The French « CEE » energy saving certificate as part of the Energy Efficiency Action Plan

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DGEC
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Agenda

1. Energy efficiency and climate change policies in France

2. General presentation

   1. Principle of a white certificates scheme
   2. Implementation of the French white certificates scheme
   3. Energy suppliers obligations
   4. Eligibility of energy saving actions
   5. The white certificates national registry
   6. Results of the first obligation period, progress status of the second period
   7. Lessons learnt so far
1. Energy efficiency and climate change policies in France (1/4)

Final energy consumption in the reference scenario (left) and in the « Grenelle » scenario (right), by energy.
Final energy consumption in the reference scenario (left) and in the «Grenelle» scenario (right), by sector.
1. Energy efficiency and climate change policies in France (3/4)

- National objectives

  - Energy policy law (13/07/2005)
    - -3% GHG / year
    - -60/80% GHG in 2050 (base year : 1990)

  - National environment roundtable [« Grenelle »] (2007)
    - -20% energy consumption in France in 2020 (base year : 2007)
    - -38% energy consumption by buildings in 2020 (base year : 2007)
    - -20% GHG in the transportation sector (base year : 2007)
    - +20 Mtoe renewable energy consumption (base year : 2007)
1. Energy efficiency and climate change policies in France (4/4)

- Different instruments at different levels: some examples
  - Energy efficiency standards and regulations
    - Ecodesign (EU)
    - Building energy standards (national)
    - Building regulations (RT 2012)
  - Economic incentives for energy efficiency
    - White certificate scheme (national)
    - Tax reductions or 0% credits for renovation works (national)
    - Renewable heat grants (« Fonds Chaleur »)
  - Energy taxation / cap and trade scheme
    - European emission trading scheme (EU)
  - Consumer information
    - Ecolabelling (EU)
    - Information campaign (national)
2.1. The principle of a WCS (1/3)

• For a given period, each energy supplier has an energy saving obligation corresponding to their markets shares

• When an energy supplier implements energy saving measures towards energy consumers, he may receive white certificates

• Energy savings can be carried out by each energy supplier in all sectors (residential, tertiary, agriculture, industry, transports...)

• White certificates may be freely traded

• At the end of the period, each energy supplier must demonstrate the fulfillment of its obligation by providing the corresponding amount of white certificates

• An energy supplier failing to do so receives a financial penalty
2.1. The principle of a WCS (2/3)

• **Motivations for such a design:**
  
  – The attribution of energy saving obligations to energy suppliers is consistent with the « polluter pays » principle
  
  – The energy suppliers are well positioned to advise their clients
  
  – Paradoxically, energy efficiency measures targeting their clients may be beneficial to the energy suppliers
  
  – The freedom left to energy suppliers and the ability to trade certificates enhance the cost efficiency of the scheme
  
  – The scheme does not involve state funds. It has no explicit cost for the consumer (no recovery system in France)
2.1. The principle of a WCS (3/3)

- Potential problems may be:

  - Clients targeted in priority are determined by energy suppliers. It may result in a significant redistribution between different sectors or consumer segments in an unfair way.

  - Investments financed in priority are influenced by commercial motivations of the energy suppliers (to lock down the consumer in a given energy or minimize their loss of revenues). This may be detrimental to the scheme’s cost efficiency.

  - The scheme’s integrity requires monitoring. The administrative burden may be significant (8 officials in the 1st period and 15 in the 2nd period).

  - As an energy efficiency scheme, the results are likely to be mitigated by the rebound effect.
2.2. the implementation of the French WCS (1/2)

• The timeline

  – 07/2005 : definition of the WCS in the energy policy law
  – 07/2007 : entry into service of the national white certificates registry
  – 07/2006 to 06/2009 : 1st period of the WCS

  – 07/2010 : « Grenelle II » law and definition of the 2nd period WCS
  – 12/2010 : adoption of operational modalities in four executive orders
  – 01/2011 : beginning of the 2nd obligation period of the WCS
  – 12/2013 : end of the 2nd period of the WCS

  – ???/2014 : beginning of the 3rd period of th WCS ?
2.2. the implementation of the French WCS (2/2)

