



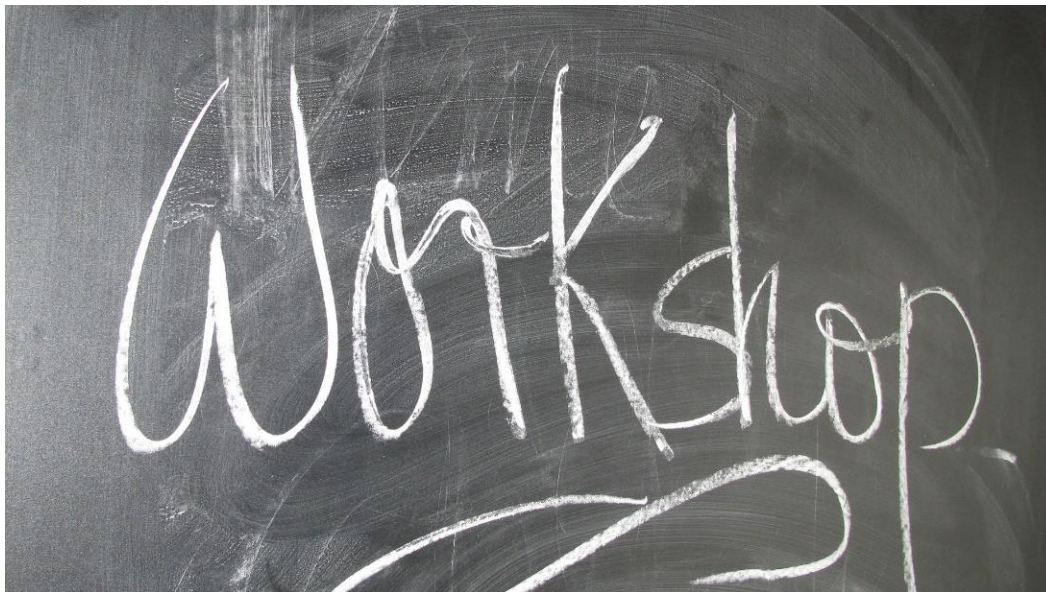
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Report No ECHOES 6.4 – D6.4 Dissemination Workshop

# ECHOES Report

Dissemination workshop, spreading the evidence from good practices and successful implementations of formal social units



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# ECHOES Report

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**ABSTRACT**

This dissemination workshop spread the evidence from good practices and successful implementations within formal social units on three different levels as identified by the ECHOES project: (1) formal social units which act as policy makers and/or energy providers; (2) collective decision making units which are formally structured and with relatively lower information and power asymmetries; (3) individual consumers engaging joint contracts to increase their power of negotiations, related to energy transition among the EU members and associate countries.

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## Introduction

The “7<sup>th</sup> Energy Management and Policies Workshop & ECHOES Project Dissemination Workshop” was organized by Izmir University of Economics’ (IUE) Sustainable Energy Division on 2-3 May 2019, as a public event open to all, whether interested expert or community member. With almost 200 participants, the workshop highlighted challenges and opportunities in transition to a low carbon economy. Discussion focused on the barriers hindering the process of energy transition, as well as motivators and enablers encouraging the actors to take an initiative for energy transition. Moreover, there were illustrations of good practices and successful implementations in energy transition.

The workshop was sponsored by three companies:

- 1) EGEGAZ: It owns and operates the second LNG Terminal of Turkey. It is owned by the Çolakoğlu Group.
- 2) ISKEN: It is one of the biggest power plant which is built and operated by the private sector in Turkey. It is owned by STEAG AG and OYAK.
- 3) AYDEM: It is an Electricity Retail Sales Corporation as a participator of Bereket Energy Group serving 4.7 million customers in Turkey.

These companies also disseminated the information of the event through their networks, enhancing its impact on Turkish and European energy actors.

Two main aspects underlie the importance of the workshop. Firstly, it enabled discussion of the general trends in the world’s energy sector, and their influences on Turkey’s energy market. Secondly, it presented the results of the ECHOES (Energy CHOices supporting the Energy Union and the Set-Plan) project, on the basis of multiple case studies conducted in different countries regarding energy collectives and energy lifestyles. In this sense, the major objective was to provide a reflection of the current situation and developments in the world energy sector, as well as to illustrate project activities and to gather feedback.

Among the workshop discussants and participants were senior representatives from Turkey’s energy market and the partners of ECHOES project, who gave presentations on the key issues. Turkish energy market representatives evaluated recent developments in the energy transition process by referring to the fossil fuel sector and renewable energy technologies. In addition, project partners presented the results of case studies conducted in various countries and fields, including e-ferries and online e-mobility in Norway, an energy self-sufficient municipal area in Italy, energy efficiency at an oil refinery in Spain, electrification of transportation in a metropolitan municipality in Turkey, and the role of local leaders in upgrading the housing sector in Bulgaria.

