Towards climate change mitigation and adaptation in cities – the role of Greek Municipalities and Prefectures. Findings and outcomes from the EMPOWERING Project.

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Abstract. Climate change is a global challenge that must be tackled in order to secure a safe planet for the young generations, as it threatens Europe’s ecosystems, human health and economy. In this line, the European Union is focusing on a strict 2030 energy agenda in order to achieve a climate-neutral Europe by 2050, in line with all necessary reductions by developed countries as a group and at the same time make a fair and ambitious contribution to the Paris Agreement. Since, 70% of cities are already dealing with the effects of climate change, along with their rapid growth and the high intensity of urban sprawl, Local Authorities’ role is of vital importance. Moreover, besides environmental and social related factors that drive the battle against climate change, economic parameters represent key drivers of CO2 emissions’ reduction policies. In this framework, the most important initiative on a European Level, is the Covenant of Mayors – CoM that was created in 2008 and gathers more than 9.660 signatories globally that have voluntarily committed to create Sustainable Energy and Climate Action Plans (SECAPs). In this line, the EMPOWERING Project, launched in 2017, aimed at supporting Local Authorities enhance their capacity in terms of planning efficient energy measures within the new European 2030 framework for Climate and Energy Policy. This research presents the main results and conclusions of the authors’ technical support to the Region of Central Macedonia (RCM) and its participating municipalities.

1. Introduction
Globally, cities are struggling to mitigate and adapt to climate change. According to the European Commission, around 75% of Europeans live in cities and urban areas account for 60 to 80% of global energy consumption and around the same share of CO2 emissions (1). By 2050, 6.7 billion people will live in cities (2) and the future growth of the world’s urban population is expected to be highly concentrated in just a few countries (3). Cities represent the centre of our living environment, incorporating a series of diverse factors, such as size, density, infrastructure, buildings’ typologies, morphology. Therefore, cities are unique in terms of their identity, needs and sustainability potential (3). The diversity of these characteristics, along with the human factor leads to an organic form of cities that requires flexible and interactive governance structure with the cooperation and support of citizens and stakeholders from the private sector, especially by means of mitigation and adaptation policies. Against this background, cities are first responders in the climate change crisis due to their direct link to the public and their focus on providing day-to-day services and, therefore, tend to be more realistic and practical than senior levels of government (3). Thus, although governments define the national goals and the framework for tackling climate change, it is cities that must set the specifications and design, fund and implement custom solutions to become more resilient and less vulnerable. In this line, climate
change forces city administrations to involve their constituencies, enhance public awareness and understand citizens' needs in order to ensure their essential support for all introduced actions. In terms of central governance and higher organisational structure, it is important to recognize the changes in the European structure, with regional policies representing EU’s main investment policy; during the period 2014-2020 €355.1 billion were invested to address the diverse development needs in all EU regions through the Cohesion Fund and the European Regional Development Fund, an amount that equals almost a third of the total EU budget. Thus, prefectures and regions can profit through direct funding and offer municipalities a significant potential in terms of planning and financing climate mitigation and adaptation actions on a local level. Against this background, the collaboration of prefectures and municipalities are a necessity in order to design feasible, bottom-up energy efficiency actions, ensuring healthier living environments for citizens, on a municipal level.

Besides the administrative aspect, it is important to remember the financial consequences of extreme weather phenomena that caused damages of approximately €283 billion during 2018 and pose serious threats to about two-thirds of the European population by 2100 (6). According to the European Environment Agency, economic losses from weather and climate-related extremes had cost €453 billion over the 1980-2017 period, whilst the average economic losses for each EEA member state totalled about €13 billion between 2010 and 2017 (7). Therefore, Europe is constantly enhancing its respective funding mechanisms, such as the European Local Energy Assistance (ELENA) facility which will benefit from EUR 97 million of new funding from the European Commission for its envelope dedicated to residential buildings that will support project development services for energy-efficiency investments in privately and publicly owned housing, assisted by the European Investment Bank (EIB) (8).