- Specificities of the French WCS
  - Any legal entity implementing an energy saving measure under certain criteria may obtain white certificates. These white certificates can then be sold to energy suppliers under obligation. The underlying intention was to create economy savings services and a white certificates market and thus an innovative economic and financial mechanism for energy savings
  - Obligations based on energy sales
  - All sectors are eligible but the principal target is the building sector
  - The amount of white certificates correspond to the final energy savings cumulated over the lifespan of the measure and annually discounted with a 4% actualization rate

- WC = AES + AES/1.04 + … AES/1.04^{n-1}
  - WC = amount of white certificates
  - AES = annual energy savings
  - n = lifespan of the measure
2.3. Suppliers obligations (1/5)

First Period (07/2006 to 06/2009)

- Target: **54 TWh**

- Added energy supplier: fuel distributors

Second period (01/2011 to 12/2013)

- Target: **345 TWh**

Objective shared between energies then among suppliers in each category according to their sales in the residential and tertiary sector

Obligation by energy (TWh)

- Heating & Cooling District (11 suppliers)
- LPG (7 suppliers)
- Heating Oil (2542 suppliers)
- Natural Gas (12 suppliers)
- Electricity (20 suppliers)

Obligation by energy (TWh)

- Fuel
- Heating & Cooling District
- LPG
- Heating Oil
- Natural Gas
- Electricity
2.3. Suppliers obligations : the determination of individual obligation (2/5)

First Period (07/2006 to 06/2009)

- At the beginning of the period, each energy supplier declares its total annual sales and annual sales restricted to the building sector (residential and tertiary) from 2004 to 2006.

- Individual obligation is proportional to the annual sales restricted to the building sector. It is notified to the energy supplier and published online.

Second period (01/2011 to 12/2013)

- Each energy supplier knows for the year « n » of the period his own obligation by using on its annual sales (year « n » for fuel and « n-1 » for other energies) restricted to the building sector a coefficient.

<table>
<thead>
<tr>
<th>Energy</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>0.168 kWh / kWh</td>
</tr>
<tr>
<td>Natural gas</td>
<td>0.095 kWh / kWh</td>
</tr>
<tr>
<td>Heating oil</td>
<td>1050 kWh / m³</td>
</tr>
<tr>
<td>Heating Liquid Petroleum Gas</td>
<td>0.159 kWh / kWh</td>
</tr>
<tr>
<td>Heating and Cooling district</td>
<td>0.103 kWh / kWh</td>
</tr>
<tr>
<td>Fuel</td>
<td>594 kWh / t or m³</td>
</tr>
</tbody>
</table>
### 2.3. Suppliers obligations: the determination of individual obligation (3/5)

<table>
<thead>
<tr>
<th>First Period (07/2006 to 06/2009)</th>
<th>Second period (01/2011 to 12/2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Only energy suppliers with their annual sales over a certain threshold receive energy saving obligations</td>
<td>- Same thresholds than in the first period except</td>
</tr>
<tr>
<td>Heating oil: 0 m³</td>
<td>Heating oil: 500 m³</td>
</tr>
<tr>
<td>LPG: 100 GWh</td>
<td>Fuel: 7000 t or m³</td>
</tr>
<tr>
<td>Other energies: 400 GWh</td>
<td>LPG: 100 GWh</td>
</tr>
<tr>
<td>Other energies: 400 GWh</td>
<td>Other energies: 400 GWh</td>
</tr>
</tbody>
</table>
2.3. Suppliers obligations (4/5)

• Number of energy suppliers covered in the 1st period

  – Electricity, natural gas, district heating and cooling, LPG: 42 suppliers
    • Electricity: 18 (including EDF > 29 TWh)
    • Natural gas: 10 (including GDF-Suez > 13 TWh)
    • District heating and cooling: 7
    • LPG: 7
  
  – Heating oil: more than 2400 suppliers
    • They may be gathered in « collective structure ». The structure becomes responsible for the obligations of all its members
    • Ecofioul > 1600 companies, > 5 TWh
    • SIPLEC > 130 companies
    • Independent suppliers > 700 companies

• Number of energy suppliers covered in the 2nd period

  Declaration of energy sales by the suppliers will occur at the end of the period. Otherwise, the number of energy suppliers obliged can’t be known at this time. It will be almost the same (~ 40 fuel distributors and less than 2400 heating oil suppliers over the threshold, same number for other energies)
2.3. Suppliers obligations (5/5)

- Compliance verification

  - At the end of the period, the number of white certificates possessed by the energy suppliers under obligation is compared to their obligation.
  
