



ACTION PLAN FOR ENERGY EFFICIENCY: Realising the potential - Saving 20% by 2020

Source://ec.europa.eu

PLANUL Cladire Inteligenta Energetic

Promotion of Intelligent Energy Building PLAN

The Programme for implementation White Certificates Schemes on the increase of Energy Efficiency

1. The necessity of implementation on energy efficiency in energy sector in European Union

In the Europe strategy **for development Powering a Sustainable Future** through electricity generation including **coal, gas, nuclear, and renewable energy** and is generated and regulated worldwide, the environmental impact of increased energy production will be severe. Having full regard to the relevant provisions of **the Treaty establishing the European Community** , in particular Article 86 "**Undertakings entrusted with the operation of services of general economic interest**", **without not obstruct the performance** ,for retail competition and market restructuring ,the **Directive 2003/54/EC [1]**, **Article 3** is providing "**Member States may impose on undertakings operating in the electricity sector, in the general economic interest, public service obligations which may relate to security, including security of supply, regularity, quality and price of supplies and environmental protection, including energy efficiency and climate protection**". In all for: "**Experience shows the benefits that may result from the internal market in electricity, in terms of efficiency gains, price reductions, higher standards of service and increased competitiveness.**"

2. The PLAN for the Promoting of Energy EFFICIENCY

2.1 The directions on action

For Europe needs to deal **with the challenges of climate change in a manner compatible with its Lisbon objectives** and a **clear goal to prioritise energy efficiency-EE**, with a goal of saving **20% of the energy that the EU would otherwise use by 2020** agreeing a series of concrete measures to meet this objective, including and : *A Europe-wide "white certificates" trading system!* - **GREEN PAPER A European Strategy [2]**.

2.2 The obligations the company in production ,transport and to distribute of energy in Romania

The Program ,with extending in other States, for put into practice of **Law no.199/2000 concerning the efficient use of energy (Law Petre Naidin)**, republished, with the later modifications and the completions, **at any trade society or local authority (more than 20.000 peoples): rehabiliity, modernization and energy efficiency**, inclusively through the introduction of **new energy-efficiency technologies; the promotion of renewable energy sources** - solar energy and photovoltaic plants, solar thermal, wood energy , geothermal heating ; **program of public information, education and mutual advice. Beneficiary:the home consumers; the judicial persons consumers and we need about energy-certain and inexpansive, sustainable, ecologic and „intelligent” [6] !.**



Source: www.motivia.fi

3. The implementation European Tradable White Certificate (TWC) Scheme

3.1 The definition and conception

TWC schemes for national and, in future, European policy makers is including in **Directive 2006/32/EC [3] -Article 3** clear definition of **White Certificates as "certificates issued by independent certifying bodies confirming the energy savings claims of market actors as a consequence of energy efficiency improvement measures".** And **Energy Savings Targets** in **Article 4:** "After having reviewed and reported on the first three years of application of this Directive, the Commission shall examine whether it is appropriate to come forward with a proposal for a directive to further develop the market approach in energy efficiency improvement by means of white certificates".

The very highest political level throughout Europe concrete in **Action Plan on Energy Efficiency** is imposing :**"A Europe-wide white certificates system, tradable certificates, which would enable companies that exceed energy efficiency minimum standards to sell this success to others that have failed to meet these standards" [2].**

In **GREEN PAPER on energy efficiency [4] for a European initiative-** National level White certificates, a market-based instrument , are synthesizing :**"Policies based on incentives have the disadvantage that they don't always galvanise market forces towards the most cost-effective solution. These are systems where suppliers or distributors are obliged to undertake energy-efficiency measures for final users. Certificates corroborate the amount saved, giving both energy value and lifetime. Such certificates can, in principle, be exchanged and traded. If the contracted parties cannot then submit their allocated share of certificates, they can be required to pay fines that may exceed the estimated market value."**

3.2 The necessity of implementation TWC Scheme for European level

To promote EE in end-use, with the gradual opening of European electricity and gas markets to competition ,**is absolute necessary :Directive [1] -fully liberalised by July 2004 for non-household customers**, and **to all customers** (including households) by 1 July 2007 at the latest!. **The (tradable)white certificate scheme** ,inclusively as policy for **energysavings quota** for some category of operators (distributors, consumers, etc) ,is one of the key new instruments that is foreseen to support EE improvements for a cost-effective acceptable.**Automatic lowering energy demand will reduce greenhouse gas emissions and improve air quality, increase the security of energy supply and to save primary energy , in all for competitiveness and employment !. „Modelling work carried out under the ‘White and Green’ SAVE project has concluded that by introduction of this system in the tertiary and services sector, savings of 15 % can be obtained at zero cost, and that when ‘externalities’ such as the environment consequences are taken into account this saving potential would go up to 35 % „ [4].**



