

R&Dialogue

D6.3: National Vision Paper

Greece

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This document was created in the framework of the European project R&Dialogue. It is the result of the work conducted by and with the Greek National Council. It contains all the issues discussed, conflicting perspectives and open issues that remain.





National Vision Paper - Greece

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1. Introduction

Over the last fifty years, the climate changes and the systematic reviews of some climate indicators, such as the excessive raise of the world's average surface temperature and the carbon dioxide concentration in the atmosphere, have led the majority of the science community to conclude that, since the industrial revolution, the human activities (fossil fuels combustion, deforestation etc.) have increased the greenhouse effects. This climate change has negative effects on the natural ecosystems such as extreme weather events, floods, heat waves, ice melting and sea level raise.

According to the Intergovernmental Panel on Climate Change of United Nations with the participation of eminent scientists, the total CO₂ emissions in the developed countries should be reduced by 80-95% until 2050 compared to 1990. The global CO₂ emissions should be reduced by 40-70% until 2050 compared to emissions in 2010, hence the increase of the global surface average temperature will not exceed 2°C, compared to the average temperature during the pre-industrial period. In July 2009, the European Union and the G8 leaders announced that until 2050 the greenhouse gases will have to be reduced by at least 80% below 1990 levels.

This year, at the 21st Session (COP21) of the United Nations Framework Convention on Climate Change in Paris (November 30-December 11, 2015), the main goal is that parties should reach to a new agreement or a new protocol, following of the Kyoto Protocol that will define quantified emission limitations or emission reductions for the period 2021-2030. All the countries have been invited to submit in advance their proposals for the emission reductions in their countries. The EU submitted a proposal to reduce at least 40% of their total emissions by 2030 compared to 1990 emissions.

Measures are necessary to reduce the carbon dioxide emissions. These measures will have to include demand management, resource conservation and reuse, improvement of energy production technologies and energy mix with lower carbon emissions. Overall, the transition to a low carbon society can boost the economy of a country. The main objective should be a low-carbon society with sustainable development. Any possible action, causing delays, will increase the risk and the cost of climate change impacts and will be transferred to the future generations.

Considering the transition objectives for a low carbon society and within the scope of the R&Dialogue project, we are interested to examine how our society entities understand this transition. Which is their vision? In order to answer this question and identify the different views of the entities in society, we organized a workshop. In the first part of the workshop the Discussion Paper was presented and discussed by the panel. The main discussion topics were arised during the creation of the Discussion Paper and based on a questionnaire that was given to them.

In the second part, small groups of different society entities were created such as the Ministry of Environment and Finance, Research & NGOs, industry and general public. It was very important to mention that each person had different professional status than the group he/she was chosen to be part of. The main purpose for this separation was the participants to think in a different way and try to see things from a different perspective. The questions and the conclusions of this workshop are listed below and form the "Greece - National Vision Paper".

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2. Dialogue importance in the energy sector and its social dimension

✓ "Is the information on energy issues easily accessible by the society and objective?", "Do you believe that people have environmental awareness?"

Greece is a small country and its greenhouse gas emissions amounts are low, compared with the most developed countries. Greece is vulnerable to climate change mainly due to its geographical position. It is crucial to understand that society is us. Each of us should protect the environment and try to deal with climate change. All citizens should show environmental behavior and not just concerns about specific environmental issues. Information exists and is instantly available (e.g. relevant websites, scientific cafes, Athens science week etc). However, it is believed that people do not take advantage of it because there is no interest. Moreover, the participation in dialogue efforts of common people is limited. At this point, the question is: *How can we approach citizens when they do not participate in the dialogue?*

Society has a distorted view of what is the environment, which are the air pollution causes, which are the protection measures and the ways to resolve the environment problems. These issues do not exist in people's daily life. This happens due to the fact that there is no reference to the real environmental problem. On this issue, the NGOs also have a responsibility and they also have a share in this confusion as they, sometimes, create the wrong impressions regarding the origin of the environmental problem, what is the actual problem etc.