  - If it is sufficient, the amount of white certificates corresponding to the obligation is cancelled
  
  - If it is not sufficient, the non compliant energy supplier is requested to provide the missing white certificates within two months by buying them on the registry
    
    - At the end of the 1st period: 375 energy suppliers were concerned
  
  - If the non compliant energy supplier fails to do so, a liberatory financial penalty of 20€/missing MWh is applied
    
    - At the end of the 1st period: 218 energy suppliers were concerned with penalties from 6€ to 600K€.
2.4. The white certificates request procedure (1/10)

• What are the eligible actions?
  – White certificates may be claimed for any action taken by a legal entity, *additional to this legal entity's usual activity, leading to energy saving* (except if the energy saving happened in an installation covered by the European ETS)

• What supporting documents need to be collected?

• What is the administrative procedure for claiming for white certificates?
2.4. The white certificates request procedure (2/10)

- What are the eligible actions?
  - White certificates may be claimed for any action taken by a legal entity, additional to this legal entity’s usual activity, leading to energy saving (except if the energy saving happened in an installation covered by the European ETS)
  - « Legal entity »

<table>
<thead>
<tr>
<th>First Period</th>
<th>Second period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large list of eligible applicants:</td>
<td>Restrictive list of eligible applicants:</td>
</tr>
<tr>
<td>Not only energy suppliers but all corporate bodies could claim for WCS.</td>
<td>- energy suppliers.</td>
</tr>
<tr>
<td></td>
<td>- local and regional authorities.</td>
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<tr>
<td></td>
<td>- social landlords and the ANAH.</td>
</tr>
</tbody>
</table>
2.4. The white certificates request procedure (3/10)

- What are the eligible actions?
  - "Additional to this legal entity’s usual activity"
    - The intent behind this criterion is to prevent "deadweight" (i.e., delivering white certificates for energy saving measures that would have occurred anyway).
    - This criterion is automatically satisfied if the applicant is an energy supplier under obligation or a local authority.
    - For all other legal entities, this criterion is satisfied if:
      - The action is out of the principal activity of the legal entity.
      - The action does not provide financial revenues.
2.4. The white certificates request procedure (4/10)

• What are the eligible actions?
  – « leading to » : the « dynamic role »

• The applicant must have directly contributed to an energy saving measure (by his own mean or by a partnership).

• The contribution has to be individualized and intended to the final energy consumer.

• The contribution occurs before execution. In any case ex-post actions are not eligible.

• The nature of this contribution may be : giving financial incentives, assessing the works’ quality, organizing a network of qualified contractors, …

• It may be satisfied as soon as the energy consumer benefiting from the energy saving measure formally recognises it.

This criterion has not been well enough defined so far in the 1st period. It has been clarified in the second period.
2.4. The white certificates request procedure (5/10)

• **What are the eligible actions?**
  – « energy saving »

  • The energy saving is not measured for each operation but estimated

  • The reference situation is not the actual consumption level before the energy saving measure but the state of the market
    – For example, no white certificates are delivered for the acquisition of a average performing lightbulb in the market even if this lightbulb is more efficient than the lightbulb that is replaced
    – The exception to this rule is the case of efficient heating equipment (such as efficient boilers or heat pumps) and insulation. In this case, the reference situation is the current mean situation in existing buildings

• **Standardized energy saving measure worksheets have been defined to precise eligibility criteria and provide calculation methods for the most common measures (210 at this time in all sectors)**
2.4. The white certificates request procedure (6/10)

• What are the eligible actions?

  – « except if the energy saving happened in an installation covered by the European ETS »
    • The intent of this criterion is to avoid overlap with the European ETS. Incentives for energy saving in the covered installations already exist.
    • The list of the installations covered by the European ETS is public so the respect of this criterion is easily checked.