Besides the economic aspects, the climate crisis has significant social dimensions, affecting more than 200 million people every year (4). For the 2.6 billion people who live on less than US$ 2 a day, climate shocks can trigger powerful downward spirals in human development. More specifically, in terms of the social threats that cities in developing countries already deal with, more than 50% of the current population lives in urban slums (5). In addition, poor housing quality due to aged and damaged construction materials, along with highly vulnerable areas and inadequate access to infrastructure intensifies their vulnerability drastically. Furthermore, 15% of the world’s urban population lives in cities located in low elevation coastal zones that are highly exposed to impacts of sea level rise and extreme weather conditions (6). According to the Joint Research Centre (JRC), climate change related deaths are expected to increase at European level in the next 90 years from 41,556 additional annual deaths between 2010-2040 to more than 140,000 in the latest 30 years of the century (7).

2. The framework

Since each city is different in terms of size, population, geography, location and climatic conditions, density as well as in terms of other important factors related to socioeconomic characteristics, Local Authorities’ decisions are more likely based on bottom-up approaches, leading to more precise and tailor-made intervention scenarios, based on each city’s needs, with immediate and fruitful results. Besides vulnerability and resilience related issues, European cities must drastically contribute to the mitigation of climate change, since they are responsible for about 70% of the overall primary energy consumption, and are expected to consume 60-80% of the energy resources by 2030 (13). Against this backdrop, the Covenant of Mayors initiative (CoM), which recently went global, is the main channel for European support to cities for climate-change mitigation and adaptation actions. At the moment, 9,664 signatories have submitted 6,281 Action Plans (Sustainable Energy and Climate Action Plans (SECAPs)) for climate mitigation and adaptation strategies as of September 2019. The commitments for Covenant Signatories are linked to the European Union’s Climate and energy policy framework and since October 2015, local authorities commit to reduce their CO₂ emissions by at least 40%, increase their resilience to the impacts of climate change and provide secured access to sustainable and affordable energy by 2030 (14). Thus, signatory cities pledge action in line with the EU 40% GHGs’ reduction target along with sustainable measures to deal with the mitigation and adaptation aspects of climate change. Within this frame, each city must set specific key actions that must be implemented based on a thorough Baseline Emission Inventory (related to their mitigation actions) and a Climate Risks and
Vulnerability Assessment (related to the adaptation strategy) and is committed to report every two years on the implementation progress of its plans. These Action Plans are much more than simple Reports dealing with urban energy efficiency and generalised goals. They express a city’s vision to become energy independent and resilient, by setting specific and long-term commitments, along with the respective actions and processes so as for Local Authorities to achieve the European 2030 and 2050 goals. Thus, SECAPs are above political persons, leaders and Mayors and must be respected accordingly. Regions and prefectures, thus Public Authorities at a higher administrative level, are able to promote coordinated action of municipalities within their territories (8), eliminating conflict of interest and enhancing joint and common actions to ensure feasibility and greater funding opportunities as well as to create economies of scale and promote the feasible organisation of advisory services to citizens and promotional initiatives (15).

2.1. Greek cities and the CoM initiative
The research review highlights a rather low involvement of Greek municipalities within the CoM initiative, designate specific barriers, such as lack of information and communication about the CoM initiative and its respective obligations, difficulties in funding the development of the SEAPs, due to lack of expertise and understaffing, little support from citizens as well as administrative barriers (3). In the same time, the role of Regional Authorities is also important in terms of integrating rural areas in their territorial sustainable development plans, based on the collaboration between rural and urban areas in terms of supply of energy, products and services (8). Many Local Authorities, especially in Greece, are constrained due to harsh austerity measures, while cities are pushed to consider up-front investments for mitigation and adaptation actions globally (10). In contrast to Italy, a pioneer in terms of its municipal CoM signatories (due to the legislated the obligation of municipalities with a population of greater than 50,000 inhabitants to develop a Municipal Energy Plan), Greek cities are driven only by voluntary initiatives to join the CoM initiative and create SEAPs. Hence, although by February 2011 50 Greek cities (12% of the population) have signed the CoM Initiative, the major restructuring and reforming law for the Greek municipalities called “Kallikrates plan” had great effect in the farther developments. More specifically, 58% of these signatories were unable to deliver their SEAPs within the required timeframe. Together with the financial crisis that started in 2009, the slowdown of new signatories is evident until recently. At the moment, 221 Greek municipalities have signed the Covenant of Mayors, 125 of which have submitted SEAPs, 92 of them were accepted by the JRC and only 25 cities have submitted their MEIs (11), indicating a very low percentage of implementation of their SEAPs. The EU MS showing the highest share of signatories with submitted SEAPs under the coordination of a CTC is Spain (98%), followed by Belgium (93%), Italy (70%), with Greece ranking at the 6th place with 32% share of submitted SEAPs with a support by regional authority, mainly due to the contribution of DAFNI network that promotes CoM initiative among Greek island signatories (16).

