



POSITION PAPER

on the

European Commission Energy Efficiency Plan 2011



| | | |
|-------|--|----|
| 1. | Introduction | 3 |
| 2. | A new Plan for Energy Efficiency..... | 3 |
| 3. | Public Sector | 4 |
| 3.1 | Local adoption of energy-efficiency measu..... | 4 |
| 3.2 | Building refurbishments..... | 5 |
| 3.3 | Public procurement criteria..... | 6 |
| 4. | Energy Efficiency for Competitive European Industry | 6 |
| 4.1 | District heating as a powerful vehicle for energy efficiency in the heating sector . | 6 |
| 4.1.1 | The potential of district heating and cooling systems..... | 6 |
| 4.1.2 | Combined Heat and Power (CHP) Systems..... | 7 |
| 4.2 | Waste treatment/heating/biogas..... | 9 |
| 4.2.1 | Industrial excess heat | 9 |
| 4.2.2 | Waste incineration..... | 9 |
| 4.2.3 | District Heating/Cooling needs vertically integrated companies operating locally..... | 9 |
| 4.2.4 | Biogas production | 11 |
| 4.3 | Energy efficiency in electricity and gas networks..... | 12 |
| 4.3.1 | Wire charges..... | 12 |
| 4.3.2 | Energy efficiency as a business sector..... | 12 |
| 5. | European financial support..... | 13 |
| 6. | Savings for consumers/ Smart Meters/ Smart Grids/ Demand Response/ “Time of use” tariffs | 13 |
| 7. | Transport..... | 15 |
| 8. | A framework for national efforts..... | 17 |
| 9. | Conclusions..... | 17 |



1. Introduction

With this paper, GEODE wishes to comment on the Commission Communication on the Energy Efficiency Plan 2011. In relation to this, GEODE also refers to its 2010 publication “The Key Role of Distribution System Operators in the New European Energy Efficiency Strategy”, that can be downloaded from the association’s website (www.geode-eu.org).

GEODE stresses the crucial role that could be played by DSOs in helping consumers reduce their energy consumption. DSOs have a high level of reliability due to their constant contact with the consumer and local infrastructure which ensures direct personal contact. Furthermore, DSOs are objective market partners; in general, they do not depend on increased sales of energy as their income is regulated by National Regulatory Authorities. Consequently, the conflict between high sales figures on the one hand and energy saving in order to attain efficiency targets on the other, which could prevent some energy suppliers from helping their customers to increase their energy efficiency, is substantially reduced. Finally, DSOs have the necessary metering technology to verify, evaluate and monitor the success of efficiency measures.

2. A new Plan for Energy Efficiency

GEODE believes that energy efficiency will be a cornerstone of Europe’s climate protection and energy policy.

In GEODE’s opinion, against a background of continuously increasing energy prices and a world-wide increase in energy demand, security of supply and the competitiveness of the Member States at international level can only be ensured by considerably improving their energy efficiency.

According to recent Commission estimates, the EU is on course to achieve only 10% of energy savings by 2020. There is still a lot to achieve and no time to waste in order to reach the 20% energy efficiency target. For that purpose, it is necessary for new measures that favour energy savings to be implemented and strongly enforced by both public and private actors. **Thus, GEODE welcomes the Commission’s new Energy Efficiency Plan 2011 adopted on the 8th of March 2011.**

The Commission will propose that national targets be implemented in two sectors: for the public sector to accelerate the refurbishment rate of its own building stock, and for utilities (DSOs and suppliers) to enable customers to reduce their energy consumption. Moreover,



the Commission will propose plans for energy efficiency requirements for industrial and household appliances.

The implementation of these national targets will be monitored by the Commission and reported to the European Council in 2013. If the review shows that the target for a 20% increase in energy saving is unlikely to be reached, the Commission will consider proposing legally binding national targets for 2020, taking into account the particularities of each Member State (individual starting points, population, economic performance and early action undertaken in the field), as is the case with renewable energy.

GEODE welcomes the implementation of national binding targets at Member State level if voluntary targets do not ensure success and believes that national binding targets will lead to a higher political and social awareness of energy efficiency. However, in order to try and reach the 20% energy saving target, GEODE believes that these binding targets should be directly aimed at individual Member States.