This document consists of three major sub-sections. Firstly, the Energy Management and Policies Workshop Agenda is presented. Secondly, main outcomes of 7<sup>th</sup> Energy Management and Policies Workshop & Echoes Project Dissemination Workshop are debated in terms of the fundamental aspects raised by discussants and participants. The final sub-section presents the key points from a roundtable discussion on the impacts of the project and future expectations, involving 19 experts representing both academia and industry.

## Dissemination of the Workshop Information



# 7. ENERGY MANAGEMENT AND POLICIES WORKSHOP & ECHOES PROJECT DISSEMINATION WORKSHOP

"Challenges and Opportunities in Transition to a Low-Carbon Economy: Good Practices and Successful Implementations"



**2 MAY 2019**

Izmir University of Economics (IUE)  
Balçova Campus, Conference Hall

RSVP and Detailed Information: [enerjicalistayi@ieu.edu.tr](mailto:enerjicalistayi@ieu.edu.tr)  
There is no participation fee and participation is limited to 150 attendees

09:30-10:00 Registration	12:45-14:00 Lunch Break
10:00-10:30 Welcome & Opening Speech Dr. Mehmet Efe Biresselioglu Head of Sustainable Energy Division, IUE Prof. Dr. Murat Askar Rector, IUE	14:00-14:20 Special Presentation I: Fostering Synergies at Regional Level in Approaches for Climate Change Adaptation Dr. Stratis Zacharis EXERGIA, Greece
10:30-10:50 KEYNOTE OPENING SPEECH : Transition to a Low Carbon Economy: The Case of Electricity Generation in Turkey Dr. Izzet Alagöz Director General, Electricity Generation Company (EUAS)	14:20-14:40 Special Presentation II: The Results of the ECHOES Project's International Survey on Energy-Related Decisions and Behaviour Dr. Andrea Kollmann Energy Institute-Johannes Kepler University
10:50-12:45 SESSION I : Understanding the Factors and Parameters driving Energy Choices Presentation I: Identifying Factors and Parameters Dr. Mehmet Efe Biresselioglu Head of Sustainable Energy Division, IUE Presentation II: Policy and Implementation Recommendations Dr. Jens Dalseth Røyrvik The Norwegian University of Science and Technology  Moderator: Dr. Mehmet Efe Biresselioglu Head of Sustainable Energy Division, IUE Discussants: Ibrahim Akbal Chairman, Union of Chambers and Commodity Exchanges of Turkey's Natural Gas Assembly Aziz Camcı Chairman, Petroleum and Natural Gas Platform Association (PETFORM) Dr. Mustafa Gözen Head of Market Monitoring and Legislation Group, EMRA Mustafa Serdar Ataseven Honorary Member, Turkish Wind Energy Association Dr. Sirri Uyanık CEO, İSKEN Alp Tolga Işıman Business Development Manager, Toshiba Infrastructure and Electronics	14:40-16:30 SESSION II : Suggestions and recommendations for a better understanding of the factors driving energy choices and energy related behaviour: Case Studies  Norway: E-ferries Simen Rostad Sæther The Norwegian University of Science and Technology, Norway  Italy: An Energy Self-Sufficient Small Municipal Area Dr. Giuseppe Carrus Roma Tre University, Italy  Spain: Energy efficiency in an oil refinery Lucia Polo Alvarez TECNALIA, Spain  Norway: Online E-mobility Marie Nilsen The Norwegian University of Science and Technology, Norway  Turkey: Electrification of Transportation in Metropolitan Municipality Dr. Muhittin Hakan Demir IUE Head of Logistics Management Department, Turkey  Bulgaria: Local Leaders in Upgrading The Housing Sector In Bulgaria Dr. Irina Mutaftchiiska University of Architecture, Civil Engineering and Geodesy, Bulgaria
	16:30 Closing Speech

Sponsors

Media Sponsor



Figure 1 Flyer of the Workshop

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D6.4 Dissemination Workshop

VERSION  
02

Social media outlets – LinkedIn, Instagram, Facebook and mass e-mailing – reaching more than 2500 potential participants were widely used to disseminate the workshop agenda. In addition to that, workshop's media sponsor EnerjilQ also publicized the workshop in media outlets. The workshop announcement also appeared in the national and international editions of Turkish newspapers as well as newsletters of several information provider agencies. Below the workshop agenda is displayed.



## Energy Management and Policies Workshop Agenda

The 7<sup>th</sup> Energy Management and Policies Workshop & Echoes Project Dissemination Workshop took place over two successive days. The first day of the workshop (2 May) covered socio-economic aspects of the energy transition, both in Turkey and the world, with a focus on legal issues. The roundtable discussion held on the second day of the workshop (3 May) covered key points and results of the ECHOES project, and the ECHOES consortium members were able to gather feedback on their case studies. A final overview of the workshop was given in the concluding remarks. The official agenda of the workshop was enriched by a more informal atmosphere at lunches and a dinner held on the evening of 2 May for workshop discussants and ECHOES project members, providing an opportunity for closer interaction and exchange of opinions and observations regarding the workshop.