Source:www.petrom.com

3.3 The model initiative Law/Directive on unitary implementation Tradable White Certificate Scheme at european and national level

Experiences in Europe, where several countries have already implemented a white certificate scheme and energy efficiency obligations are in table 1 ,they are indicating :

-Nature of savings target France - Lifetime final energy ;Great Britain -Lifetime delivered energy and has combined its obligation system for energy savings with the possibility to trade obligations and savings , that is only among the obliged parties and through bilateral contracts;Italy-Cumulative primary energy;Belgium(Flanders)-Lifetime primary energy ;

-The sector and technology coverage- France in principle energy saving measures in all sectors and for all types of fuels are eligible as long as they ,excluding EU ETS; Great Britain restricts at households and has a specific requirement to realize at least half of the savings in the social housing sector; Italy - all energy end-use sectors and intermediate uses in the gas sector.Denmark and the Netherlands are for introduction of a white certificate scheme in the near future. **Romania**, in Parliament debate project **Law on promotion renewable sources and unconvensions of thermal energy** , for introduction in national practicable of certificate for energy savings.

After the model of provisions **Law no.781/2005** –France we are considering as the next proposal is **a synthesis and rapid implementation of Scheme in law** (or norm act with lower legal force corresponding to internal legislation- decree,decision,circulatory; Petre Naidin –deputy of Romanian Parliament has the experience with 11 Law) and with definitions on Directive **[1]**:

Article 1

Scope

This Law/Directive establishes common rules for the implementation Tradable White Certificate Scheme. It lays down the rules relating to the organisation and functioning of the electricity and energetics sources sector, access to the market, the criteria and procedures applicable to calls for tenders and the granting of authorisations and the operation of systems,for to promote cost effective energy saving measures and/ or to reduce emissions of harmful greenhouse gases.

Article 2

Definitions

For the purposes of this Law/Directive:

1. "*obliged parties*"- *distribution system operator and supplier* ,as legal persons, titulars on licence, for specific activity and is assuring the consumption in electricity and energetics sources,as gas,LPG,heat ,cold and heating fuel;
- 2."*competents publics authorities*"-institutional structures as bodies with the function of *regulatory and administration authority and market operator*, wholly independent from the interests of the electricity and gas industry;
- 3."*white certificates*"- energy savings certificate is a mobile negociabile asset, it`s measure unit is the kilowatthours of final saved energy;
- 4."*final consumers*"- means customers, purchasing energy for their own use and

Article 3

The national objective of energy savings

The Government is adopting national share objective of energy savings in kilowatthours on final energy, for year and period , in service impose number on final consumers, establishing the competents publics authorities and the tacks .Corresponding to of national objective is fixing the rights and obligations obliged parties, parameter for apportionment in function on the type of consumption in electricity and energetics sources, domestic customers ,energy sales turnover on residential and tertiary sectors and the volume of activity .Is fixing threshold of sales and on individual beneficiary in to obtain a white certificates .

Article 4

The mandatory saving targets

Obliged parties in implement projects to meet targets ,that are exceling a certain value impose of annual sales in consumption for final consumers, in personal usage , to lag behind of measurement and verification methologies. Are submitting at obligations on energy savings and can to free on this obligations through achievement ,direct and indirect on energy savings actions, or through acquisition on white certificates.

Article 5

The institutional structures and roles

- 1.The competents publics authorities are applying the provisions of national share objective of energy savings, monitoring in particular the obligations parties distribution and supply companies ,after type on final electricity or equivalent with calorie superior power , and final consumers.
- 2.The regulatory authority has the competence for the repartition of total yearly quota on energy savings obligatory that must achieve , in function by sectors, measures and technologies to be covered, in kilowatthours on final energy savings ,between the obliged parties.The authority is notifying ,for each parties , the value of obligations and the impose yearly and period for this.
- 3.The administration authority,public institution, is issuing and attributing, for obliged parties, the white certificates for quantity on energy savings,through measurements,verifications and monitorings of projects.Is elaborating and assuring saving evaluation forms for technological units through standardised operations and analytical calculation. In conditions of convention with customers ,to carry on informations, consultation, finances, as well as of to perform the works for the insurance of the energy efficiency through white certificates scheme.
- 4.The market operator ,legal person and manager of centralize market, is organizing and holding the national public registry of white certificates ,is assuring the frame on transaction, updates it for all transactions ,communicates the results to the regulatory authority.