  – Extended in the second period to national subvention mechanism: avoid « deadweigth »
2.4. The white certificates request procedure (7/10)

• What are the eligible actions?
  – Plans:
    • **Information, Formation and Innovation.** But as it doesn't cause direct energy savings, it has been limited to a maximum of 25 TWh.
    • **Specifically targeting « fuel poor » consumers:** a way to increase the amount of White Certificates when the energy saving measures are taken towards these consumers.
    • **WCS issue in a plan:** equivalence between energy supplier financial participation and the amount of White Certificates delivered.
      – **Exemple:** in the FEEBAT plan, an energy supplier receives 1 MWhcumac for 15 € payed
2.4. The white certificates request procedure (8/10)

• What supporting documents need to be collected
  – Documents proving the active and incentive contribution:
    • Certificate from the consumer testifying the « dynamic role » of the applicant
    • Explanations from the applicant of its « direct », « individualized » and « pre-operation start» contribution

  – Documents proving the reality of the action:
    • Bills
    • Statements by the energy consumer and/or the contractor
    • Documents listed in the standardized measures worksheets
    • In case of measures not covered by standardized measures worksheets, a precise explanation of the method used for the estimation of the energy saving

  – Documents proving the absence of double counting
    • Statements by the energy consumer and/or the contractor
    • If different legal entities have contributed to the energy saving measure, an agreement between these legal entities designating which one may request white certificates (1st period only).

  – Documents are not systematically provided to the administrative authority but made available at its request. In this case, the supplier has to submit once its internal control system.
2.4. The white certificates request procedure (9/10)

• What is the administrative procedure for claiming the white certificates?

  – Requests are processed by regional administrative authorities according to the location of the applicant’s headquarters

  – The applicant provides
    • a description of the energy saving actions taken
    • a description of the supporting documents collecting process
    • precise figures regarding the energy saving measures implemented

  – The regional authority checks that:
    • The action is eligible
    • The role of the applicant is dynamic.
    • The supporting documents collecting process guarantees the reality of the measures and the absence of double counting
    • Random samples of the supporting documents are correct
    • The calculations are correct
2.4. The white certificates request procedure (10/10)

- What is the administrative procedure for claiming the white certificates?
  - The regional authority issues the white certificates if all criteria are satisfied within one to three months (six months in case of measures not covered by standardized measures worksheets)

  Most of headquarters are in Paris region and in order to fight against double-counting, the administrative authority will be gathered next september in a national pole based in Paris.
2.5. The national white certificates registry (1/1)

- The white certificates are only materialised by their registration on the national white certificates electronic registry (www.emmy.fr)

- The tasks of the administrator of the national white certificates registry are:
  - Registering white certificates delivered by regional administrative authorities
  - Opening new accounts for legal entities at their request
  - Establishing detailed data about the white certificates delivered
  - Contributing to the compliance verification in providing the state of the accounts of the energy suppliers under obligation
  - Processing transfers of white certificates (after a transaction)
  - Cancelling white certificates after reconciliation period

- The cost is paid through registration fees and account opening fees

- After a call for tender, the registry’s administration has been delegated to a company from 2007 until 2012
2.6. Results of the first period, progress status of the second period (1/3)

- **Results of the first obligation period**
  - More than 65 TWh delivered at the end of the first obligation period

<table>
<thead>
<tr>
<th>Référence</th>
<th>Intitulé de l'opération</th>
<th>Part des économies d'énergie certifiées</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAR-TH-06</td>
<td>Chaudière individuelle de type Condensation</td>
<td>14,6%</td>
</tr>
<tr>
<td>BAR-TH-08</td>
<td>Chaudière individuelle de type Basse température</td>
<td>11,1%</td>
</tr>
<tr>
<td>BAR-TH-07</td>
<td>Chaudière collective de type Condensation</td>
<td>10,4%</td>
</tr>
<tr>
<td>BAR-TH-29</td>
<td>Pompe à chaleur de type air / air</td>
<td>9,3%</td>
</tr>
<tr>
<td>BAR-EN-01</td>
<td>Isolation de combles ou de toitures</td>
<td>6,8%</td>
</tr>
<tr>
<td>BAR-EN-04</td>
<td>Fenêtre ou porte fenêtre complète avec vitrage isolant</td>
<td>6,4%</td>
</tr>
<tr>
<td>BAR-TH-09</td>
<td>Chaudière collective de type Basse température</td>
<td>4,0%</td>
</tr>
<tr>
<td>IND-UT-02</td>
<td>Système de variation électronique de vitesse sur un moteur</td>
<td>3,6%</td>
</tr>
<tr>
<td>BAR-TH-04</td>
<td>Pompe à chaleur de type air/eau</td>
<td>3,5%</td>
</tr>
<tr>
<td>BAR-TH-24</td>
<td>Chauffe-eau solaire individuel (DOM)</td>
<td>3,5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secteur</th>
<th>Part du résultat total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bâtiment résidentiel</td>
<td>88,1%</td>
</tr>
<tr>
<td>Bâtiment tertiaire</td>
<td>4,4%</td>
</tr>
<tr>
<td>Industrie</td>
<td>6,0%</td>
</tr>
<tr>
<td>Réseaux</td>
<td>0,9%</td>
</tr>
<tr>
<td>Transports</td>
<td>0,6%</td>
</tr>
</tbody>
</table>
2.6. Results of the first period, progress status of the second period (2/3)