The Energy Management and Policies Workshop Agenda demonstrating the sessions and presentations is illustrated below:

### Agenda – Day 1 – 2 May 2019

TIME	AGENDA ITEM
09:30-10:00	<b>Registration</b>
10:00-10:30	<b>Welcome &amp; Opening Speech</b> <b>Prof. Dr. Mehmet Efe Biresselioğlu</b> Head of Sustainable Energy Division, IUE <b>Prof. Dr. Murat Aşkar</b> Rector, IUE
10:30-10:50	<b>Keynote Opening Speech: Transition to a Low Carbon Economy: The Case of Electricity Generation in Turkey</b> <b>Dr. İzzet Alagöz</b> Director General, Electricity Generation Company (EÜAŞ)
10:50-12:45	<b>SESSION I: Understanding the Factors and Parameters driving Energy Choices</b> <b>Presentation I: Identifying Factors and Parameters</b> <b>Prof. Dr. Mehmet Efe Biresselioğlu</b> Head of Sustainable Energy Division, IUE <b>Presentation II: Policy and Implementation Recommendations</b> <b>Dr. Jens Dalseth Røyrvik</b> The Norwegian University of Science and Technology  <b>Moderator:</b> <b>Prof. Dr. Mehmet Efe Biresselioğlu</b> Head of Sustainable Energy Division, IUE



	<p><b>Discussants:</b></p> <p><b>Aziz Camcı</b> Chairman, Petroleum and Natural Gas Platform Association (PETFORM)</p> <p><b>Dr. Mustafa Gözen</b> Head of Market Monitoring and Legislation Group, EMRA</p> <p><b>Mustafa Serdar Ataseven</b> Honorary Member, Turkish Wind Energy Association</p> <p><b>Dr. Sırrı Uyanık</b> CEO, ISKEN</p> <p><b>Alp Tolga Işıtman</b> Business Development Manager, Toshiba Infrastructure and Electronics</p>
12:45-14:00	<b>Lunch Break</b>
14:00-14:20	<p><b>Special Presentation I: Fostering Synergies at Regional Level in Approaches for Climate Change Adaptation</b></p> <p><b>Dr. Stratis Zacharis</b> EXERGIA, Greece</p>
14:20-14:40	<p><b>Special Presentation II: The Results of the ECHOES Project's International Survey on Energy-Related Decisions and Behaviour</b></p> <p><b>Dr. Andrea Kollman</b> Energy Institute-Johannes Kepler University</p>
14:40-16:30	<p><b>SESSION II: Suggestions and recommendations for a better understanding of the factors driving energy choices and energy related behaviour: Case Studies</b></p> <p><b>Norway: E-ferries</b> <b>Simen Rostad Sæther</b> The Norwegian University of Science and Technology, Norway</p> <p><b>Italy: An energy self-sufficient small municipal area</b> <b>Dr. Giuseppe Carrus</b> Roma Tre University, Italy</p> <p><b>Spain: Energy efficiency in an oil refinery</b> <b>Lucia Polo Alvarez</b> TECNALIA, Spain</p> <p><b>Norway: Online E-mobility</b> <b>Marie Nilsen</b> The Norwegian University of Science and Technology, Norway</p> <p><b>Turkey: Electrification of Transportation in Metropolitan Municipality</b> <b>Dr. Muhittin Hakan Demir</b> IUE Head of Logistics Management Department, Turkey</p> <p><b>Bulgaria: Local leaders in upgrading the housing sector in Bulgaria</b> <b>Irina Mutaftchiiska</b> University of Architecture, Civil Engineering and Geodesy, Bulgaria</p>
16:00	<b>Closing Speech</b>

## Agenda – Day 2 – 3 May 2019

TIME	AGENDA ITEM
09:45-10:00	Welcome & Opening Speech
10:00-12:00	<b>Roundtable Discussion</b> <b>Moderators:</b> <b><i>Prof. Dr. Mehmet Efe Biresselioğlu</i></b> Head of Sustainable Energy Division, IUE <b><i>Dr. Muhittin Hakan Demir</i></b> Head of Logistics Management Department, IUE <b><i>Dr. Sıtkı Egeli</i></b> Asst. Prof. of International Security Studies, IUE
12:00-12:15	<b>Concluding Remarks</b>
12.30	<b>Lunch</b>

## Main Outcomes of the 7<sup>th</sup> Energy Management and Policies Workshop & ECHOES Project Dissemination Workshop

The 7<sup>th</sup> Energy Management and Policies Workshop & Echoes Project Dissemination Workshop opened with the Welcome and Opening Speeches delivered by Prof. Dr. Mehmet Efe Biresselioğlu, Head of Sustainable Energy Division, and Prof. Dr. Murat Aşkar, Rector of IUE.