3. The EMPOWERING Project
The Region of Central Macedonia (RCM) participated in the project EMPOWERING “Empowering local public authorities to build integrated sustainable energy strategies”, funded by the European Union’s Horizon 2020 program. RCM is the second largest in Greece, consisting of 7 regions and 38 municipalities and joined the EMPOWERING project as one of the six EU regions aiming to move towards the EU-goals for a low-carbon society. Hence, the goal of RCM was to enhance the capacities of its municipalities and regional representatives in order for them to be able to design feasible and integrated energy strategies and plans within the CoM initiative (8). This was the overall EMPOWERING Project’s objective, namely, to support Local Authorities bridge the gap in terms of their expertise and knowledge required to plan energy measures within the new European 2030 framework for Climate and Energy Policy. The project was launched in 2017 and ended in 2019. The technical support’s results, presented in this paper, focused in supporting 7 RCM Municipalities that are already members of the CoM initiative and 3 that represent new signatories, all of them members of the Local Energy Board (LEB) that was established within the framework of the 3rd Work Package (WP3 Transnational exchange and Learning Activities) of the EMPOWERING Project. Existing CoM members committed to update their 2020-oriented Sustainable Energy Action Plans (SEAPs) to meet
EU’s 2030 targets whilst new signatories committed to create a Sustainable Energy & Climate Action Plans (SECAPs) based on an analytical Baseline Emissions Inventory (BEI) and a Risk and Vulnerability Assessment (RVA), although the latter was not a requirement of the project. It is important to note that all existing CoM members proceeded only with the update of their SEAPs, without undertaking any actions related to the climate-change related approaches and the respective adaptation measures, as it was not a requirement of the Project. Municipalities of the Local Energy Council that participated in the EMPOWERING project with existing 2020 SEAPs were Kalamaria, Thessaloniki, Pylaia-Chortiatis, Pavlos-Melas, Kordelio-Evosmos, Edessa and Thermi, whereas new signatories were Naoussa, Orniokastro and Pidna-Kolindros.

This paper focuses on the results of the technical support provided by the authors to the RCM as technical consultants within the framework of Work Packages 4 and 5 with the following deliverables: (i) WP4 - The organisation and implementation of eight “building capacity” workshops; more specifically, three seminars targeting municipalities with existing SEAPs, three seminars for municipalities that are new signatories and, finally, two workshops designed for representatives of the RCM. These workshops aimed at enhancing the technical background of municipalities’ and the RCM’s representatives by means of the CoM commitments, the respective deliverables (MEI, SECAPs etc.) and of course to thoroughly inform them and promote the importance of the initiative, along with available funding mechanisms and the most efficient methodological approach towards the successful implementation of their Action Plans. (ii) WP5 – the technical support of seven members of the Local Energy Board (LEB) for the update of their existing SEAPs according to the 2030-goals, three municipalities for the design of new SECAPs (the adaptation was not a requirement of the Project). In addition, the technical support of the RCM for the delineation of its Vision for 2020, 2030 and 2050 energy efficiency and sustainability goals and the creation of a feasible funding tool to support these efforts.

3.1. Objectives of this research
This research aims at highlighting all problems that were detected during the EMPOWERING Project that are linked to institutional and governance barriers, legal convergence, financial restrictions and other parameters which affect the feasible elaboration and update of sustainable SEAPs as well as their efficient implementation. Solutions will be proposed for each barrier and the status of the municipalities that participated in the project will be presented, highlighting differentiations between urban and rural municipalities of the RCM. Finally, the role of the RCM in supporting and financing its municipalities will be examined and a methodological approach will be proposed in order to accelerate climate mitigation actions in local and regional level.

