

DELFT
GRENOBLE
VÄXJÖ
MISKOLC
KAUNAS
VASTSELIINA

GUIDELINES FOR SUSTAINABLE ENERGY MANAGEMENT

BASED ON THE SESAC PROJECT EXPERIENCE





VASTSELIINA

VÄXJÖ

KAUNAS

DELFT

FREIBURG

MISKOLC

GRENOBLE

+ Further reading

You can find more details about the SESAC project at www.concerto-sesac.eu, including case studies and training materials on the wide range of actions implemented in the SESAC project.

More ideas about management systems can be found at www.iclei-europe.org/topics/sustainability-management/

Introduction

These Guidelines are a result of the SESAC project – Sustainable Energy Systems in Advanced Cities – running from 2006 to 2011, with the objective of disseminating the energy management experiences of the six municipalities involved in the project.

As the name of the document suggests, the municipalities of Delft (NL), Grenoble (FR), Växjö (SE), Kaunas (LT), Miskolc (HU) and Vastseliina (EE), with the help of ICLEI – Local Governments for Sustainability, dedicated themselves to improving and implementing local sustainable energy management systems. Local decision-makers and municipal energy practitioners can use this publication to develop, implement and manage local sustainable energy action plans.

Experiences in the SESAC municipalities, conducted between 2005 and 2011 and ICLEI Europe's work with environmental management systems are the basis of these Sustainable Energy Management System Guidelines for Municipalities. The results provide a useful overview of how to approach energy management issues at the local level and serve as a basis for the development of integrated energy strategies by municipalities across Europe.

SESAC is a European project that has accelerated innovation in renewable energy solutions and advanced energy efficiency in the built environment. It is part of the CONCERTO initiative launched by the European Commission; a Europe-wide initiative that proactively addresses the challenge to create a more sustainable answer to Europe's energy needs, focusing on urban areas.



ICLEI – Local Governments for Sustainability

Location

Freiburg, Germany (European Secretariat)

Members

1 100 + in 70 countries

History

ICLEI was created in 1990 with the idea that local action moves the world towards sustainability.

The European Secretariat

ICLEI represents local governments in relevant European policy processes and strategies for sustainability based on practical experiences, and works with the European Commission and other relevant organisations. ICLEI also offers support for integrated management of climate and energy issues.



City of Delft**DELFT**

the Netherlands

Population

96 800

Community characteristics

Delft is in the densely populated province of Zuid-Holland, in the southwest of the Netherlands. Delft's entire historic city centre has been designated a national monument.

Delft profiles itself as a "City of Knowledge", focusing on technology and sustainability.

Energy target

By 2030, energy use will be reduced by 50% compared to 1990, and consist of 25% renewable energy.

Climate target

50% less CO₂ emissions by 2030 compared to 1990, and completely climate neutral by 2050.

Web page

www.delft.nl

**GRENOBLE**

France

Population

150 000

Community characteristics

Grenoble's geographical location in the heart of the Alps has driven the City to face its environmental responsibilities and to lead volunteer political actions in favour of sustainable development.

The district heating and the local gas and electricity provider GEG are owned at more than 50% by the municipality.

Energy target

The energy supply per capita will decrease by 14% between 2005 and 2014.

Climate target

The GHG emissions will be divided by four between 1990 and 2050, and will be reduced by 14% until 2014.

Web page

www.grenoble.fr

**VÄXJÖ**

Sweden

Population

83 000

Community characteristics

Växjö is located in the southern part of Sweden, in a region covered with forests and lakes. It has a tradition of being a centre of administration, education and trade.

The most important energy source is biomass, and the main energy company is owned by the municipality.

Energy target

The energy supply per capita will decrease by 15% between 2008 and 2015.

Climate target

The CO₂ emissions per capita will decrease by 55% between 1993 and 2015, and by 100% by 2030.