Usually, people react when environmental damage is done by others. Environmental awareness is created at the same time of the event. In order these problems to be addressed effectively, it is essential to have commitments and behavioural obligations by citizens taking the responsibility that falls to them.

For example, waste management is closely related to the society. It is not difficult to be understood. Although this is an issue that has direct impacts on society, there is indifference. This reveals a lack of social conscience and responsibility. On the other hand, state should respond to citizens' interest. For example, municipalities should place recycling bins at specific points where the residents can participate in recycling. Also, there is no proper information about recycling, for example only 18% of the aluminum cans (e.g. soft drinks, beers, etc.) is recycled.

The financial situation plays a very important role in the formation of environmental consciousness in the society. If someone fights for survival, his priorities change. Another issue that is responsible for the insufficient information is the limited access to computers, especially in the province and the villages.

In addition, there are no adequate dissemination activities. Generally, the design and implementation of the Greek educational policy in recent decades has been based upon a short term horizon and changes after a new government arises. Municipalities and the state have the obligation to educate citizens. Small society structures are also responsible. Society needs literacy and not education. However, there is also the view that the information is not objective nor in substance. As an example, the RES benefit analysis was mentioned that seems incorrect or non-existent.

Another example demonstrating the importance of informing the local community correctly is the construction of a wind park. The example regards a foreign investor who tried to build the park without entering into dialogue with the local community, which is necessary in order to inform citizens about the project benefits, which are usually not visible. The result was that the investor got tangled up in a host of legal disputes. Moreover, there were delays in the implementation, financial burdens and it wasn't well accepted by the local community. On the other hand, we have another wind park that was created after an open dialogue with the local community and it was welcomed by the society.

It is commonly accepted that in Greece there is a bad precedent regarding investments making the society hesitant. Generally, the investments follow the European directives. There is a need of action, integration and commitment. We need to discuss about environment and not only when something happens. A direct source of information about environmental issues is television. Currently, there are two (2) environment TV programmes, but as sections of news broadcast (e.g. econews). Programmes like these should be increased so as to inform the citizens better.

The State should motivate the citizens to participate actively having, in parallel, penalties for non-compliance.

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- ✓ "Can Greece have energy security without the use of lignite?"
- ✓ "Which technologies can contribute to a low carbon future? Is the natural gas considered a transitional fuel?"

Looking at the interviews, during the project's first phase, the discussions with the National Council, the questionnaires and the meeting conclusions, the majority of participants agree that in Greece, energy security can be achieved through lignite use. One main reason is that renewable are heavily dependent on external factors (e.g. sunshine, wind, etc). Additionally, the base stations must be able to ensure, on daily basis, the minimum energy load required for domestic consumption, which is achieved by using conventional fuels e.g. lignite and natural gas. However, natural gas due to its import depends on the geopolitical conditions. Both RES and natural gas are considered expensive energy sources.

On the other hand, there have been various discussions about geothermal energy in Greece. Currently, there are ongoing studies in order to identify and assess the geothermal fields in our country. Potentially, geothermal energy could provide the necessary energy load in daily basis. However, geothermal energy cannot be the main energy source in Greece due to the fact that high enthalpy (thermodynamic potential) is essential and the current fields do not have it.

At present, the country continues with lignite until renewable energy becomes viable and penetrates in the energy balance. As part of the transition towards a low-carbon society, it is necessary to replace old power plants with new ones which will have the ability to capture the greenhouse gases. In the mean time, new ways should be found for CO₂ management, besides capture, like reuse and geological storage. All the above, indicate that the dependence on lignite will be long. Also, its exploitation is more economical as it is a domestic product and creates new jobs. This information should be taken seriously. Also, we must consider and the time frame in question.

Moreover, correct information and dialogue about the coal use in the energy mix with all society actors is essential. It is necessary for our future energy strategy. During the transition, lignite can run in support and in parallel RES so as to provide energy security. A typical example is the road map for 2050, including the transition scenarios in a low-carbon society, including lignite as part of energy mixture. There is also a study in which sites for CO₂ geological storage are identified.