Article 6

The rights and obligations of obliged parties

- 1.The obliged parties,after the period of time alloted, have obligation on final year acquisition on a number of white certificates equal with product between the value of obligatory quota and quantity on energy that yearly is supply of final consumers. Through declaration persons are handing with total of annual sales and they are justifying the achievement of obligatory thanks

to white certificates ,through acquisition or refunding on at State ,giving up ,buying on at public registry or other legal person in bilateral market through contract, as non-obliged parties.

2.Any person as obliged partie and legal ,with energy savings from secondary activity over the threshold of yearly sales ,on demand,is opening account in the national public registry and obtaining white certificates. For the same threshold the legal persons itself are organizing in legal person and through representative namit are obtaining white certificates.

Article 7

Transactions

1.The number of units measure of white certificates is established depending on the characterizations of the installations or equipments ,technologies and condition of the sources energy market.It can be temperate depending on the weight of the energetic sector of the geographic area where final energy savings are being achieved.

2.The white certificates are only material through to enrol in the national public registry, access for public, and to hold the bookkeeping of certificates acquisitions , obtaines and restorings of State.

3.The market operator, for transparence of transactions, is publishing the medium price from sale and acquisition .

4. At final year the regulatory authority ,on the basis of green certificates acquisitions, is establishing the percentage of value obligatory quota imposing for the obliged partie.

5. The regulatory authority ,yearly, is establishing the minimum and maximum value on transaction of white certificates that are competing on centralize and bilateral exchange market.

6.The legals persons that not are presenting necessary white certificates for obligatory quota are musting acquisition ,through buying certificates enrolings in the national public registry ,with price under the minimum and maximum value on transaction.

7.The legals persons that not are producing white certificates in the obligations ,in legal term on warning , are paying with penalty ,fixed by the regulatory authority ,for each day being late at maximum value on transaction. The administration authority is using the sums for the National Objective "The Campaign for investments new energy-efficiency technologies from renewable sources".

Article 8

Interaction with other schemes

In two years on to apply law the Government is deciding the co-ordination ,set-aside quotas and unification with the national emission and green certificates trading scheme ,through harmonisation of the commodities traded within each scheme and establishment of agreed baselines in transaction on the same centralize market .

Article 9

Stimulate the market for non-obliged parties

1. Certificates can be created from projects that result in energy savings beyond business as usual, by target non-obliged parties ,ca market actors , through Energy Service Companies ,large consumers and/or brokers , for the increase competition, increasing efficiency and lowering prices.
2. The Energy Service Companies ,for the most efficient and economic way to achieve savings ,are implementing projects in a bilateral contractual basis as well as on a spot as part of normal business operation and the administration authority is measuring and monitoring of energy savings.



4. The evaluation of implementation European Tradable White Certificate Scheme

4.1 The recommendation of development of market

The parties with of common concern for scheme are entering in market:

- **obliged parties** - in not pure competition with a liberalized electricity and gas market, are adjusting the prices ;
- **final consumers** - as non -obliged actors-domestic , local community for policy in Sustainable Development ,tertiary ,residential and economic sector ,through the reduction of energy invoice are investing money profitable ;
- **suppliers** - by equipments and and seviles are opening innovation in technologies.

The scheme is one of the key new instruments that is foreseen to support energy efficiency improvements, through to lay down of market actors the target of energy saving: compliance requires submission and receives of a number of certificates for savings achieved.



Source: www.global-carbon.co

The valuation of objectives-[6]:

-**Key benefits**- Certification guarantees meeting the agreed target; Introduction of tradability aims at least-cost achievement of targets; **Can reduce pressures on public budgets; Can stimulate the market for ESCOs**; The system could unlock energy saving potentials and actors that are currently not unlocked by other instruments (e.g. in end-uses through to permit financial additional investments in EE projects, change in behaviour or conditions).