Web page

www.vaxjo.se



MISKOLC

Hungary

Population

168 900

Community characteristics

Miskolc is situated in the north-eastern part of Hungary, and famous for its attractive natural and historical attractions. The main economic areas of the city are trade, services, and financial, scientific and educational functions.

The most important energy source is the natural gas.

Energy target

The energy supply per capita will decrease by 20 % between 2000 and 2020.

Climate target

The CO₂ emissions per capita will decrease by 35 % between 1985 and 2020.

Web page

www.miskolc.hu



KAUNAS

Lithuania

Population

350 000

Community characteristics

Kaunas is the second largest city in Lithuania, located at the confluence of two rivers. It is a city of old traditions, and also a large centre of business and industry. The seven universities in the city have 35 000 students.

Energy target

A 20 % increase in energy efficiency by 2020 and a 20 % share of renewable energy sources in the energy mix.

Climate target

The CO₂ emissions per capita will decrease by 20 % between 1991 and 2020.

Web page

www.kaunas.lt



VASTSELIINA

Estonia

Population

2 120

Community characteristics

Vastseliina is situated in Võru County in the Southeast of Estonia, near the border of Latvia and Russia. 50 % of the land is covered by forest. The main energy source is biomass.

Energy target

Reduce energy consumption in public sector buildings and multi-apartment buildings by 25 % between 2006 and 2020. Install CHP plant (biomass) before 2020.

Climate target

Reduce CO₂ emissions in the public sector by 30 % between 2006 and 2020.

Web page

www.vastseliina.ee

An overview of sustainable energy management

Energy is a vital daily resource and one for which demand is growing rapidly. Considering that half of the global population now live in urban areas, that natural resources are dwindling, and that climate change is one of the main challenges facing us today, it is clearly time to change the way we use energy – and to reduce our impact on the environment.

All municipalities have a specific local (geographical, climatic) context that impacts on energy demand and use. In this regard, local governments can help drive local change, shape policies and guide the transition to sustainable energy. This transition period should include taking actions that contribute to saving energy and increase the efficient use of energy (EE) and the use of renewable energy sources (RES) – such as solar, wind, small hydro, wave, tidal, and bio-energy. The availability of local resources – both human and RES potentials – could be explored to move forward with implementing climate-responsible, environmentally-friendly energy solutions that support local sustainable development.

When addressing this, it is also important to consider that each country is unique, with its own environmental legislation and strategy. These factors impact on the options available to local governments – from mandates for setting local policy, to the potential scope of local endeavours.

Regardless of the energy mix and approach selected, it is important that this process is managed in a sustainable way.

The sustainable energy management system

Sustainable energy management is a far-reaching concept that covers all phases of the sector – from fuels and their extraction, to energy generation and the systems' efficiencies, energy distribution, and energy consumption (in terms of amount and efficiency), and energy security implications etc. City managers, energy providers, companies and housing associations face the challenge of evaluating the impact that these systems have on natural resources, biodiversity and people. They must make choices that minimise these negative impacts, within the context of their often limited budgets and legal responsibility.

When managing energy, it is necessary that consequences are considered beyond the local level. Global aspects must be taken into account, such as the environmental, economic and social results of fuel extraction and transportation from its source to its destination; the energy requirements and resource intensity needed to manufacture the



materials used in constructing new buildings; the costs of installing new renewable energy generation facilities locally, and the economic and political consequences of remaining dependent on imported gas supplies. The costs of not investing should also be weighed, as they have implications in regards to climate change adaptation, rising energy prices and environmental degradation.

In order to manage energy sustainably, municipalities must make their existing systems as efficient as possible. Political leaders have a responsibility to offer citizens a cleaner energy mix by investing in renewable energy sources. In addition, sustainable energy management is also the responsibility of energy users. Energy consumption can be reduced by implementing and incorporating sustainable measures in our lifestyles.

Sustainable energy management should not be conducted as an isolated operation. Many other systems depend on and interact with the energy system. Energy management is one of the layers of community management as a whole, and hence the principles of sustainability should ideally be applied in a cross-sectoral, integrated approach, beyond strictly energy themes. This becomes more complex in countries with a free energy market, as in these cases the municipality's ability to influence the energy system is reduced.