Also, the island interconnection with the Greek mainland will lead to the exclusion of the polluting units, independence from liquid fuels and reduction of carbon emissions. It should be emphasized that the country's energy security should be directly linked to Europe's one. And yet, geopolitical issues are raised again, for example gas pipelines and countries traversal.

The 2050 energy roadmap should be based on the energy mix, must be dated and follow all technological innovations, ensuring the energy security of the country. In that way the transition will be maximised and will act as accelerator for sustainable development. It is worth mentioning that many assumptions were made in order to develop this roadmap based on the current situation of the country. It is dynamic and multifactorial document.

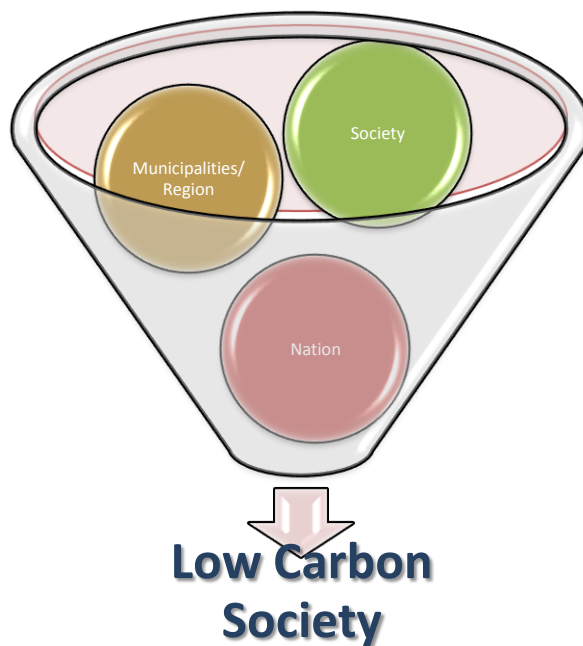
A typical example of transition to a low carbon society is the exclusive use of RES in Denmark. It is planned to achieve this goal by using wind turbines and smart grids. In the Danish energy strategy for 2050, it is stated that by 2035 the electricity will be produced exclusively by renewable energy sources and until 2050 the transport sector will be added to that. Although the country is a major exporter and consumer of oil, actions have already been made towards this direction.

Generally, the decisions that are taken and the penetration of new technologies should not rely on ideologies and politics but on financial studies and long-term energy planning. It is also necessary that community trusts those who make the decisions.

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3. Which are the necessary conditions to move to a low carbon society? Levels: a) individual b) municipalities / regions c) national

As it is mentioned above, in order to move to a low carbon society, everyone has a share of responsibility, from citizens to industry, research and the State. Each entity depends on others with the State as the main coordinator and supporter of this effort.



For a smooth and successful transition, it is necessary to meet certain conditions at all levels: individual, municipalities/ regions and national.

> At **individual level**, it is necessary **to change our consumption habits** in order to reduce the carbon emissions. For example, travelling by public transport, we contribute to the reduction of atmospheric pollutants and solid fuel consumption. Citizens should have both **social and individual responsibility** and be responsible for their actions.

> However, it is necessary to **set out and recognize the problem, make the information available and educate** citizens. It is commonly accepted that if someone participates in any procedure, it is necessary to be able **to confirm the benefit** (in general) that will come after that. The citizens have an obligation to participate in social processes through **incentives** and there should be appropriate **penalties** when the obligations are not respected. The subsistence minimum level is also one of the most basic prerequisites because this will lead citizens to deal with social issues, like the environment.

Finally, considering companies as "individuals", it is necessary to have proper **corporate social responsibility**. That means companies should contribute to environmental and social issues. In this way, they ensure their sustainability and their sustainable development, which benefits both the company and society.

> At **municipality and regional level**, it is necessary to take initiatives, at the degree that the law allows them (partially decentralised municipalities like in France). It is also important for the **municipalities** to have proper channels of **communication between each other** in order in order to avoid phenomena like unequal distribution of initiatives.