3. Public Sector

GEODE believes that the most efficient way of achieving the EU's 20% energy efficiency target by 2020 is to involve the public sector. The idea of Energy Efficiency Action Plans at EU and Member State level is to tailor and assemble a package of measures to achieve energy efficiency targets.

3.1 Local adoption of energy-efficiency measures

GEODE suggests that Energy Efficiency Action Plans are also needed at local level, Local Energy Efficiency Action Plans (LEAP), where energy efficiency measures and programmes apply and where the end-users are located. Some local municipalities have already established local energy strategies for their cities and villages in close cooperation with local utilities and/or the DSO and local energy supplier. GEODE suggests that these strategies should focus particularly on energy efficiency. From GEODE's point of view, cities benefit from the synergies that come out of close cooperation between the local energy companies and the municipal authorities. Local Efficiency Action Plans (LEAPs) could be instruments for placing energy efficiency on the local political agenda, encouraging local awareness of energy efficiency matters, providing protection for projects and investments as well as encouraging a "competition of ideas".

In GEODE's opinion, Member States should be obliged to stipulate the establishment of a LEAP in every city, including in small ones. In this context, placing any limitations,



e.g. on the number of inhabitants, would not only be arbitrary but also counterproductive. It is not right to think that only big cities could or should coordinate their energy efficiency measures and programmes by means of a LEAP. The potential of small towns should also be considered; based on their small distances and clear, manageable structures, LEAPs could easily be established and implemented.

Therefore, GEODE would like the Commission to support municipalities in the establishment of LEAPs and suggests placing a legal obligation on Member States to ensure that each city adopts one.

In 2011 the Commission intends to launch a new Smart Cities and Smart Communities initiative, which was mentioned in the Communication “Energy 2020 – A strategy for competitive, sustainable and secure energy”. The initiative, which relies on the organisational framework of the Strategic Energy Technology (SET)-Plan, aims to develop the potential for energy efficiency at the municipal and communal levels by deploying energy efficiency and innovative low carbon technology solutions, in particular in the fields of energy systems, transport and buildings.

Moreover, with its EEP, the Commission renews its support for its Covenant of Mayors initiative, a movement based on voluntary commitment by local and regional authorities to meeting and exceeding the EU 2020 CO₂ reduction objective through Sustainable Energy Action Plans, which involve energy efficiency measures and the development of renewables.

GEODE supports the launching of the Smart Cities and Smart Communities initiatives, as well as its continuing support for the Covenant of Mayors.

GEODE also thinks that the DSOs should be given a major role in the project management, design, development and implementation of the Smart Cities concept.

3.2 Building refurbishments

Examples of refurbishments within the EU Green Building Programme show the effectiveness of techniques that can cut existing buildings’ energy consumption by up to 80%. However, the refurbishment rate of buildings as well as the uptake in more efficient appliances is too low, which constitutes a barrier to energy efficiency. An estimation from the Commission states that publicly owned or occupied buildings represent about 12% of the EU building stock, by area. Hence, the Commission has decided to address this issue by presenting a legal instrument requiring public authorities to refurbish at least 3% of their building stock



each year. According to the Commission, the refurbishments should bring the buildings up to the level of the top 10% of the national building stock.

A Commission study showed that the use of energy performance contracting, in which investment costs are covered by lower utility bills and maintenance costs resulting from energy efficiency measures, has proved to be cost-effective in several Member States such as Denmark, France and Germany. However, currently it is not possible to generalise about the use of energy performance contracting because of ambiguities in Member States' legal frameworks as well as the lack of reliable data. **GEODE welcomes the intention of the Commission to propose legislative tools to overcome hurdles in the development of energy performance contracting, but would like to stress that energy performance contracting is one of many energy services.**

3.3 Public procurement criteria

In order to proceed with the refurbishment of their building stock, national and local authorities have to issue calls of proposals for public procurements, which contain specific selection criteria. **GEODE strongly agrees with the Commission's work on public procurements for a better environment and follows the opinion that public procurement criteria should include the energy efficiency potential of the project.** According to the Commission's impact assessment accompanying the Energy Efficiency Plan, public spending accounts for 17% of the EU GDP. It would be unacceptable to exclude this 17% from the saving efforts that must take place in the EU. It is not exclusively economic criteria that have to be taken into account; energy efficiency-related criteria are also of prime importance if the EU is to reach its 20% savings objective.