*Figure 2 Prof. Dr. Mehmet Efe Biresselioğlu, Head of Sustainable Energy Division, IUE*

Highlighting the importance of energy for Turkey, Prof. Dr. Biresselioğlu and Prof. Dr. Aşkar presented their views regarding transition to a low carbon economy.



*Figure 3 Prof. Dr. Murat Aşkar, Rector, IUE*

After the opening speeches, the workshop continued with the keynote speech delivered by Dr. İzzet Alagöz, Director General of Electricity Generation Company (EÜAŞ). Dr. Alagöz noted that the world energy demand was expected to increase by 38% by 2040 according to 2017 data. He said: "Population growth implies that additional 1.9 billion people should be supplied with energy in the future. Unfortunately, however, this energy is likely to be supplied with fossil fuel-based resources. The share of fossil fuels is 87% in world energy consumption, whereas the share of renewable energy resources is 16.1%. In this sense, rising energy demand means increasing carbon emission. In 2018, it was seen that power plants across the world caused 36.2 billion tons of carbon emission." Furthermore, evaluating the current situation in Turkey's energy market, Dr. Alagöz reported that Turkey's energy demand growth rate was double that of world demand, and under these conditions, to meet the increasing energy demand, EÜAŞ was seeking alternative ways to generate energy from cleaner resources. Consequently, he argued that the share of hydroelectric power plants should be increased to reduce the share of thermal power plants.



Figure 4 Dr. İzzet Alagöz, Director General, Electricity Generation Company (EÜAŞ)

Following the keynote opening speech delivered by Dr. Alagöz, Session I started with the presentations made by Prof. Dr. Mehmet Efe Biresselioğlu and Dr. Jens Dalseth Røyrvik regarding the outputs of ECHOES project. Biresselioğlu and Røyrvik discussed the factors and parameters driving energy choices, and policy and implementation recommendations, respectively. Firstly, Prof. Dr. Biresselioğlu introduced the ECHOES project, focusing on its purpose, research method, fundamental aspects such as energy cultures, energy lifestyles and collective behavior, as well as the outputs of collective decision-making in the low carbon energy transition. He then considered the macro-level factors and parameters that determine energy preferences; emphasizing the importance of economic factors, regulations and legislative issues, certifications, incentives and taxes, market structure, organizational structures, supply and demand balance, demand management, energy efficiency and energy self-sufficiency in the energy transition process. He also touched on a recently introduced concept, energy justice, concerning the equal allocation of natural resources, and the issues of environmental illnesses and benefits. Furthermore, Prof. Dr. Biresselioğlu put forward the motivators and barriers in low-carbon energy transition. The motivators were as follows: globalization, energy efficiency, energy saving, incentives, tax advantages, environmental concerns, reputation, cost saving, good practices and successful implementations, energy self-sufficiency and prosumerism. The barriers were lack of awareness and knowledge, administrative challenges, regulatory uncertainties, unfavorable economic and social conditions, cultural norms, lack of



qualified personnel, long procedural periods, conflicts within organizations, lack of trust, lack of transparency, conflict of political interest, resistance to change, and the status quo.

Dr. Røyrvik's presentation highlighted that the policies in the energy transition process should reflect a more inclusive approach, targeting diverse regions, cultures and lifestyles. Dr. Røyrvik also made significant comments regarding the parallels in the political situation of Turkey and Norway, as neither are members of the European Union (EU) but both are directly affected by EU policies, regulations and directives. According to Røyrvik, at this point, EU's ambitious goals to harmonize energy infrastructure across the Union to reduce carbon emission and to encourage renewable energy resources might cause frustration for policy-makers, as differences in these countries' technology and social backgrounds obstruct harmonization. Therefore, direct transposition of EU laws and directives may in some cases act as a barrier.



*Figure 5 Dr. Jens Dalseth Røyrvik, The Norwegian University of Science and Technology*

The presentations in the first session were followed by discussion regarding the challenges and opportunities in Turkey's energy market in transition to a low-carbon economy. The discussants were Aziz Camcı (Chairman of PETFORM), Dr. Mustafa Gözen (Head of Market Monitoring and Legislation Group of EMRA), Mustafa Serdar Ataseven (Honorary Member of the Turkish Wind Energy Association), Dr. Sırrı Uyanık (CEO of ISKEN), and Alp Tolga Işıtman

(Business Development Manager of Toshiba Infrastructure and Electronics). Accordingly, the discussants evaluated the current situation in Turkey's energy market.