Work in progress in the Sesac team.

At the international level, several initiatives presently encourage the sustainable management of energy, such as the Covenant of Mayors, with over 2 400 European municipalities and regions having signed up to this voluntary agreement, including the SESAC municipalities Delft, Grenoble, Kaunas and Växjö.

Complexity demands management


The complexity of the energy system – which consists of different fuels and generation sources, various sub-systems to distribute heat, gas and power to end-users, together with seasonal fluctuations in energy demand – requires a structure which allows it to manage its operations soundly. Since most other systems operating in communities (for example transport, education, health services, and production) need energy to function, the energy supply system needs careful consideration and control.

Furthermore, climate change impacts place additional pressures on city systems. The high population densities, the wide range of services necessary in the urban context, relevant numbers of poor and elderly residents, and a dependence on often ageing infrastructures all add to the difficulties cities face.

Last, but not least, municipalities face the effects of climate change already. That needs adaptation in water management, microclimate, building requirements and ecological effects.

Several systems and sectors at the local level are dependent on, and inter-connected to, the energy system, see diagram on page 9. It is necessary to consider these links and their impact on the local situation and local energy

strategy carefully. The complexity of the energy issue means that there is no “one size fits all” solution – difficulties cannot be overcome through the implementation of one single measure, or in one sector alone. Rather, energy planning, implementation and monitoring need a comprehensive management approach, which takes into account numerous aspects. These aspects are generally relevant to the local level, but can also be affected by regional, national or even global developments. As such, connections with other issues (technical, legal, political, security, socio-economic), and a categorisation of time-scales (short, medium and long term approach) need to be explored.