4. Energy Efficiency for Competitive European Industry

4.1 District heating as a powerful vehicle for energy efficiency in the heating sector

GEODE wishes to stress that truly energy efficient buildings especially in existing building stock can barely be conceived without the use of district heating.

4.1.1 The potential of district heating and cooling systems

A district heating system, a network of hot water pipelines connecting heat consumers with heat suppliers, is a prerequisite for a truly resource-efficient way of providing buildings with heat. The potential supply of non-primary heat in urban society is very large. The most important sources of heat are waste heat from power plants, industrial waste heat and recovered



heat from waste incineration. This potential can be utilised through district heating systems. District heating also facilitates the introduction of renewable energy in the heating sector. The fact that one plant supplies many customers with heating, sufficient economy of scale makes it possible to use biomass of lower quality such as wood chips. Solar heating can also be used more efficiently in a district heating system than when constrained to the architectural limitations of an individual building. The technology of using water as an energy carrier has been developed in northern Europe mostly for heating purposes.

In recent years, the concept of district cooling has also been developed. Many cities are located close to waters that are sufficiently cold to use for cooling purposes just by distributing cold water through pipes to buildings with a demand for cooling. Other cities use hot water from the available district heating system to produce cooling through absorption refrigerators. In both cases, cooling is produced without electric refrigerators. This technology has a large energy-saving potential for cooling purposes in the warmer parts of Europe, which will contribute to reducing emissions from power production as well as alleviating capacity problems during peak load.

GEODE thus fully supports the ambitions of the Energy Efficiency Plan in this field and looks forward to seeing these ambitions transposed to the amended combined Energy Services and CHP directives.

4.1.2 Combined Heat and Power (CHP) Systems

The Commission estimates that 30% of the EU's primary energy consumption is consumed by the energy sector, mainly for transforming energy into electricity and heat, and for distributing it. In order to promote energy efficiency in the generation of heat and electricity, the Commission considers it to be vital that those capacities reflect the best available technology (BAT).

Moreover, the Commission plans to introduce a legal provision requiring Member States to make the achievement of BAT levels an absolute condition for the authorisation of new capacities and for the updating of existing capacities.

GEODE believes that the production, distribution and consumption of heat are key issues in the field of energy efficiency. In GEODE's opinion, it is therefore crucial not only to use heat from industry and electricity production, which would otherwise be wasted, but also to ensure, that the process of transforming energy into electricity and heat is organised in the most efficient way. GEODE thus welcomes the Commission's plans to enhance the use of BAT when economically reasonable.



Since possibilities for energy saving are far from being exhausted, the Commission regards the recovery of heat losses from electricity and industrial production processes as an important task. Therefore, the Commission is convinced that greater use of highly efficient cogeneration as well as district heating and cooling could make a significant contribution to the achievement of the EU's energy efficiency plans.

GEODE welcomes the fact that the EU considers district heating and cooling to be an important cornerstone in achieving its energy efficiency plans. We believe that the EU should make every effort to support district heating systems as a key element in energy efficient heat distribution and consumption.

The Commission proposes that, where there is sufficient potential demand, authorisation for new thermal power generation should be subjected to it being combined with systems allowing the heat to be used – “combined heat and power” (CHP). Efficient CHP plants combined with district heating is an environmentally friendly technology that, in principle, has to be supported. **GEODE welcomes and recommends support for cogeneration plants as well as for research programmes on district cooling, as it believes that the production, distribution and consumption of heat and cooling are the key issues in the field of energy efficiency. However, GEODE wishes to stress that it would be essential for Member States to provide incentives to help build the necessary infrastructure, so that the upfront investment costs are not borne by a single market player.**

From 2013, cogeneration plants subject to emissions trading must acquire emission allowances for the heat generation at a percentage that is going to increase over the years. As regards the heat supply, these cogeneration plants compete with the heat generation plants that are not subject to emissions trading. Accordingly, to ensure the competitiveness of cogeneration plants from January 1, 2013, we strongly recommend that this unequal treatment is ended, either by adjusting the current emission trading rules which apply to cogeneration plants, or by taking other measures.