- **Possible drawbacks** of a TWC scheme: Might target only efficiency increases, not overall reduction of energy consumption; Could involve large transaction costs; Might favor mainly actions easy to implement and measure; **A European system may require substantial harmonization in energy policies.**

In all for **lowering energy demand** will increase the security of energy supply in Europe , reduce greenhouse gas emissions and improve air quality in Global: **each Member States of Europa are deciding ,for legislation initiative, the application of policy.**

4.2 Economic costs and efficiency tradability

Is normal schemes also create transaction costs as a result of the need **for monitoring, validation, marketing and overall administration** of the system among the **obligated parties**: and all participants are for principle cost-minimization in the liquidity of both the buyer and seller markets, the exact cost is not known in advance. **Yet are obliging** :energy suppliers non-whose core business is energy supply rather than energy savings. **The economic arguments** for Scheme **are in comparison with existing instruments**: a certificate system will create a market for energy efficiency and is likely to lower the overall amount of transaction costs. **Through the efficient allocation of resources scale by pooling, the demand for EE measures and the specialisation in certain measures or markets the costs are lowering.**



Source://ec.europa.eu/energy/res/

4.3. The practical development of pan-European Scheme

The recommendation is a representative market-based instruments in the European internal market **it builds upon experiences with similar types of schemes such as the EU emissions trading scheme and green certificate schemes, then to unify** .Is necessary a **European Guide** this involved the preparation of case studies -for Hungary, Bulgaria and the UK(to analyse the possibility and desirability of white certificate schemes) and practicable Law in France,Italy,Great Britain , Belgium(Flanders)-**table 1** :annual ,could be implemented, taking into account specific national EE programmes,each have different priorities in terms of focussing effort in ectors, measures and technologies to be covered.

The international interlinkin is examining :the Central and Eastern European countries will generate cheap TWC (the lower investment cost and their current energy efficiency is relatively low and they can offer a large volume of scheme at a relatively low price) will be able to invest and ,in competition,the obliged parties in the EU will be able to meet their obligation. **The energy policy** ,for success Scheme , **is promoting innovative and mature EE technologies in RES , the clear potential for energy savings in different sectors and the reduce the total amount of energy consumed**, even if the Member States have different priorities in terms of focussing effort for energy savings.

Table 1. Experiences in Europe of energy efficiency obligations

Country	Obligated party	Target and period	Eligible customers	Discount rate-Penalty	Certificate trade
France	All energy suppliers	54 TWh over 2006-2008-final (194 PJ with 1% /year demand)	All(incl. Transport) excluding EU ETS	4%-0,02 Euro/kWh	Yes
Italy	Electricity and gas distributors	3 Mtoe in 2005-2009 - primary energy(230 PJ with 0,5%/year demand)	All	No-Dependent inter alia,upon the size of under-compliance and the certificate price	Yes,3 types of certificates
Great Britain (EEC-2)	Electricity and gas suppliers	130,2 TWh carbon weighted-final energy(486 PJ total in 2005-08 with 1%/year demand)	Residential only	3,5%- Dependent upon the size of undercompliance	No,possibility to trade obligations
Belgium (Flanders)	Electricity distributors	0,58 TWh annual-primary	Residential and non energy intensive industry and	0%-o,1 Euro/kWh and the fine cannot be passed in the tariffs	No

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Source:[6] and Lees, E. Summary of Workshop. In: **Bottom-up Measurement and Verification of Energy Efficiency Improvements. 2005. Brussels: DG TREN, European Parliament, ECEEE.**

For the interaction with other instruments the national share objective is in harmony with the fluctuating energy: **TWC** scheme would aim **to encourage energy saving measures** to deliver end-use energy savings, reducing energy consumption and CO2 emissions , **EU ETS** aims at promoting **reductions of greenhouse gases emissions** in a cost effective and economically efficient manner and **Green Certificates** aim to **promote renewable electricity generation** and reductions in greenhouse gases associated with the generation of electricity from fossil fuels [6]: „**in time** Member states should :application **as separate schemes**, to define the baseline and **the additionality** of TWC-qualifying measures,**in the longer term, co-ordination** between the two schemes may help address specific issues, and more generally improve the performance of the two schemes, through, for example, increasing compliance options, boosting timproving market stability“. The same as introducing a **Green Certificates simultaneously with a TWC** : study **the eligibility and keeping markets** . **Through the legislation implementation to project Directive:** to develop their **own schemes and a standardised list of EE measures** should be created simplify this process before integrating them into a pan-European scheme at a later date through the recommendations.