Sırrı Uyanık, CEO of ISKEN, raised a question about Turkey's energy transition process, in terms of whether it should be considered revolution or evolution. It was implied that the energy transition was inevitably a slow process, necessitating a socio-economic transformation, involving change in citizens' social behavior. According to Uyanık, particularly Turkey's energy transition process is expected to be slow, as coal and natural gas are still needed in power generation. He said: "The major barrier for renewable energy technologies is intermittent generation. Unless storage technologies improve, renewable energy facilities cannot replace thermal power plants. In this sense, solar generation and solar energy storage technologies have a key role." Besides the importance of solar energy, Honorary Member of the Turkish Wind Energy Association Mustafa Serdar Ataseven emphasized the role of wind energy. He indicated that more than 30% of energy demand would be met by wind energy in future, and 300 GW wind energy investment was expected in Turkey in the next five-year-period. He also remarked on the reasons behind this capacity increase. It was emphasized that increased security of supply and energy transition, leading to carbon reduction, were not the causes, but rather the results of this policy



*Figure 6 Discussants, Session I*



The chairman of PETFORM Aziz Camcı contributed to the discussion by introducing the 3D formula in energy transition, i.e. decarbonization, distributed generation, and digitalization. These three aspects are seen as the fundamental drivers of the energy transition. He pointed out the significance of sustainability in renewable energy resources. According to Camcı, to ensure a sustainable energy future, an energy mix consisting of renewables and thermal power plants is still necessary.

Dr. Mustafa Gözen, Head of Market Monitoring and Legislation Group of EMRA, and Alp Tolga Işırtman, Business Development Manager of Toshiba, presented their views regarding energy efficiency. They believed that without a substantial resource capacity increase, energy consumption reduction was indispensable. Their conclusion was that efficiency in generation and demand management were key policies.

The afternoon sessions were opened with two special presentations by Dr. Stratis Zacharis and Dr. Andrea Kollmann. Dr. Zacharis introduced his consulting firm, which operates internationally in the fields of energy, environment and water.



*Figure 7 Dr. Stratis Zacharis, EXERGIA, Greece*

Then, Dr. Kollmann presented the results of the ECHOES International Survey conducted in 28 languages with 18 thousand respondents from 31 different nations. She stated: “The fundamental objectives of the survey were to understand factors affecting individual and collective energy-related choices and behaviors, illuminate differences

between countries in energy choices and attitudes, show roles of policies in energy behavior and decision making, and identify barriers to specific energy-relevant behaviors.”



Figure 8 Dr. Andrea Kollmann, Energy Institute-Johannes Kepler University

Following special presentations, the second session was launched, entitled as “Suggestions and recommendations for a better understanding of the factors driving energy choices and energy related behavior”. In this session, the audience were presented with the main outputs and results of six energy-related case studies conducted in different countries through the ECHOES project.

The case studies regarding e-ferris and online e-mobility in Norway were presented by Simen Rostad Sæther and Marie Nilsen from the Norwegian University of Science and Technology. Sæther pointed out that one third of the total ferry fleet were electric or electric-hybrid, and all new ferry tenders in Norway required low-emission technologies. He attributed the success of this project to three main factors: public support schemes focusing on market transformation and market creation, ambitious and technologically-knowledgeable public procurers, and the country’s ambitious climate targets. He then presented the policy recommendations related to further developments in e-ferry implementation.



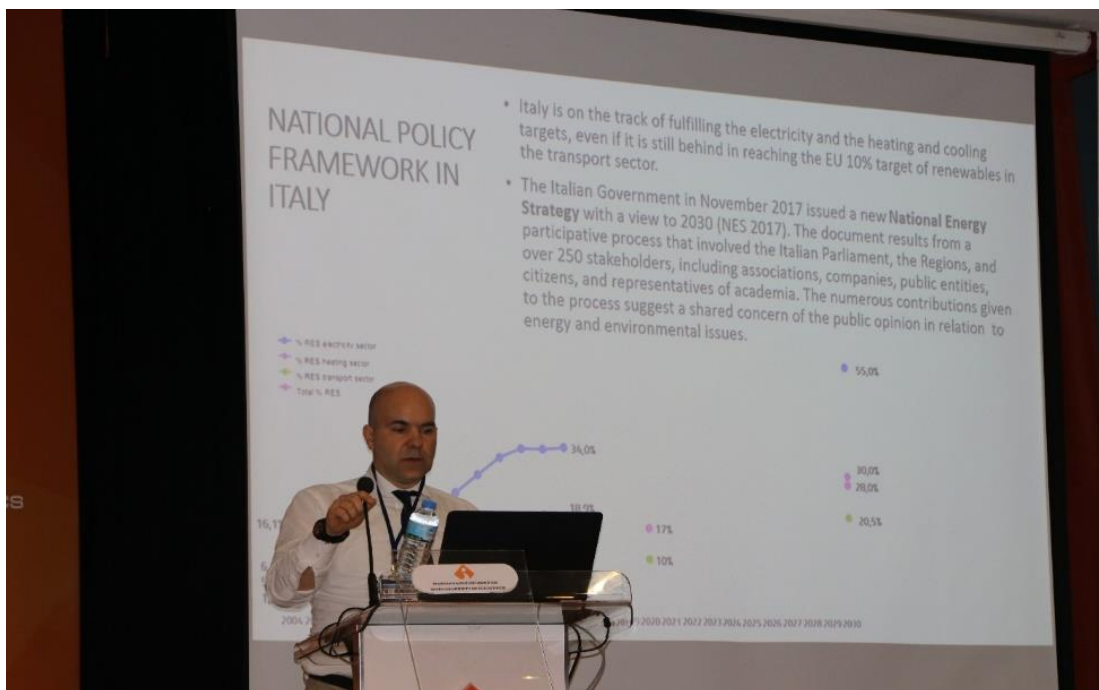
*Figure 9 Simen Rostad Sæther, The Norwegian University of Science and Technology*