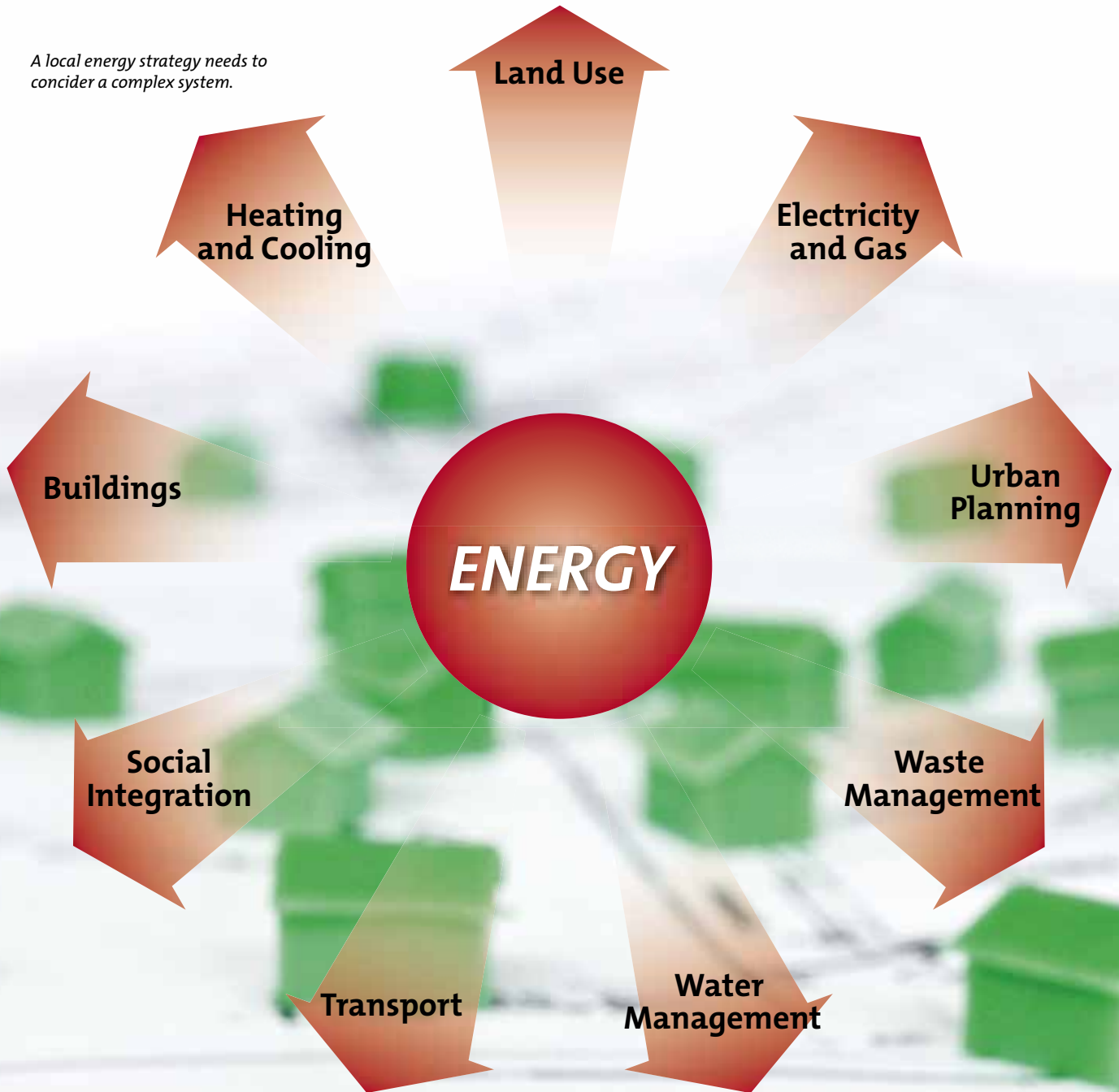


It is necessary for a municipality to have an efficient approach when working with energy issues. A systematic energy management system is therefore crucial. It will be even more important in the future, in order to meet rising energy costs and energy source scarcity.

Anders Lundgren

Environmental management coordinator, Växjö

A local energy strategy needs to consider a complex system.



Why do we need local energy management?

The choices related to energy use (such as which energy resources to use, how to select and optimise use, and how it can be linked to the existing system) have a strong impact on environmental sustainability. Before they can be managed, the following aspects need to be understood, assessed and measured:

- Availability of natural resources (quality and quantity)
- Environmental impact of exploiting/not exploiting the resources
- Socio-economic issues and challenges
- Characteristics of the local community

Local governments need to decide where and how to act and how to optimise their involvement. In some cases they can evaluate and take action across the full cycle of energy:

- Selecting and influencing the resources to be used (local, regional or imported)
- Planning the energy mix and generation / distribution strategy
- Considering to what extent the municipality can be energy independent, and what the economic and social implications are
- Reducing greenhouse gas emissions through using

cleaner fuels, better technologies, and reducing demand

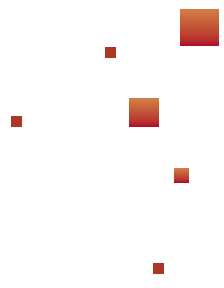
- Improving resource efficiency
- Promoting changes in the behaviour of people and businesses

Each of these factors is important in the local context and influences the local energy situation, from which a plan evolves. An energy plan addresses the following aspects:

- Vision, targets, strategy, actions and their monitoring and evaluation
- Energy production, distribution and consumption data
- Sustainability aspects (renewable energy sources, energy efficiency and its responsible use)
- Energy security, affordability and independence

The advantage of a cyclical system

The responsible management of energy requires a cyclical sustainable energy management approach, which allows local policy and decision makers to plan, act, implement, correct, evaluate and report in the context of a unified framework. Sustainable energy management makes the



Our participation in the SESAC project has been successful and useful. Through the project we prepared a case study ‘Modern gas boiler-houses in Panemune, Kaunas’ and organised a SESAC conference in Kaunas in 2008. Results and experience gained in the project will be useful for our participation in other energy projects.