3.2. Methodological approach of the technical support
In terms of the methodological approach, the technical support was based on the steps described below. More specifically, for the technical support of the municipalities the milestones concerning the support are summarised as follows:
  i. Prepare the presentation document so as to help the municipal representatives introduce their (updated) SEAP to the municipal council. In order to facilitate the council discussion a specific commitment document was also prepared for each case.
  ii. Support the municipalities to find and collect the information for their (updated) BEIs, how to organise this information and how to elaborate it.
  iii. Update/create and commit to the municipality’s long-term Vision for its energy efficiency strategies in line with the EU’s goals.
  iv. Define a series of main work-projects and actions that must be included within the (updated) SEAP in order to achieve the 2030 goals.

Finally, the milestones in terms of the support offered to the RCM representatives focused on the following methodological steps:
  i. Define of a specific 2050 Energy Vision, highlighting the main energy and environmental challenges of the Prefecture.
ii. Deploy three development scenarios for 2020, 2030 and 2050 that will be the key milestones of the RCM towards a fully carbon-free society in line with EU’s long-term vision.

iii. Create and propose an innovative scheme for the efficient funding of available financing opportunities that can support the Prefecture’s municipalities to efficiently implement their energy efficiency Action Plans.

3.2.1. Analytical milestones’ description for the support of the municipalities

In order to efficiently support the municipalities in terms of their capacity and technological background so as to be able to monitor and create successful SEAPs a series of methodological steps were followed. The technical support was applied in two stages, according to the requirements of WP4 and WP5, namely PHASE 1 and PHASE 2. The first phase focused on the capacity building and information of the municipalities and the RCM’s representatives, while during the second phase specific tasks were targeted that are described in Figure 1. The first step included a series of analytical presentations that were created specifically for the needs of the municipalities and the RCM. In addition, a series of Homeworks was created by the consultants that provided them with valuable information concerning the barriers, lack of background, available technical projects and all related existing material for each municipality. This material was used to analyse and determine the needs of each Local Authority in terms of tailor-cut support for the update/development of their SEAPs and the RCM’s support in enhancing its role as a valuable partner and coordinator of municipalities towards a carbon-free society.

![Figure 1](image)

**Figure 1.** Timeline and milestones of the methodological approach

**STEP 1** - The “fundamentals” – Training for existing and new signatories and the RCM’s representatives

The “fundamentals” are a series of supporting and training material for the municipalities’ representatives, both existing and new signatories, in the form of Workshops, Lectures and Homeworks. The related material was adjusted to the needs of each targeted group, mature CoM municipalities and new signatories. In the same line, RCM’s representatives were informed on the CoM initiatives and on ways to efficiently support signatories in terms of creating, implementing and financing efficient SEAPs,
as well as on the importance of creating an ambitious Energy Vision for 2020, 2030 and 2050 (Figure 2 and Figure 3). All material provided by the consultants was accessible for the participants through an online database that was constantly updated and enhanced throughout WP4 and WP5.

**STEPS 2, 3 & 4 – Preparation and organisation of B2B meetings**

Steps 2 and 3 were important in order to organise and prepare the B2B meetings which took place during step 4. Thus, the consultants supported the municipalities and the RCM in creating working groups, involving all offices and agencies that could be engaged in the process of the SEAPs. The representatives were informed, and meetings were organised. The consultants created a series of priorities based on the data collected by the Workshops and the Homeworks for each municipality in order to guide the discussions of the B2B meetings towards the most efficient direction. Support by means of prioritising the technical projects, updating/creating the municipal Vision, as well as collecting and elaborating the data needed for the BEIs was provided via B2B and internet meetings. The results of Homework 3, that concerned the incorporation of the projects included in the Municipal Technical Programs and Municipal Operational Plans, were elaborated and enhanced with extra projects under the supervision of the consultants, in order to obtain a first draft of the Action Plan for each signatory.

In terms of the RCM, meetings with all involved parties and the Governor’s representative took place, were the Vision was outlined and all agencies were informed and encouraged to support the RCM’s goals towards an energy efficient future. Issues concerning the lack of available data and tools in order to evaluate the current energy profile of the Prefecture were discussed and solutions were provided.