The initiatives should always be **in line with the National Energy Plan (whenever it will be realized)** and to be adapted to it and to the targets set. The municipalities and the regions should **act as an example** for the rest of the society and with their actions they should **motivate the citizens** to have active participation. Setting an example, in case

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of failure to meet their obligations, the corresponding penalties should be given to the municipalities and to the regional authorities. Of course, in order to implement the initiatives, the necessary **financial resources** should be available.

> In order for all the above conditions, in individual and municipalities/ regional level to occur, the corresponding ones at **national level** should be established and adhered. The **policymaking with the maximum consensus** is the most basic requirement and is always requested in society, at all levels. The policies and the decisions made should have in mind the country's **economic development** and provide **long-term strategy and vision** in order to make possible all of the above.

The policies and the decisions made should have the necessary **flexibility and adaptability** to be designed according to the needs. The State with its actions should be an example for the rest of society having as main obligation the **uninterrupted implementation of the measures decided**. Otherwise, **penalties** should be imposed.

Essential for the proper function of the country is the existence of a strategic planning that will derive from a **regulatory framework for the development** (development by regulation) of the country. Moreover, **informing** the citizens should be one of the country's priorities since the society should count on that in order to have informed opinion. **Advertising** is also an important tool both for informing and promotion of measures and changes since it aims in the majority of the society.

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4. Based on those conditions, which innovative actions could be implemented in 2 decades? Levels: a) Individual, b) municipalities/ regions, c) national

Taking into consideration and taking also for granted that all the above conditions exist at all levels, different actions were discussed, innovative and others, that could be implemented in a society. Again, all these actions should function always in combination in a society, in order to move towards a low carbon society.

At this point, we present the different actions that should be done in terms of the government (Ministry of Environment/ Economics), research, NGOs, industry, lay people, at all levels (individual, municipalities/ regions, national).

→ Innovative actions in terms of the Government (Ministry of Environment/ Economics)

➤ Recognizing the need to approach the society in order to be informed and gain their trust regarding as to the actions and decisions of the State, the Ministry proposes an action that at **individual level** it may be the most important one, which is the **establishment of dialogue processes** to enable the society to express its opinion on issues of immediate interest. At the same time, there should be the necessary enacted for providing active access to the individuals in the above processes for interaction with other stakeholders even over broadband networks ensuring the immediate and unadulterated expression. However, providing the above, which will be achieved also via **motivation**, it is necessary, once again, to impose **penalties** in case of failure to comply with the obligations the society.

➤ At **municipality/ regional level**, the actions that need to be implemented by the Ministry relate to the supervision, monitoring and penalty imposing regarding the way that all the procedures are being exercised and at the same time to provide the adequate motives to the local authorities for the implementation of their initiatives. Another important action that must be done is **to strengthen the supervision, monitoring and control regarding the exercise of power**. Such a move would help to build the necessary and desired trust the state needs from the society. Finally, **strengthening the use of processes and the energy management systems** is a move that will significantly assist the desired transition.

➤ At **national level**, proposed actions include the **encouragement and empowerment** (funding) of small business besides the existing ones. This action aims to pluralism during decision-making. Also, this move will open the way for further actions and decisions concerning **facilitating new businesses to develop innovative products and services**. Taking into consideration that the measures that are taken each time are related to the European targets, it is necessary **to intensify the cooperation with the European financial institutions** and **facilitate innovative financing mechanisms** to meet the needs of the businesses created by the actions described above. Finally, all the required steps need to be taken in order **to update, review and modify the strategic planning of the country** as to meet the needs of the society and the State.