- Results of the first obligation period
2.6. Results of the first period, progress status of the second period (3/3)

- End of march 2011, some figures:
  - 196,2 TWh delivered from the early beginning

<table>
<thead>
<tr>
<th>Secteur</th>
<th>% kWh cumac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bâtiment résidentiel (BAR)</td>
<td>83,25 %</td>
</tr>
<tr>
<td>Bâtiment tertiaire (BAT)</td>
<td>7,05 %</td>
</tr>
<tr>
<td>Industrie (IND)</td>
<td>5,96 %</td>
</tr>
<tr>
<td>Réseaux (RES)</td>
<td>3,52 %</td>
</tr>
<tr>
<td>Transports (TRA)</td>
<td>0,22 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sous-secteur</th>
<th>% kWh cumac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enveloppe (EN)</td>
<td>17,03 %</td>
</tr>
<tr>
<td>Thermique (TH)</td>
<td>69,15 %</td>
</tr>
<tr>
<td>Equipement (EQ)</td>
<td>3,87 %</td>
</tr>
<tr>
<td>Services (SE)</td>
<td>0,48 %</td>
</tr>
<tr>
<td>Bâtiment (BA)</td>
<td>0,41 %</td>
</tr>
<tr>
<td>Utilités (UT)</td>
<td>5,54 %</td>
</tr>
<tr>
<td>Chaleur et Froid (CH)</td>
<td>2,56 %</td>
</tr>
<tr>
<td>Eclairage (EC)</td>
<td>0,97 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Référence</th>
<th>Intitulé de l’opération standardisée</th>
<th>% kWh cumac</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAR-TH-06</td>
<td>Chaudière individuelle de type condensation</td>
<td>17,79 %</td>
</tr>
<tr>
<td>BAR-TH-08</td>
<td>Chaudière individuelle de type basse température</td>
<td>8,15 %</td>
</tr>
<tr>
<td>BAR-TH-07</td>
<td>Chaudière collective de type condensation</td>
<td>7,33 %</td>
</tr>
<tr>
<td>BAR-EN-01</td>
<td>Isolation de combles ou de toitures</td>
<td>6,13 %</td>
</tr>
<tr>
<td>BAR-TH-12</td>
<td>Appareil indépendant de chauffage au bois</td>
<td>5,70 %</td>
</tr>
<tr>
<td>BAR-TH-04</td>
<td>Pompe à chaleur de type air/eau</td>
<td>5,43 %</td>
</tr>
<tr>
<td>BAR-EN-04</td>
<td>Fenêtre ou porte-fenêtre complète avec vitrage isolant</td>
<td>5,30 %</td>
</tr>
<tr>
<td>BAR-TH-07-SE</td>
<td>Chaudière collective de type condensation avec contrat assurant le maintien du rendement énergétique de la chaudière</td>
<td>4,38 %</td>
</tr>
<tr>
<td>BAR-TH-29</td>
<td>Pompe à chaleur de type air/air</td>
<td>3,94 %</td>
</tr>
<tr>
<td>IND-UT-02</td>
<td>Système de variation électronique de vitesse sur un moteur asynchrone</td>
<td>3,51 %</td>
</tr>
</tbody>
</table>
2.7. Lessons learnt so far (1/1)

• Lessons learnt so far

– The scheme has been well accepted

– All major suppliers have fulfilled their energy saving obligations. Most have adapted their commercial policy to include energy efficiency issues

– The definition of standardized measures has proved to be an efficient way to encourage actions and limit transaction and administrative costs

– The definition of very precise rules is needed to enhance predictability and ensure the scheme’s integrity. With processes at an industrial scale and a large number of stakeholders, there is a significant inertia

– The control of the administrative burden and the scheme’s cost efficiency is critical

– Legal entities other than energy suppliers under obligation did not massively participate. Certificates trading has been very limited

– The scope of the scheme (in terms of eligible actions or eligible applicants) should have been more restricted at the beginning and progressively extended
Thank You very much!