**STEPS 5, 6 & 7 – Supporting documents for the municipalities and the RCM**

The consultants created a series of supporting documents for the municipalities and the RCM, based on the outcomes of the B2B meetings and the demands of the EMPOWERING Project. Thus, it became evident that municipalities needed very specific technical support in terms of using the tools of CoM and EMPOWERING as well as in terms of finding authoritative sources for the data collection of their BEIs and elaborating these data efficiently. Therefore, the consultants created a very thorough documentation called “Roadmap”, that can be used by the representatives as step-by-step manual so as to create a successful SEAP that includes examples, sources and methodologies for each part of the SEAP. Finally, presentation documents were prepared and submitted to each representative in order for them to able to support the CoM initiative in the municipal council. By means of the RCM support, the consultants created a thorough documentation regarding the ways and the framework for creating a solid and bold Vision including suggestions and specific guidance. In addition, an innovative financing tool was created and proposed using existing mechanisms of the RCM based on the Regional Operational Program and was presented in the form of a case-study.

### 3.2.2. Tools

For the development of the SEAPs and the data elaboration of the BEIs and MEIs two tools were available for the municipalities, namely the official CoM tool and the EMPOWERING tool. The official CoM tool is available for download in the website of CoM (SECAP_Template_CoM.xls), developed by the CoM and Mayors Adapt Offices along with the Joint Research Center of the European Commission. Municipalities have the opportunity to insert and elaborate their energy profile data along with their Mitigation Actions. The respective Mitigation Report and their BEIs and MEIs are automatically produced. The EMPOWERING tool was developed by the Center for Renewable Energy Sources & Saving (CRES) that was a Partner of the EMPOWERING Project. The “EMPOWERING methodological tool” was provided to all Local Authorities in an excel format and enables the preparation of all energy data for their final integration into the CoM tool. Hence, the user can use this excel to gather and organise all necessary information concerning the sectors of buildings, public and private transportation, industry as well as all other energy sectors separately and thereafter calculate the overall final energy consumption per sector that must be filled in the CoM tool. The tool provides two options to calculate the energy profile with actual energy data or using assumptions with approved methodologies. Moreover, the EMPOWERING tool offers a forecasting tool which represents an excellent opportunity for municipalities and especially the RCM to test various energy efficiency
scenarios in terms of their sustainability and goals that can be achieved in specific timeframes. Both the CoM and the EMPOWERING tools allow signatories to summarise the results of their BEI as well as the key elements of their SEAPs. Since, all information and data are structured in logical steps, they support a straightforward SEAP assessment while providing constant feedback to the signatories. Most importantly, these tools can be used for providing continuous visibility to the city’s SEAP, energy profile as well as safe monitoring of the projects’ status.

4. Overall results
This chapter presents some of the most important findings of the EMPOWERING Project in terms of the outcomes during the technical support to the municipalities and the RCM. The key findings described below, focus on the barriers that municipalities and the RCM are facing in order to efficiently implement all necessary actions to be in line with the CoM initiative, and, at the same time, implement their SEAPs in order to actually achieve a drastic minimization of their GHG emissions in their territories:

A. Administrative barriers:

- The RCM was the only Partner of the EMPOWERING Project that is a pure governmental body and not a regional agency, thus, having no authority on municipalities and being in urgent need for external expertise in the field of energy efficiency and CoM requirements.

- The municipalities had to assign the overview and organization of their participation within the EMPOWERING project to specific employees and build supporting teams that will work on the...
deliverables and more importantly on the vision and the SEAP’s related actions, which was a very time-consuming process (reduced willingness to be involve due to work overload).

- All municipalities are understaffed in terms of energy efficiency experts or at least someone that can understand, follow and further organise the related required tasks. At the very best, a single employee was appointed with almost no background to work on the SEAP.
- The municipal elections in May, revealed the lack of awareness among the elective persons, especially mayors; specifically as concerns municipalities that are new signatories, mayors preferred to focus their campaigns to standard campaign pledges and avoid commitments and expenses related to the CoM initiative and to a clear Energy Vision. This indicates that new balances and prioritisations of governance are essential within municipalities. It also underlines the need to create agencies and offices within the municipal administrative structure that will exclusively deal with the CoM initiative as well as the efficient monitoring, update and implementation of their SEAPs.
- Since all SEAPs were developed by external consultants hired by specific offices of the municipalities, there is often restricted or no relation at all to the Municipal Technical Plans of the cities, leading to incompatibilities at the expense of an efficient SEAP implementation.