→ Innovative actions in terms of research

➤ Aiming at a low carbon society and taking into consideration the current technological developments, research should be involved, at **individual level**, with innovative actions, showcasing its latest achievement. It is considered necessary for research **to turn in new directions**, such as nuclear fusion (long-term planning) and the development of hydrogen fuel cells (medium term). Developing and **promoting the capture and storage of carbon dioxide** and **energy saving measures in buildings**, can help and give impetus to the development of a sustainable society. Research can also contribute to the creation of **viable and sustainable cities** (smart cities), through similar actions concerning transport, forms telework, incentives for use of electric vehicles (e.g. priority, bus lanes, etc.), share or rent bicycles (bike sharing) etc. One very interesting action, finally, is the promotion of sustainable food, in the sense of distance: from production to consumption.

➤ At **municipalities/ regional level**, several interesting and innovative activities were proposed such as farming with hydroponics (a method of growing plants using mineral nutrient solutions, in water, without soil). It is an action that can contribute to reducing emissions. It is an action that can contribute to the reduction of carbon emissions. At the same logic is the promotion and adoption of a viable and sustainable lifestyle regarding the products that we use, the way we dress, our nutritional products etc, emphasizing on their life cycle.

→ Innovative actions in terms of NGOs

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➤ NGOs, having all the prerequisites that were mentioned above, should be in a position to **promote and backup the innovative actions** that were proposed since they are actions that fall within their field of action as well, at **all levels**. Also, NGOs need to **actively participate in the dialogue processes** of all the interesting parties, especially nowadays that is understood that the issue of climate change requires coordinated actions of international scale and high economic scale, which only businesses can undertake with the support of governments, transnational clusters and the global civil society.

→ *Innovative actions in terms of Industry*

➤ At **individual level**, the industry can undertake actions that will have as a goal from one side, the **profit**, since that is one of its priorities, and from the other side, the **environmental protection**, at the degree that it can happen. The **implementation of new technologies** for the benefit of the industry should be one of its priorities. Through research, **new ways to produce goods** can be found that **at the same time promoting energy efficiency**, product improvement, reduction of manhours etc.

The cooperation with the universities could be intensified, by funding certain laboratories, granting scholarships to students that later they can work on the development of the new products. Afterwards, **the students could be "absorbed"** by the company working at the research department. It's a form of investment, on behalf of the company, that will be valuable at the future.

The industry could put in application several innovative actions. However, perhaps the most important is its **participation in dialogues** and **informing the society** about a specific subject, for the production process and for pollutants that it produces and its corporate social responsibility. In this way, it builds trust with society, mostly local, which is most concerned

➤ At **municipality/ regional level**, it is necessary to have **cooperation** with the industry and together to inform the citizens in order to avoid conflicts.

➤ However, in order to make the decision that will implement those actions, there must be, at **national level**, **stable legislation** and **concrete tax policy**. Additionally, actions such as providing incentives with profit for the industry due to the implementation of a line production with reduced emissions should be considered fundamental. The State should promote actions where the industries would have competitive advantage and profit from the advertisement of their new product.

The participation of the industry in the organized dialogues is considered as a must. Nevertheless, **its point of view should be taken into serious consideration** both at national and at European level, **when there is planning and decision making**.

The funding, by the State, of the decontamination and the time needed for the administration of justice are still two actions that can help the industry promote its own activities towards a low carbon society.

→ *Innovative actions in terms of the Society/ Lay People*

➤ In terms of the society and the lay people, the actions can be grouped in **demands** and obligations. The society itself believes that it needs to **be informed** for all the developments regarding issues that are in its immediate concern and to **be given the possibility to participate** wherever accountable. The **benefit** that will have needs to **be confirmed** by the actions of all the actors. Any **innovative actions** proposed and implemented by the various actors need to **be effective**.

➤ However, there are also **obligations**, from society's side, that are recognized by the society, and it should respect them. For example, **the adaptation and implementation of the decisions** taken. Also, it is worth mentioning that **our behaviour, in all social functions, should act as an example**. As we demand to be informed about issues that concern us so we have the obligation to operate in the same way, by **informing our fellow citizens about topics that correspond to our field and level of expertise**. This will result in a **smooth and efficient social function**.