Hence, GEODE strongly urges the Commission to initiate changes to the current emission trading rules applying to cogeneration plants or to take other measures in order to ensure their competitiveness.

Wherever possible, district heating systems should be authorised only if combined with electricity generation. To improve the energy-saving performance of CHP systems, the Commission proposes to guarantee to electricity from CHP priority access to distribution systems and reinforcing the obligations on transmission system operators (TSO) concerning access and dispatching of this electricity.



Priority access to transmission grids and the reinforcement of obligations on TSOs and DSOs concerning access and dispatching of electricity produced in CHP plants that feed heat into district heating systems seems to be an important measure to support highly efficient CHP plants. Moreover, political and financial support for construction and operation is also necessary to expand this efficient technology.

Hence, GEODE welcomes the Commission's proposition that TSOs' and DSOs' obligations concerning access and dispatching of electricity from CHP be reinforced where applicable and believes that these measures will be very useful to improve the ability of CHP systems to save energy and make sure that CHP-produced electricity takes its place into the market.

4.2 Waste treatment/heating/biogas

While the potential of CHP is recognised in the Energy Efficiency Plan, there are other ways of recycling energy flows that would otherwise have been wasted. Some of these are recovery of excess heat from industrial processes, waste incineration and biogas production from anaerobic digestion of urban and agricultural waste. A common feature of all these solutions is the need for appropriate infrastructure.

4.2.1 Industrial excess heat

Most industrial processes involve heat loss. With a sufficiently developed district heating system, this excess heat could be put to good use for space heating, provided the temperature level of the excess heat is high enough. This saves primary energy as well as giving the industrial plant additional revenues, thus strengthening its competitiveness. In Sweden, more than 5 TWh of industrial waste heat is utilised through district heating grids.

4.2.2 Waste incineration

While reuse and recycling are the preferred ways of treating waste, energy recovery through incineration is much more efficient than waste combustion on a landfill. Through district heating, the heat generated can be used for space heating. Today, advanced technology is available that allows cogeneration of power and heat, and has advanced systems for flue gas treatment, making incineration also viable in densely populated areas.

4.2.3 District Heating/Cooling needs vertically integrated companies operating locally

Although there are similarities between the district heating market and the electricity and gas markets, there are also differences that make it impossible to apply the same type of regula-



tion. The electricity and gas markets are characterised by large systems where different producers and retailers compete. For district heating the situation is different. Those markets are necessarily local, with rarely more than a couple of suppliers. In many cases a district heating system is built around a single heat supplier such as an industrial plant with a surplus of heat, or a CHP plant. A district heating company is often owned by the local municipality and typically a vertically integrated company responsible for production, distribution and sales, but also balancing, keeping peak and reserve capacity, and responsible for the long term development of the system. The district heating company often has contracts with suppliers of heat from industries or power plants. It negotiates contracts for heat supply and sets consumer prices, in competition with other heating technologies.

GEODE does not believe that the type of competition found in the electricity and gas markets would work in the context of the heating market. The main reasons are that the markets are too small, and the market players too few, for actual competition to take place: there is no possibility of a large-scale heat energy market. Even in the largest district heating systems in Europe there are no more than a handful of producers. The main reason for these structural differences lies in the characteristics of the heating market; due to technical restrictions, heat energy, transported by means of hot water, is not transportable over a long distance. The heat energy needs to be used close to where the heat is generated. As a result, heat distribution systems can only be installed at the local level. It is therefore essential that the entire value chain from heat generation to transport and supply remain the responsibility of a single entity.

The “opening” of the district heating systems in Europe, meaning separation of production/distribution/retailing, third party access etc, would be especially harmful where district heating systems are expanding, or in need of renovation, simply because the division between different functions would make investments more difficult. An integrated company could invest in expanding the system if the total revenues are large enough to stimulate this investment. If the company were to be divided, the investment plans would be more complicated, and the uncertainty for the producer and the threat of other producers taking his market share, would lead to a requirement for a higher rate of return, and subsequently higher prices. The effects for larger established systems would also be detrimental, as the administrative burdens resulting from an “opening” of the system would inevitably have to be paid for by the consumers, making district heating a less attractive choice. Furthermore, it is highly unlikely that new producers would enter a saturated market, with sales volumes set to decline because of energy efficiency measures in buildings.