B. Technical barriers

- The data collection process for the BEIs and MEIs is not only depending on each municipality’s effort but also on the responses of other sources regarding energy data, such as the electricity and other energy providers, the Hellenic Statistical Authority etc., which is often time-consuming due to bureaucracy.
- Both the employees working in the municipalities as well as the majority of the consultants, lack in developing innovative tailor-cut ideas. This has to do with poor information, awareness as well as in-depth knowledge and understanding of each city’s needs.
- Since in most cases SEAPs were elaborated by external consultants, there is often no access to the data of BEI and MEI and the CoM tool input. This forced some municipalities to either turn to the same consultants again for their updates or perform their BEIs from scratch.
- Due to the lack of technical background of the municipal employees and the work overload, cities are captive by external consultants.

C. Financial barriers

- The financial crisis, that started in 2009, is one of the reasons for not being able to comply with the CoM’s procedures; Greek cities faced a 40% cut in their budgets as a result of the crisis (20).
- The lack of awareness in terms of funding mechanisms not only as regards the implementation of the SEAPs (for both hard and soft measures) but also for their elaboration and development (hiring of experts, preparation of bankable projects) intensified the fear of municipal electives to become involved with such ambitious ventures.
- Finally, mayors often have different priorities and promote measures with more direct results, since they want to attract voters within a 4 year timeframe.

D. Lack of awareness

- Most municipalities have no support or guidance by an appropriate supporting structure and, hence, are poorly informed on the benefits, commitments as well as on organizational issues related to the development of their BEIs and SEAPs.
- Out of the more than 500 mayors participating in the Second CoM Ceremony, only 7 were from Greek cities (accounting to less than 15% of the Green signatories at that time) (20), which is an evidence of lack of actual involvement by the elective persons.
- The question “who is going to pay for that” is firmly established in the mentality of Greek mayors and elective persons in general, indicating that they are not thoroughly informed about funding mechanisms and instruments.
• Municipal employees and citizens have low or no information at all regarding the importance of the CoM initiatives and the benefits that derive from the implementation of the SEAPs and are therefore not willing to support the municipality to implement the related actions.

5. Solutions and ways forward

In this chapter a series of solutions is presented that would enhance the municipalities’ involvement with the CoM initiative and help prefectures better support their signatories towards their SEAPs efficient implementation. It is important to highlight the fact that the suggested measures are applicable to almost all Greek municipalities, since they face the same barriers analysed in the previous chapter.

Solution 1. – Enhancing the role of Regional Authorities

One of the most important key actions is to drastically enhance the role of Regional Authorities within the CoM initiative. The benefits for signatories that are supported by an official Covenant Territorial Coordinator (CTC), have been proved in many cases (i.e. Italy). Hence, CTCs can offer technical support, increase public awareness, draft and finance the municipal SEAPs, perform preliminary assessments as well as collect and analyse the BEI data in order to assist signatories design feasible actions and gain access to financial resources (15). In order for Greek Regional Authorities, such as the RCM, to successfully plan and implement Action Plans, the following tools and mechanisms are proposed:

• Work with the EMPOWERING forecasting tool -or any other similar tool- to collect, analyze and plan specific measures based upon the actual energy profile of each municipality within their region. Using this tool will help RCM to collect, analyze and understand its actual energy profile, a process that is of vital importance in order to plan bottom-up based, successful measures and help municipalities increase the positive impact from this process.
• Determine a clear Vision and Implementation Strategy for a carbon-free Region.
  Based on the findings of the regional energy efficiency analysis as well as the needs and the pain-points of the region, the RCM must define and commit to a bold Vision and design all necessary actions that eventually lead to a carbon-free region.
• Utilize the Regional Operational Program as innovative funding tool.
  According to the energy profile that will be determined based on the evaluation process described in the previous step, the RCM can design specific priority axes that will ensure funding mechanisms for the implementation of the municipal SEAPs.

Overall, enhancing the role of CTCs on a national level, in terms of the CoM initiative, will help them tackle the lack of holistic Action Plans on a Regional Level and more importantly support their municipalities towards common actions to avoid conflict of interest and thus, ensure faster and more robust implementation of municipal SEAPs.