Andrius Kupcinskas
Mayor of Kaunas

link between objectives, targets and policies, supports more effective implementation of actions, enhances political accountability, and smoothes the integration between sectors. Based on our experience, the most effective approach for local authorities in managing their energy sustainably is to evaluate their existing procedures and gradually adapt them to the management cycle presented in the next section of these guidelines.

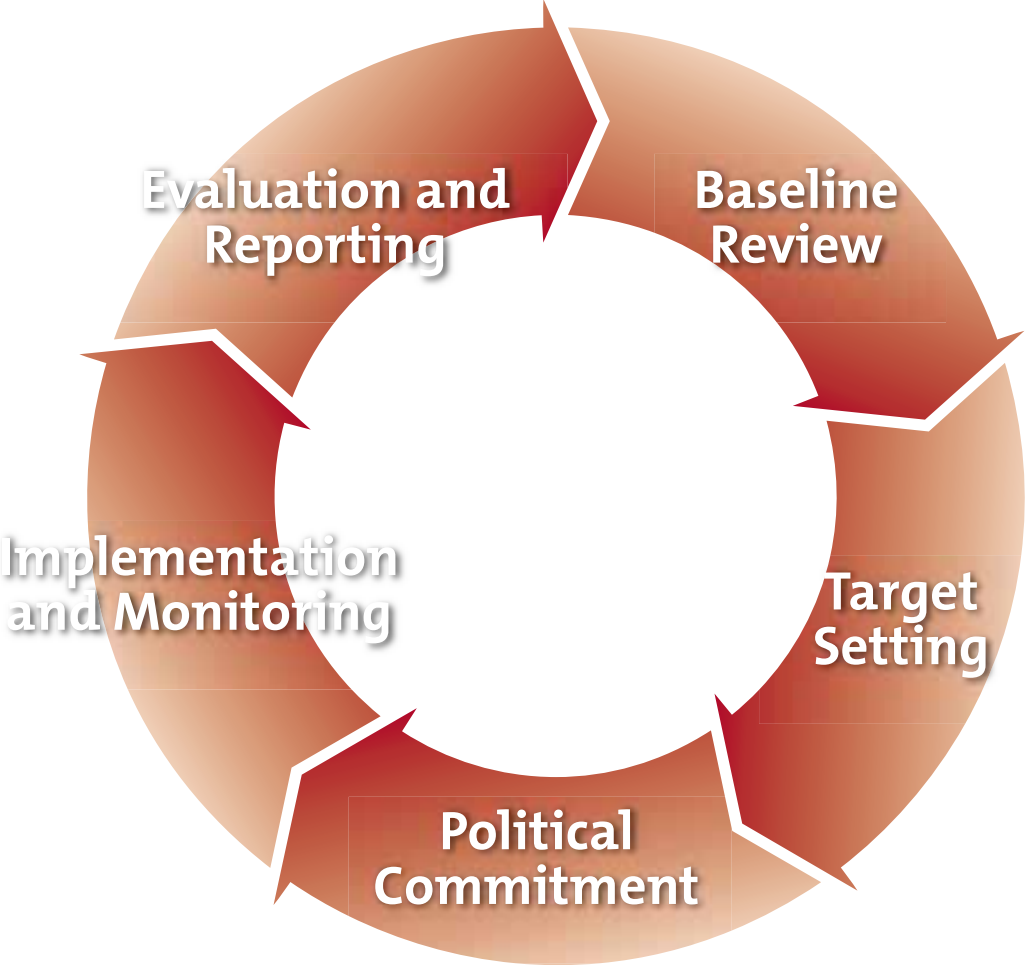
Sustainable management of energy-related issues leads to the long term efficient use of energy; financially, environmentally and socially. This concept requires a number of steps to be implemented: the development of energy inventories; involvement and capacity building of key staff and decision makers in order to facilitate a common understanding of energy issues; planning and implementation of measures aimed at enhancing the efficiency of the energy sector and reducing its negative impacts on

the environment, biodiversity and people (from both a health and social perspective); and the creation of a monitoring, evaluation and reporting structure that involves stakeholders throughout the process.