Nilsen's focus was on the results of an e-mobility case study conducted with netnography, an online research method. The results revealed multiple barriers to the use of electric vehicles: long waiting lines for repairs, maintenance cost, safety concerns, battery capacity life, waste management, lack of awareness, reduced performance in cold weather, price increase in electricity, doubts over environmental friendliness, and electricity powered by coal.



*Figure 10 Marie Nilsen, The Norwegian University of Science and Technology*

The case study presentations continued with Dr. Giuseppe Carrus's introduction of a self-sufficient district heating project in Northern Italy. Accordingly, he presented the results of the interviews conducted with three different representatives with an active role in the implementation of the district heating power station and in the decision-making processes. Related themes and key points revealed that environmental and cultural heritage represents the initial driving force for this case of energy transition. A secondary force was place attachment and local identity was recognized as the main motivator encouraging sustainable energy systems among local people. Moreover, an emerging sense of community enabled effective communal action. While strong awareness and economic savings were regarded as the major stimuli, bureaucratic processes were identified as an obstacle to development. Consequently, the results of the interviews underlined a number of conditions that must be considered: that use of woody biomass must be coordinated through effective planning in the sector, that active involvement of local stakeholders is crucial for the long-term success of implementation plans, that decision-making is more efficient and sustainable in the long-term when all the possible levels of formal institutions are considered, and finally, that trust between different actors and different decision making levels is a crucial mechanism to ensure the success in the implementation of strategic energy plans.



*Figure 11 Dr. Giuseppe Carrus, Roma Tre University*

The case study regarding energy efficiency in an oil refinery in Spain was presented by Lucia Polo Alvarez. Alvarez introduced the Energy Efficiency Initiative in Spain, and suggested that it was a great success in the organization because it fostered culture, commitment, collaboration and team spirit. She also discussed the need to address the



decision-making processes, which are currently mainly conducted at the highest hierarchical levels of the company, and she recommended the LEAN process, which required a clearer and more effective decision-making processes.

The next presentation, regarding the electrification of transportation in a Metropolitan Municipality in Turkey, was made by Dr. Muhittin Hakan Demir. He introduced an e-mobility project initiated in 2014, which introduced a fleet of 400 electric public buses. It is seen that the project was made possible by formulating the appropriate specifications, as well as designing and implementing efficient monitoring and controlling mechanisms.



*Figure 12 Lucia Polo Alvarez, TECNALIA*

Dr. Demir also listed multiple barriers and motivators regarding e-buses. The barriers were: lack of sufficient personnel, expertise and education, high costs of initial investment, difficulties in allocation of budget and funds for the project, lack of sufficient electric power infrastructure, lack of sufficient charging station infrastructure, supplier companies' lack of sufficient R&D capacities and capabilities, lack of advertising, lack of support from society and from universities, and dependence on imported materials with unfavorable exchange rates. The motivators were top-management vision and commitment, teamwork and enthusiastic personnel, bottom-up mechanisms, compliance with strategic plans, support

by the Covenant of Mayors, positive economic results and positive customer experience, consideration of stakeholders' concerns, a strong technical specification set, and support of the National Science Foundation.



*Figure 13 Dr. Muhittin Hakan Demir, Izmir University of Economics*

Last but not least, Dr. Irina Mutaftchiiska presented the final case study entitled as “Local Leaders in Upgrading the Housing Sector in Bulgaria” focused on the energy efficiency implementations in residential buildings. The results revealed that urban environment was transforming in terms of aesthetics, health and energy efficiency. Moreover, established communities were observed to share their experience and knowledge with others, resulting in increasing awareness on energy efficiency. This could be construed as evidence for the growing numbers willing to participate in the energy efficiency process.



Figure 14 Dr. Irina Mutaftchiiska, University of Architecture, Civil Engineering and Geodesy



Figure 15 Discussants, Session I – II



## Roundtable Discussion

The second day of the Energy Management of Policies Workshop centred around a closed roundtable discussion moderated and led by three moderators from Turkey. Below is the list of participants.