Solution 2. – Exploit the new Law applicable to Local Government – “Kleisthenis I” (Law 4555/2018)

Municipalities have an excellent opportunity to tackle the barriers related to under-staffed agencies and lack of technical background through “Kleisthenis I” and simultaneously profit from numerous other opportunities. Thus, understanding and exploiting the advantages foreseen within “Kleisthenis I” is of vital importance. Some of the guidelines with regard to Local Authorities that are specified within Article 182 of “Kleisthenis I”, enacted 2018, are:
- manage fuel sources for the production of thermal or cooling energy
- distribute energy
- provide energy services
- attract and manage funds and investments for RES and energy efficiency projects

It becomes evident that most of the administrational barriers can be solved through “Kleisthenis I”, since municipalities can now create Energy Companies that can produce, distribute and manage energy as well as create, implement and monitor SEAPs and other energy efficiency related actions.
Solution 3. – Raise awareness
Raising public awareness and boosting citizens’ participation with regards to SEAPs’ efficient implementation is crucial (21). Public engagement related actions are of vital importance, in order for municipalities to reach the European 2030 goals ((22), (23), (24)). Involving the younger generation by enhancing participation of schools, organising campaigns, workshops, seminars, create mobile applications, web-tools and offering financial incentives, are some of the measures that can be incorporate within an ambitious SEAP. In the same line of thought, awareness raising within municipal authorities is also of great importance; thus, elective persons and municipal employees must be informed about the benefits of the CoM initiative in order to commit and support the implementation of SEAPs. RCM’s role within this context is crucial as it can promote the establishment of Intereuropean cities’ networking with shared needs, present results of case studies and solutions to similar problems and inspire municipalities through best-practise examples.

Solution 4. – Create an ambitious Energy Vision
By fact, a bold Energy Vision is the key parameter to a successful SEAP that will accelerate all benefits deriving from its implementation. It will not only ensure carbon free city and better living standards but also tackle energy dependency and allow faster development in municipal level. In the case of Greek cities, that face the problem of energy poverty ( (25), (26), (27)), SEAPs can become a powerful tool to tackle this problem that has serious social implications, beyond elective persons and mayoral priorities. Finally, a SEAP should be seen as an instrument to redefine a city’s identity, attract visitors and become a lighthouse of European urban energy efficiency.

6. Conclusions
Energy efficiency and climate change must be in the centre of urban political discussions, actions and commitments. The EMPOWERING Project revealed the lack of ambitious goals and clear Energy Visions amongst Greek municipalities. This was one of the most important aspects that was highlighted throughout the EMPOWERING project, since it demands a deep transformation of governance mentality, especially in terms of the Greek reality. In this line of thought, it becomes evident that the role of Regional Authorities is of vital importance, since they can coordinate, inform, train and financially support municipalities to successfully design and implement their Action Plans. Therefore, the role of Regional Authorities with regards to the CoM initiative must be enhanced whilst national initiatives must be established only on the basis of central governance in terms of organisational and leadership perspectives. It is important to motivate elective persons, mayors and municipal employees so as to ensure their long-time commitment to the monitoring and implementation procedure of SEAPs along with a strong engagement of citizens. In terms of institutional barriers, the major problem of understaffed municipalities can be solved through “Kleisthenis I”, with the establishment of Energy Companies that will take over the SEAPs load from municipal employees, ensure its feasible implementation and avoid the involvement of external consultants. Moreover, the constant technical support of the CoM offered to signatories, in terms of tools, guidelines and funding mechanisms, along with the EMPOWERING tool, are valuable instruments for municipalities and Regional Authorities. Finally, the Project showed that the collaboration of Regional Authorities with their municipalities is crucial in order to create sustainable regional Action Plans, based on actual facts and data, with shared goals, offering efficient solutions for the whole geographical territory towards a carbon free society. Given the fact that all legal, financial and technical support exists, it is clear that the CoM commitment is a matter of willingness and as Aristotle said, “pleasure in the job puts perfection in the work”.

7. Acknowledgments
The authors would like to thank the department of the Independent Directorate of Innovation and Entrepreneurship Support of the Region of Central Macedonia for its collaboration within the EMPOWERING Project.
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