Policies, objectives, targets and concrete actions are linked together through the energy management system framework and its resulting climate protection plan/energy plan. The cyclical management approach will enable increased efficiency to remain in place over time. If a similar system does not exist, it is important to create decision-making mechanisms that ensure a rational management of the energy issues.

In short, managing energy in a sustainable way represents an enormous step forward in the local management of sustainability.

The sustainable energy management system proposes a cycle comprised of steps working in a cyclical way.



Steps in the sustainable energy management system

The cyclical model can be adapted to existing local processes. In some cases, steps may be merged, or additional steps introduced based on the specific needs of each implementing community. Likewise, not all steps are always required for each cycle (for instance, the Political Commitment step may be skipped when political support

has been granted for periods longer than one management cycle). This cycle is a framework that establishes a structure for better managing local municipal operations or policy making. The following pages present the different steps of the sustainability cycle and give examples from the six SESAC communities.



Political commitment is one of the steps in the cyclical model.

Baseline review

The starting point is to determine your community's current energy status, and to understand how municipal structures and procedures influence energy issues. It is necessary to define the local situation by collecting historical data on energy production, distribution and use – ideally producing a greenhouse gas emissions inventory to determine 'problem sectors' in terms of negative environmental impacts. The baseline review should be supplemented with a documented assessment of the effects of national and regional policies on local circumstances, such as legal requirements, political priorities, emerging issues and trends, as well as the citizens' and other stakeholders' interests, concerns and their level of awareness of energy issues. In that sense, public participation starts with the first step of the cycle. Satellite imagery, energy atlases and maps (for example geographic information systems – GIS) can help to illuminate current constraints, and identify vulnerable areas. Greenhouse gas emission inventories also aid in the formation of a complete picture. All of these tools support transparency and serve as solid basis for informed decision-making. In order to visualise the baseline, it is recommended that graphs and images that provide a quick overview of the situation are used.

■ Delft, the Netherlands

Before taking part in SESAC, Delft did not collect data which could be used to create a reliable baseline, but instead relied on the municipality and national standards in place for information. During the project, Delft started preparing a baseline review, including a greenhouse gas

inventory. An agreement was reached with the net operating company which overcame the initial difficulties in access to necessary statistics on energy use. Through being creative and mixing locally available data with data on national averages, an acceptable baseline review was conducted. Locally, energy and emissions information was based on traffic movement and data retrieved from industries and services.

■ Grenoble, France

Grenoble had already developed a greenhouse gas inventory before the SESAC project started. The review included predictions of future scenarios; one predicting the consequences of not taking actions, resulting in increased emissions, and one showing the predicted consequences of taking actions, resulting in decreased emissions. Since 2005 and thanks to SESAC, the baseline review of energy and CO₂ has been transformed into an annual tool, which is communicated and discussed with stakeholders from across the Grenoble metropolitan area. This inventory is becoming progressively more detailed, and decision makers view it as a reliable tool.

■ Miskolc, Hungary

The City of Miskolc has chosen 2004 as the baseline year due to the difficulty of collecting data from earlier years and because of the vastly different energy and community

circumstances that existed before 2004 (cheap residual heat from the heavy industry, cheaper natural gas, bigger population etc.). The energy consumption data from the regional and local suppliers was and is available, but CO₂ emissions could only be calculated from national statistics since 1985. In the framework of the SESAC project Miskolc, strives to have a more accurate energy balance year by year, to determine the areas in which actions need to be taken.

■ *Vastseliina, Estonia*

In Vastseliina rural municipality the first baseline review on energy use was done in 2003. It consisted of data on the production and consumption of heat energy. It focused on the increasing need to renovate a boiler plant for the central heating system. This review was, however, not connected with systematic actions to manage energy use in the municipality. Systematic thinking started with the SESAC project. In 2006 new data was collected about energy use and the first energy balance was compiled.