For Sustainable Development of States and EU the practical objectives for Scheme are: **a social objective**-reduces costs for energy suppliers and energy savings are lower but that citizens are warmer and healthier, **integration with other policy instruments** by potential for energy savings in different sectors-**table 2.**

5.Conclusions

The programmes for promotion of policies in energetics sector are using a **public consultation for information, conviction and mutual consulting, cooperation between authorities, producers and customers**:security of supply and lower prices.**Even if** : import dependency is rising ;**in the next 20 to 30 years around 70 % of the Union's energy requirements, compared to 50% today, will be met by imported products** – some from regions threatened by insecurity; reserves are concentrated in a few countries,**roughly half of the EU's gas consumption comes from only three countries**;**gas imports would increase to 80 % over the next 25 years ; world energy demand - and CO₂ emissions** – is expected to rise **by some 60% by 2030 ;global oil consumption has increased by 20% since 1994**, and global oil demand is projected to grow by 1.6% per year;**Oil and gas prices are rising**. They have nearly doubled in the EU over the past two years, with electricity prices following. **With increasing global demand for fossil fuels**, stretched supply chains and increasing dependence on imports, high prices for oil and gas are probably here to stay. Source:**Euractiv.com.**

The create transaction costs for obliged parties are in congruence of final objectives : common policy objectives of a Scheme- energy saving, GHG reductions, employment creation, security of supply. **We need about energy: certain and**

inexpensive, sustainable, ecologic and „intelligent”, in accordance with the the Kyoto protocol, that is promoting clean energy as great value for Global!.

List of abbreviations

TWC-White Certificates

ETS-Emissions Trading Scheme

EE-Efficiency Energy

ESCOs- Energy Service Companies

RES- Renewable Energy Sources

References

- [1] Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC
- [2] Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC
- [3] GREEN PAPER A European Strategy for Sustainable, Competitive and Secure Energy – COM (2006) 105 Bruxelles, 2006
- [4] GREEN PAPER on energy efficiency or doing more with less - COM (2005) 265 Bruxelles, June 2005
- [5] The National Plan by Development in Romania 2007-2013
- [6] White Certificates concept and market experiences -Bruxelles, June 2005

Table 2. The Year and Problem ! Goals

Year and...joy	Action of strategy in Romania	Policy EU (Global)
2006	1. The electricity on renewable energy sources RES -2,22% .	1. Some 80% of the energy the EU consumes is from fossil fuels – oil, natural gas and coal. A significant and increasing proportion of this comes from outside the EU.

	2.Production semester 1 - 27 billions kWh .	<p>2. The EU could save at least 20 % of its present energy consumption in a cost-effective manner, equivalent to EUR 60 billion per year.</p> <p>3. The buildings sector accounts for 40% of the EU's energy requirements, more than by industry or transport.(Global oil demand is projected to grow by 1,6% per year).</p> <p>4. Nearly 40% of the electricity produced from cogeneration is produced for public supply purposes, often in connection with district heating networks. 60% are generated by auto-producers, normally for industrial processes.</p> <p>5. National indicative energy savings target of 9 % for the ninth year.</p>
2007	<p>1.Quota bifuels -2%</p> <p>2.Total opening of markets.</p>	<p>1. Member states have also undertaken to save 1% of their final energy consumption each year for nine years from 2007 by expanding the use of energy-efficient and cost-effective lighting, heating, hot water, ventilation and transportation.</p>
2010	<p>1.RES in period 2010-2013 - 8,3%.</p> <p>2. Quota bifuels -5,75%</p>	<p>1. The buildings sector than one-fifth of the present energy consumption (2006) and up to 30-45 MT of CO2/Y could be saved by applying more ambitious standards to new and when refurbishing buildings – which represents a considerable contribution to meeting the Kyoto targets.</p> <p>2. Renewable energy sources :with an objective of the share of electricity produced by renewable energy of 21% and for the promotion of biofuels of 5,75% .</p> <p>3.Electricity production from cogeneration to 18%-projections show that meeting this target is expected to lead to avoided CO2 emissions of over 65 Mt Co2/year.</p> <p>4. The objective of 12% of renewable energies in the EU energy balance.</p> <p>5. The share of electricity produced by RES of 21% and for the promotion of biofuels (objective of 5,75%).</p>
2012	GWh-67500 Kwh/inhabitant -3230	The growth in emissions from planes threatens to cancel out more than a quarter of the 8% reduction in total greenhouse gas emissions compared to 1990 levels
2015	1.Population -20,9 mil 2. Import resources-40.0%	<p>1. To obtaining 15% of its energy from renewables.</p> <p>2. Target of 8% for biofuels of total energy consumption .</p>
2020	Finally resources energy- Crude oil and gas	1. Europe could save 20% of its energy .
2030	Obligatory :energy savings !	1. Dependence on imported oil and gas could rise to 70% (World energy demand and CO2 emissions is expected to rise by some 60%).

Source: **Energy Strategies**