Therefore, GEODE supports district heating/cooling needs being met by vertically integrated companies operating locally.



4.2.4 Biogas production

Both in urban areas and in agriculture, much waste is generated that is suitable for biogas production with anaerobic digestion (AD). Biogas production from waste is both a valid energy efficiency measure and a sustainable source of renewable energy, and typically has other positive environmental impacts such as reducing smell and avoiding leakage of methane into the atmosphere or of nutrients into the sea. The CO₂ savings from substituting fossil fuels with biogas are typically very high, more than 80%.

All cities produce waste water from households and other activities, which should be treated before releasing it back into the biosphere. Sewage water treatment produces large amounts of sludge that is well suited to AD. The AD process both reduces the volume and smell of the sludge and produces biogas. Each person connected to the sewage system typically generates sludge equivalent of around 100 kWh of biogas per year. The biogas can either be used on site, producing electricity and heat, or be upgraded to natural gas quality and fed into the gas grid. Biogas from AD contains, apart from methane, around 30-50% CO₂ that is removed in the upgrading process. Once the biogas is fed into the gas grid, it can be used for any application that uses natural gas. Biogas, chemically identical to natural gas, but renewable, is simply blended with the natural gas in the grid. **In GEODE's opinion, it is important that a legal framework is in place for specific consumers to be able to purchase biogas, just like green electricity can be bought through contracts.**

In urban areas there are sources other than sewage water treatment sludge. A lot can be done with better sorting of household waste. Much household waste consists of matters that are suitable for AD, but are often put on landfill, burned or composted. Many industries produce digestible materials either as waste or as products from cleaning processes. The prospects for AD on industrial sites are often favourable, because the digestible materials are well defined and generated on site, so there is no need for collection systems. The plants are also often large.

Agriculture is also a large source of digestible materials, the most important of which are manure and crop residues (the remaining parts of the plants). In the former case the effect of avoiding methane leakages from traditional manure handling pushes the CO₂ savings balance for manure based biogas well above 100%. Taken together, the potential for urban and agricultural AD is typically roughly equivalent to the amount of renewable fuels needed for the EU to fulfil its 10% target for the transport sector – by using waste derived energy alone.

Although biogas from AD of waste derived sources constitutes primary energy savings wherever it is finally used, **biogas for transport is a particularly interesting application because it is perhaps the only way of introducing waste-derived renewable fuel for the transport sector.** Even if there is substantial potential for improving mileage in cars, they will continue to demand fuels of very high quality. While there are many ways of saving primary



energy by producing space heating from low quality energy sources such as waste heat from power production, fuels are a different matter. With biogas from waste, the primary energy consumption is reduced, and, combined with crop based AD and gasification of biomass, **biogas can make a substantial contribution to a sustainable, efficient and renewables-based transport sector.**

GEODE contends that the Commission should adopt measures inciting the Member States to build the appropriate infrastructure allowing those energy flows to be recycled. A legal framework for biogas at EU level is needed.

4.3 Energy efficiency in electricity and gas networks

4.3.1 Wire charges

Improving energy efficiency in distribution systems means to modernise the grid, which requires investments in information and communication technology as well as in classical grid components of distribution grids. GEODE believes that national regulators should encourage DSOs to invest in and renew their grids. It is clear that efficient components are more expensive than less efficient ones. The national regulators have to ensure that DSOs get a full reimbursement of all their costs.

4.3.2 Energy efficiency as a business sector

The Commission will propose that all Member States establish a national energy saving obligation scheme appropriate for their circumstances.

In systems of this type, utilities are required to deliver a fixed amount of energy savings by implementing energy efficiency improvements among their customers (such as households, companies, municipalities or housing associations) or in other sectors such as energy generation or transport. As an alternative to delivering the savings themselves, some systems allow utilities to buy the energy savings from actors such as energy service companies (ESCOs).