### PARTICIPANTS

Moderator I	Turkey
Moderator II	Turkey
Moderator III	Turkey
Public Sector Representative I	Turkey
Researcher I	Norway
Researcher VII	Greece
Researcher II	Norway
Researcher IV	Norway
Researcher V	Austria
Private Sector Representative I	Turkey
Private Sector Representative II	Turkey
Public Sector Representative II	Turkey
Private Sector Representative III	Turkey
Defense Sector Representative I	Norway
Researcher III	Italy
Researcher VI	Turkey
Researcher VIII	Turkey
Researcher IX	Pakistan
Researcher X	Turkey



Figure 16 Roundtable Discussion -1-

**Question 1:** *What were the most interesting aspects discussed in the ECHOES Project Dissemination Workshop regarding the outputs of the project? Can you share your opinions regarding the case studies such as electric mobility, e-ferries and energy efficiency implementations? You can also compare the current situation in Turkey with other countries.*

**Researcher I:** I believe we gave the right message to the participants regarding the most crucial aspects of the project and its outputs. One of the most interesting aspects discussed in yesterday's sessions was the collectives, namely the individuals in collectives. There was a lack of understanding in literature regarding collectives. Although the project is not directly focusing only on collectives, it clarifies what it really means. That was one of the strongest features of the project. The project also contributed a lot about how people behave regarding energy-related decisions.

**Business Representative:** The results of the research were quite helpful. As I actively work in the sector, I tried to find solutions to the problems and barriers mentioned yesterday. In relation to the research outputs, I realized that Turkey is lacking a concrete energy strategy or roadmap regarding energy transition. I believe cooperation between universities and the industrial sector will be essential to overcome barriers and to accelerate this transition

process. As an equipment provider, we have regular meetings with government agencies. To create a roadmap, we need to have knowledge about the alternative energy resources and we need to closely follow what other countries or competitors are doing in transition to a low carbon economy. Moreover, another barrier stems from the fact that there is biased information as specific private companies dominate the sector with their paid conventions and fairs. This enables only these companies to make themselves heard. Instead, there should be independent researchers and companies that compile this knowledge as a result of open discussions conducted with all the parties in energy sector.

**Moderator I:** It is quite unfortunate that Turkey produces e-ferries but we are not able to use them for transportation purposes. In the future, it might be a better idea to use them ourselves, as Turkey is geographically quite suitable for e-ferries because of its location near gulfs. However, some municipalities in Turkey are now much more aware of the energy transition, and they are interested in using e-busses for public transportation.

**Business Representative:** Incentives have a huge role in extending electric mobility. Norway is highly successful on this issue. That's why e-ferries are quite popular in Norway.

**Researcher I:** Two years ago, the e-ferries implementation was not that successful. Norway has re-organized the ferry company. The organizational change caused the project to be completely successful. .

**Researcher II:** In my personal studies in academia, I conduct research about nuclear energy. It was quite interesting to see that the drivers, motivators and barriers were almost the same for renewable energy technologies, electric mobility or nuclear energy. I conducted field studies in Turkey, France and Germany, via semi-structured interviews. Although the fields are different from each other, the results are similar. It is quite promising to see that the research that we conducted has a validity and credibility. In this energy transition process, no matter what the resource or technology, we have the common problems to be addressed at the community or policy-making level, such as lack of human capacity, lack of interest and support, or cultural norms. For example, most of the people that I interviewed expressed that the major problem of Turkey was lack of a real energy policy in sustainability issues. Consequently, we see the importance of long-term policies with the inclusion of public support.

**Public Sector Representative I:** Turkish Ministry of Energy and Natural Resources has two ongoing projects funded by EU. In this sense, they are trying to write Turkey's strategy on renewable energy. When we look from Turkey's view, it is not promising to directly transpose EU directives and norms. Turkey has a well-established and successful legislation, but the problem is the implementation of the legislation. When the strategy papers are written, it is not sufficient only to consider EU directives or requirements. The responsibilities caused by international agreements must also been taken into account.

**Public Sector Representative II:** On the legal aspects, we experience most of the difficulties in preparing draft legislations in Turkey. For example, as the Regulatory Authority, we prepared a draft legislation on hybrid power plants and sent it to governmental institutions. However, later, we realized that our understanding of a hybrid power plant was quite different than their understanding. This shows that the perceptual differences also pose a barrier in this process. It is quite difficult to harmonize things at public side. That's why the Turkish Electricity Market and other markets in energy sector evolve slowly.



*Figure 17 Roundtable Discussion -2-*

**Question 2:** *The debates in energy transition process are almost the same in several different countries. Can you express your opinion about the similarities and differences regarding implementations in energy transition process of mentioned different countries whose case studies were presented?*

**Researcher I:** From the researchers' perspective, the huge data collected in the project enabled us to compare the situation in sample countries. It was quite interesting to compare Turkey with other European countries.

**Researcher II:** I see similarities across all European countries except for Norway, as Norway has made great progress in the energy transition. Now, Italy's focus is more based on energy strategy. Accordingly, Italy's energy policy is completely framed by security concerns, namely, energy security. In the last three years, there was a substantial increase in motivation for a carbon free economy, probably because of push from European institutions. Yet, it is impossible to predict whether Italy's energy transition will be smooth or not because of interdependency among state actors.