As a society that aims at a future with low carbon emissions, we should adopt a **viable and sustainable lifestyle**, which will have derived from the actions of the stakeholders (as mentioned previously) but also through the relevant information that there will be. The **citizens mobilization for more active engagement and participation in low carbon activities** is, finally, another obligation of society, which should however be made for the right reasons reminding the conditions and actions, as mentioned above, which should be respected by all and at all levels.

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5. In order to meet, in 2 decades, a low carbon society, do you consider the previously mentioned actions as feasible? Basic prerequisite: The country's conditions to allow such actions and initiatives.

Aiming a time limit of two decades to achieve a low carbon society, we must take into account the feasibility of these actions, having in mind one basic prerequisite: the conditions in the country should allow such actions. The vision of sustainability demands that each member of the society is included in this context of interdependence. The required financial resources should be available in order to achieve all the goals. For this reason, strengthening of the funding is necessary.

However, the financial resources are not necessary for all the actions towards a low carbon society and maybe at the end, the benefit from a sustainable society that will be developed will be a multiple of that in which one will invest. The largest polluter is poverty. The opposite is not always true. Poverty lies mainly on education and culture. On the other hand, economic growth is essential. The sustainable development is no longer an option. It's the only way. Climate change is upon us and there should be actions in this direction.

An important factor for the mobilisation and "awareness" of the society is the extent to which we feel threatened, how close to us is that risk. It is advised to circulate and update the information as derives from the various surveys, e.g. Bank of Greece ("Adaptation to climate change"). Also, the information regarding the effects of climate change should be as specific as possible, i.e. at local level. For example, the hotels in the Aegean, which will be threatened because of the rising sea level etc. The effects should be connected to everyday life in order to become directly noticed.

The relationship between cooperation and dependency should, also, be comprehensive. The industry should take into account the results of the research, which will be considered and may be adapted by the State, which, in its turn, will monitor the industry through proper legislation etc. All need to operate within a framework of cooperation. Common recipient: the society.

The information should also be made individually by each stakeholder but also after coordinated actions with the cooperation of all. The information needs to be simple and directed to the lay people. Financial motives are also a key prerequisite as they are necessary for research, various awareness campaigns, etc. Besides, additional incentives are also necessary taking into account other factors that may influence. Such example is the reduction of carbon dioxide emissions rights, which resulted, in some countries, in a decrease of interest in CCS (Capture and Storage of carbon dioxide).

It must be recognized that there is a dialogue between institutions, albeit limited. There are initiatives, even a few. Even if the available financial resources are not sufficient there are solutions. A remarkable example is the energy-saving action: "I will change you the lights," from a company selling lamps. The company replaces the old bulbs for free. The repayment is done through the monthly profit of the power account.

It is widely accepted that necessary measures need to be taken for the mitigation of climate change. For this purpose, a national strategy for the country's adaptation to climate change is on its way. It should be understood that money should be invested now in order to save from any later damage, e.g. from flooding due to the rising sea level.

Finally, the policy of subsidies to date was discussed, which was recognized as inappropriate. On the other hand, subsidies are a useful tool when used properly, whereas it is needed for the actions. A desirable and necessary action is to stimulate the society's creation. It is the basis on which we can build low-carbon society.

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6. Conclusion

The transition towards a low carbon society is a difficult process but achievable. Everyone will have to contribute, from the lay people up to the business sector and the State. European objectives set for the vision for 2050 are the necessary basis for this target. To implement these objectives, the society needs to change its environmental behaviour. The lay people should be informed objectively and from a number of different sources so that they can actively participate in the dialogue. It needs to care about the environment on a daily basis and not only upon the occurrence of environmental accidents. Businesses should have corporate social responsibility and create financial incentives towards environmental solutions. Research should assist with proposals for new technologies. The State both within municipalities and regions as well as at the highest level should support and not sabotage or cancel the dialogue. The above depend on a stable economic and political environment, social stability and penalties in case the decided measures are not implemented. The vision for a low carbon society is created by us through dialogue, it concerns us and it is up to us on how to exploit it, so that the future generations can live in a sustainable and "green": society".