Generally speaking energy savings do not necessarily mean electricity savings. When introducing targets for different sectors, it has to be taken into account that energy efficiency can also be improved by electricity consumption; some examples are heat pumps or passive houses that save energy by using electricity. It must be kept in mind that such appliances can also make an essential contribution to energy efficiency.

Energy services are a growing market in many Member States and are stimulated by National Energy Efficiency Action Plans (NEEAPs) according to the EU Energy Services Directive (2006/32/EC). Energy services are a broad concept, but the principle is that they help



customers save energy. It is important that the customer derives value from saving energy and is willing to pay for the help to do so. Energy services are an important market to complement traditional command-and-control regulation.

Energy companies have an increasing role to play in this market. In the early stages it is about providing customers with more detailed energy statistics and other simpler energy services. More in depth partnerships will be formed in a more advanced market when customers become for instance an active partner both consuming and producing energy and other smart grids solutions.

This promising development, where buildings are used for energy storage and electric vehicles balance out intermittent renewables like wind, is in other words about to take off on its own.

Energy services markets vary substantially between Member States. Energy companies' participation also varies considerably. In some Member States, advanced energy savings obligations schemes are implemented. Other countries emphasize the role of energy companies on the free energy services market. Market structure such as the number of companies and the degree of unbundling vary as well.

Every new EU measure with the aim of saving energy use should respect the principle of subsidiarity. With all these differences in mind, **GEODE concludes that one size does not fit all: the method for defining and designing the role played by energy companies to help save energy should be left to the discretion of each Member State.**

5. European financial support

GEODE is convinced that DSOs can make substantial contributions to R&D&D programmes that should be made accessible to all DSOs regardless of their size. R&D&D should be considered as part of the DSOs' activities and the investment costs should be included into the grid fees.

6. Savings for consumers/ Smart Meters/ Smart Grids/ Demand Response/ "Time of use" tariffs

GEODE believes that the deployment of Smart Grids and Smart Meters is crucial and strongly supports their development. As the Commission states in its Energy Efficiency Plan, GEODE considers that both Smart Grids and Smart Meters will contribute to the goal of increased energy efficiency and that the Commission should contribute to ensuring their deployment by proposing adequate measures.



GEODE also agrees that it is important to give the end-consumer a better understanding of their energy use and time of usage so that through increased awareness consumers become more efficient in their energy consumption taking advantage of Smart Metering systems.

Smart metering provides consumers with detailed consumption data that will help them to better understand how they use energy and will empower them to reduce and adjust their consumption and to make informed decisions on energy-efficiency measures, such as heating, lighting and appliance upgrades, in particular when metering is accompanied by informative billing. This will eventually lead to more efficient consumption patterns.

DSOs have a vital role to play in guaranteeing the full implementation of Smart Grids and Smart Metering systems. DSOs are usually the responsible party, while generators, suppliers and consumers are the main beneficiaries.

GEODE underlines that the deployment of Smart Grids and Smart Metering systems requires significant investment on the part of DSOs. The national regulators have to ensure that DSOs get full reimbursement of all their costs.

Therefore, to ensure the deployment of Smart Grids and Smart Meters takes place, the Commission should ensure that there is an adequate regulatory framework providing incentives to DSOs to invest, through European and national funds and grid tariffs settled by national regulators. An understanding of the costs by legislators is crucial.

It is also important that R&D&D funds are accessible to all network operators, regardless of their size to support innovation for technology and systems. DSOs need to be more involved with the European Electricity Grid Initiative, EEGI.

Regarding both Smart Meters and Smart Grids there is still a lot of work to do. Standards and interoperability are needed and data protection and data security issues have to be carefully addressed.

GEODE supports the Commission's approach that new services will emerge around the development of Smart Grids in a competitive retail market, encouraging consumers to change their energy behaviour. Demand response is at the core of this new model. It will provide a range of new services and functions that will enable not only the reduction of the energy required during critical periods of peak demand, but also savings in overall annual electricity consumption through changes in consumer behaviour.

