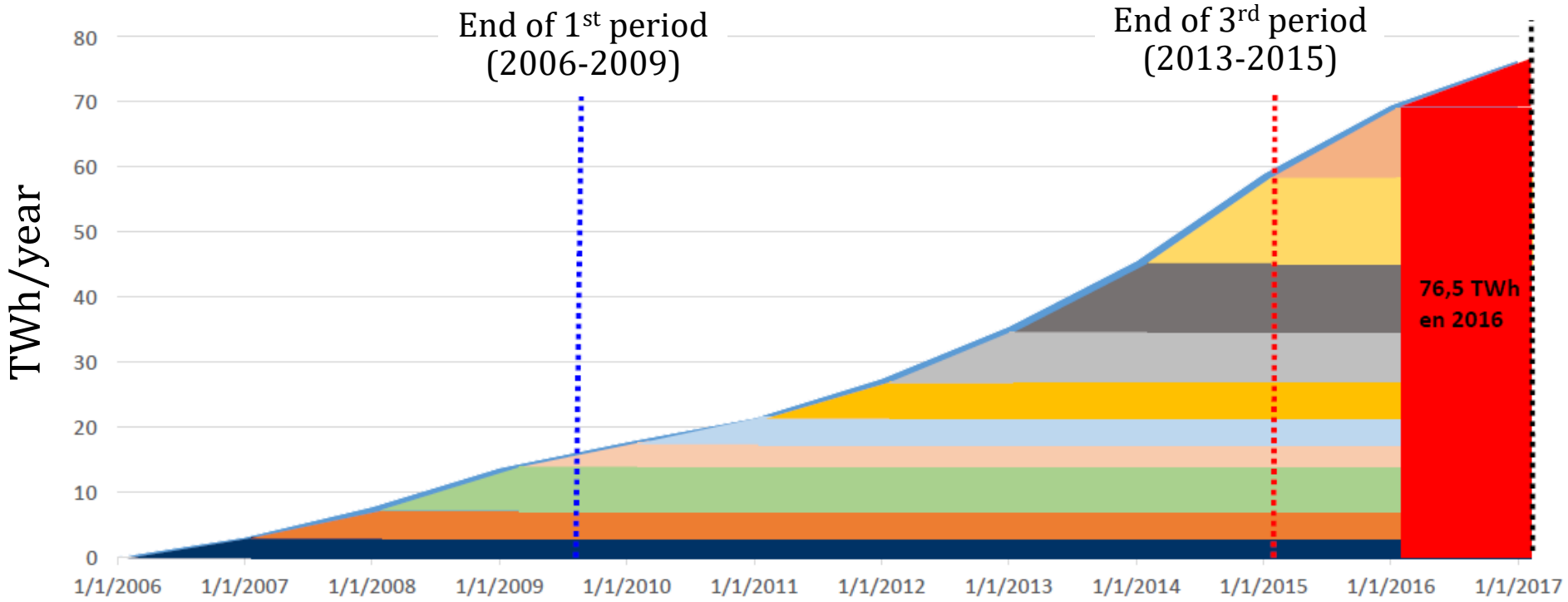
Results: amounts of ESC issued



Source: ADEME

⚠ Data in TWh**c** = TWh **cumac** (ESC unit)

Results: cumulated annual energy savings



Source: ADEME

Cumulated results (2006-2016) would represent 76.5 TWh saved in 2016 (=4.7% of the total final energy consumption in 2016) and 16 MtCO2e (3.4% of CO2 emissions in 2015)

Results probably over-estimated (actual energy savings < estimated energy savings ?)

Thank you for your attention !

Questions?

¿Preguntas?

jsb -at- brnc.fr

jsb -at- ieecp.org