**Researcher III:** As a representative of a South Asian country, I can say that the same legislative problems at institutional level are also experienced in Pakistan. There are significant issues regarding institutional capacity, red tape and bureaucracy. Pakistan also has a vision policy, called Pakistan Vision 2025. Although the objectives are clearly defined, we see a kind of policy failure because of governmental issues and lack of proper implementation. I believe these problems should be immediately addressed as national energy security is quite a sensitive issue. From my point of view, has ECHOES project has revealed universal outputs in terms of cultural behaviors and people's response to low carbon emission. As a researcher, it was very interesting to learn this from the ECHOES project.

**Business Representative II:** After listening to all the comments about energy transition, I want to mention another important issue, which is communication. I believe perception management should be achieved through campaigns to raise awareness. Unfortunately, these issues are only discussed among academicians, public institutions or small communities, and the public does not have any idea about energy transition. That's why the campaigns should be conducted to raise public awareness. Personally, I did not have much idea about energy perception, energy consumption decision-making, energy behavior or energy culture before attending these kinds of workshops. I think people currently do not care about these issues, and this should be immediately fixed. What we are discussing here should also be reflected, and taught to the audiences outside.

**Researcher IV:** We conducted a survey with 18 thousand respondents, which was quite an interesting activity. At the end of the survey, we observed differences between sample countries in terms of energy lifestyles. The survey results show that everyone is so aware of these energy-related issues, and everyone wants to take a step for energy transition, but then, you realize that this is not really the case. Namely, this does not reflect the true situation. Although the level of awareness seems to be so high in theory, the implementations do not reflect the same picture in practice.

**Researcher I:** When you take these results, you see that everyone supports these transition activities, but not in their own backyard.



**Researcher V:** The large scaled accidents are more influential in pushing state actors to prepare legislations and take further steps. However, the progress for combat with climate change is so slow in contrast to the progress experienced after these large scaled accidents. This shows that climate change, unfortunately, is not seen as a serious threat yet.



*Figure 18 Roundtable Discussion -3-*

**Question 3:** *When the research proposals were designed, multiple methodologies were included as there were researchers from different backgrounds. Then, we decided on netnography. Can you give a brief information about this new methodology of netnography?*

**Researcher V:** Netnography is an interesting way to conduct a research, and it allows you to observe how individuals behave toward one topic, and in relation to other topics. The study shows that people who are against electric mobility also have negative attitudes towards other ways of change. This means they show a resistance to change in general sense.

**Researcher II:** Netnography is quite useful for the analysis of big data. I believe it will be used more frequently in the future as a powerful research method.

**Researcher I:** All these research and analyses conducted in this project show that resistance is one of the major barriers. Generally, personal norms cause resistance to change.

**Public Sector Representative I:** Regarding the issue of resistance to change, I strongly believe that people should be educated from an early age, and they should be well informed about climate change. We see that everyone has serious concerns about large scaled accidents such as power plant accidents, but they do not have any idea about the adverse impacts of climate change and global warming. People say that they do not want to use hybrid cars as they do not like them. This cannot be a reason not to prefer hybrid cars. What I want to highlight is that people should be informed about the solutions to alleviate the negative impacts of climate change and high carbon emission.

**Question 4:** *It is seen that EU regulations and directives are taken so seriously. However, under some conditions, the current situation in a non-member state might not be suitable for direct transposition of EU laws because of political issues as well as social and cultural aspects as behaviors and tendencies differ. What do you think about it?*

**Researcher I:** Norway is very much in line with EU regulations, but the problem is that Norway is not a part of EU, and this supranational organization is not the best in the world, in terms of local democracies. Theoretically adopting EU laws and legislations seems quite easy, but the implementation phase might create some challenges.

**Public Sector Representative I:** EU regulations are required to be directly transposed to the national legislations, which means that even a single sentence cannot be amended. On the other hand, directives are the norms of EU, and they are more flexible. This means any member state should adopt this directive in a way that it will be suitable with their own national legislation. Namely, the directives can be construed in the most suitable way.

**Researcher VI:** As a concluding remark, regulations or directives alone are not enough to achieve a transition. An effective infrastructure is also necessary for energy transition and greener environment, at least for electric mobility part. I also believe that incentives should be provided to ensure an energy transition, which is impossible to achieve without the participation of the majority of the population.





*Figure 19 Roundtable Discussion -4-*

## Conclusions

The aim of the 7<sup>th</sup> Energy Management and Policies Workshop & ECHOES Project Dissemination Workshop was to discuss challenges and opportunities in transition to a low carbon economy, as well as to present the outputs of multiple case studies conducted within the framework of ECHOES project. The researchers were also provided an opportunity to gather feedback regarding the results of their case studies. The outputs of the case studies highlighted the various motivators and barriers in energy transition in different fields. The outputs also provided suggestions and policy recommendations for further improvement. The workshop was found to be beneficial in general, with a number of clear and important general messages emerging from the discussion of diverse contexts.

Overall, this workshop productively spread the evidence from good practices and successful implementations related to energy transition among the EU members and associate countries as targeted.