Demand Response requires the active involvement of consumers, including market offers such as time-of-use tariffs (TOU) or interruptible tariffs and dynamic rates or pricing. The use of these tariffs can encourage customers to change their consumption behaviour. Distribution network TOU tariffs, which are regulated by National Regulation Authorities, encourage cus-



tomers, for example, to shift load from peak day times into off-peak night time. Thus, GEODE thinks it is essential that the DSO should also be able to offer TOU or interruptible tariffs.

The Commission should ensure that the DSO is involved in the development and implementation of the Demand Response market. The DSO needs to play an active role to avoid overload on the grid or on parts of it by introducing demand flexibility.

7. Transport

According to the Communication on the EEP, the transport sector has the second largest energy saving potential after the building sector. Transport accounts for 32% of final energy consumption and is a key area for energy savings. It is the fastest growing sector in terms of energy use, with the strongest reliance on fossil fuel.

As announced in the Communication, the strategy for improving energy efficiency in the transport sector has been addressed in the Commission White Paper on Transport published on 28th March 2011.

The Commission Communication proposal “A Roadmap for moving to a competitive low carbon economy in 2050” shows that a reduction of at least 60% of greenhouse gases (GHG) emissions by 2050 with respect to the 1990 levels is required from the transport sector. By 2030 the goal for the transport sector will be to reduce GHG emissions to around 20% below their 2008 level. However, the EU transport sector still depends on oil and oil products for 96% of its energy needs.

Despite the described framework showing a clear need for initiatives to promote energy efficiency in the transport sector, **GEODE would like to outline the lack of policy goals and initiatives in the White Paper “Roadmap towards a competitive and resource efficient transport system” regarding the development and deployment of electrical vehicles,** save from some brief references to the use of electric, hydrogen and hybrid technologies to be complemented by the development of appropriate fuelling/charging infrastructures for new vehicles in the framework of clean urban transport. The importance of research and innovation in the field of alternative vehicle fuels, supported by regulatory framework conditions, is recognised. All this is translated into a single concrete initiative for establishing rules on the interoperability of charging infrastructure for clean vehicles.

GEODE considers that the Commission White Paper on Transport policy should have included concrete initiatives and policy goals for the deployment of clean vehicles, electrical and gas vehicles.



Electrical Transportation Systems and especially Electrical Vehicles (EV) are able to make a significant contribution to reaching the EU's targets by reducing CO₂ emissions, improving final energy efficiency and reducing dependency on products of crude oil.

The Commission should therefore support and encourage its development and deployment. For that to become a reality, a number of key conditions have to be met before EVs can be introduced to the mass market (See GEODE position paper on electrical vehicles from April 2010 at www.geode-eu.org):

- The availability of EVs for the mass market has to be guaranteed;
- The mobility needs of the customers have to be satisfied. The characteristics of purely battery-powered EVs (limited driving range, etc.) have to be taken into consideration when developing business models;
- A close-knit network of charging stations has to be set up in a cost effective and therefore market driven manner, the market needs for cheap and timely deployment of charging infrastructure should be met by a large variety of operators on the market;
- Standardisation is crucial to both limit the risk of stranded investments and to enable EVs to be charged at any public filling station, irrespective of who built and operates the charging station or which car manufacturer produced the EV; **in this respect, GEODE welcomes the Commission's standardisation mandate on charging infrastructures;**
- An adequate legal framework is needed.

From **GEODE's** point of view, a key element of success is that the DSOs are part of the process of installing charging stations as well as developing intelligent solutions, business and market models in good time to be able to set up electricity grids optimally and in a cost effective way to integrate EV into the grid..

- To this end, regulatory models must enable the possibility and set incentives to get DSOs involved in R&D and demonstration projects, and to invest in intelligent technologies and solutions. Investment and innovation friendly regulation models are needed.
- It is vital that the costs incurred by DSOs are fully recognised by national regulatory bodies so that these costs may be recouped via grid tariffs.
- Due to the necessity of a tight involvement, it would be beneficial to allow DSOs to provide and offer their know-how for new services and products to customers on the open market along with other actors.



In GEODE's opinion, gas as an alternative fuel to petrol or diesel should have been more heavily promoted at the European level by the Commission. Considering that technologies for gas-driven cars are far more advanced than for electrical cars, the advantages regarding efficiency must not be wasted. There is no need to create a new gas distribution infrastructure in order to expand Natural Gas Vehicles (NGV): the gas filling stations can easily be supplied by the DSOs via the existing natural gas grids. **GEODE considers the public transport area to be of high potential when it comes to implementing NGVs in local communities.**

8. A framework for national efforts

The Commission stresses the key role played by that Member States in the achievement of the 20% energy savings target. National Energy Efficiency Action Plans (NEEAPs), introduced by the Energy Services Directive, have provided a framework for energy efficiency policy development that focuses on the end-use sectors. In its new EEP, the Commission contends that those NEEAPs should instead cover all sectors, from generation to end-use: the scope of the national frameworks should cover the whole energy chain in order to reach its energy-saving potential.

GEODE welcomes the Commission's intention to monitor national achievements in the field of energy efficiency and analyse what the most appropriate framework for NEEAPs should be. Since the Commission contends that the whole energy chain should be covered by the national framework, GEODE stresses that this would be yet another argument in favour of a binding target on Member States instead of solely on DSOs or suppliers for example, since only public authorities have the power to impact all market players.

9. Conclusions

GEODE welcomes the Commission's new Energy Efficiency Plan 2011 adopted on the 8th of March 2011.

The launching of the Smart Cities and Smart Communities initiatives along with the Covenant of Mayors all have our support. **GEODE** suggests that Energy Efficiency Action Plans are also needed at the local level, Local Energy Efficiency Action Plans (LEAP) where energy efficiency measures and programmes apply where the end-users are located. In **GEODE's** opinion, Member States should be obliged to stipulate the establishment of a LEAP in all cities, big and small. We think that the DSOs should be given a major role in the project management, design, development and implementation of the Smart Cities concept and



would like to stress the crucial role that could be played by DSOs in helping consumers reduce their energy consumption.

GEODE welcomes the EU consideration of district heating and cooling as an important cornerstone to achieve its energy efficiency plans. We contend that the EU should make every effort to support district heating systems as a key factor in energy efficient heat distribution and consumption. **GEODE** welcomes and recommends support for cogeneration plants as well as for research programmes on district cooling. However, we wish to stress that it will be essential for Member States to provide incentives for building the adequate infrastructure, so that the upfront investment costs are not borne by a single market player.

While the potential of CHP is recognised in the Energy Efficiency Plan, there are other ways of recycling energy flows that would otherwise have been wasted. Some of these are recovery of excess heat from industrial processes, waste incineration and biogas production from anaerobic digestion of urban and agricultural waste. A common feature of all these solutions is the need for appropriate infrastructure.

Therefore, **GEODE** stands for district heating/cooling needs being implemented by vertically integrated companies operating locally.

In **GEODE**'s opinion, it is important that a legal framework is in place for specific consumers to be able to purchase biogas, just like green electricity that can be bought through contracts. Biogas can make a substantial contribution to a sustainable, efficient and renewables-based transport sector.

Energy services markets vary substantially between Member States. Energy companies' participation also varies considerably. In some Member States, advanced energy savings obligations schemes are implemented. Other countries emphasize the role of energy companies on the free energy services market. Market structure such as number of companies and the degree of unbundling vary as well. **GEODE** concludes that one size does not fit all: the method for defining and designing the role played by energy companies in helping to save energy should be left to the discretion of each Member State.

GEODE believes the deployment of Smart Grids and Smart Meters is crucial and strongly supports their development. We would like to underline that the deployment of Smart Grids and Smart Metering systems requires significant investment for DSOs. The national regulators have to ensure that DSOs are fully reimbursed for all their costs.

GEODE also agrees that it is important to give the end-consumer a better understanding of their energy use and time of usage so that through increased awareness consumers become more efficient in their energy consumption taking advantage of Smart Metering systems.



The Commission should ensure that the DSO is involved in the development and implementation of the Demand Response market. The DSO needs to play an active role to avoid overload on the grid or on parts of it by introducing demand flexibility.

GEODE considers that the Commission White Paper on Transport policy should have included concrete initiatives and policy goals for the deployment of clean vehicles, electric and gas vehicles.

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