Energy efficient buildings at Poptahof in Delft.

Target setting

The second task in the cyclical management of energy is to revise or develop a strategy to steer the energy work in the municipality – what is referred to as the local energy, climate or environment plan. It describes the municipality's vision and explains how to attain it by listing specific objectives, indicators, measurable targets, and actions. The strategy should present a plan of action and set targets for the short, medium and long terms. The targets set must be based on the context and realities of the municipality and on the findings of the baseline review. It serves as a bridge to achieve the vision of your municipality. When setting the targets it is important to strive for a broad involvement of different sectors and stakeholders, including citizens, decision makers and the business sector.

A simple and systematic structure in bringing the vision to a reality is recommended, for example in the following way: After understanding where the municipality stands in one particular area (for example wind energy), the local government identifies the various objectives that will be pursued (for example increased use of renewable energy sources); then indicators are developed to measure the progress (for example number of wind turbines installed in the municipality); later specific targets are developed for the indicators (for example to have 10 MW of wind generation in operation within 36 months after the approval of the plan); and finally these targets are reflected in specific measures listed in the steering document.

■ Delft, the Netherlands

During the SESAC project Delft worked on a new Sustainability Plan 2008–2012. This umbrella plan also includes a Climate Plan Update 2008–2012. To establish the plan, Delft held several rounds of workshops with a broad range of stakeholders. Next to that, Delft considered national and regional policy documents in the target setting.

The plan includes long term ambition and higher targets compared to the old plan. Therefore, new projects and a monitoring scheme were introduced. The ambitions are in line with the Covenant of Mayors, and is defined both in the short and long term.

■ Växjö, Sweden

Between 1995 and 1998, the City of Växjö cooperated with Sweden's biggest environmental NGO, the Swedish Society for Nature Conservation. One important result from the cooperation was the development of the Fossil Fuel Free Växjö strategy. The strategy includes the vision of a community that no longer contributes to climate change, including ambitious measurable mid-term CO₂ reduction targets for the geographical area of Växjö. The strategy and the targets were developed after input from many stakeholders, such as companies and citizens. Within Växjö's environmental management system, the targets are broken down to short term targets and measures.

In 2007, a local climate commission was established to assess the likelihood of reaching the targets, and to give input on what kind of actions were needed in order to become a fossil fuel free community. The commission consisted of representatives from the municipality, the university and companies, among others. Their final report was one of the most important inputs when developing the new targets set out in the environmental program 2010. The revised climate and energy targets in Växjö are strongly connected to the long term targets decided in 1996, as well as the information retrieved from the energy situation according to the annual energy balance.

■ Kaunas, Lithuania

Kaunas City has adopted the climate targets of the Covenant of Mayors. The city will achieve the decreased CO₂ emissions set out in the Covenant of Mayors, through increased efficiency in energy production and the reduction of energy consumption, as well as the increased use of renewable and local energy sources.

Political commitment

In order for the targets and the visionary road map for the municipality to come into force, the policies, programmes and plans need city council approval and commitment. This step is extremely important in order to solidify the link between targets and concrete actions, in other words to make things happen. The implementation of a management system or policy document, and the execution of measures required to achieve identified targets, needs to be supported by financial resources which are assigned by political decision-makers. This step runs more smoothly if politicians are involved from the beginning of the process.

■ Delft, the Netherlands

In Delft, the early involvement of politicians was crucial. The city council itself requested a new sustainability plan, and politicians were frequently updated about the process. Politicians in Delft are in consensus that energy is an important issue, and understand that a climate plan is an important tool when applying for national and international financial contribution. In political discussions, the ambition to have a climate neutral city is mentioned frequently. Since Delft has limited possibilities for large-scale

Energy efficient buildings at Välle Broar in Växjö.

renewable energy sources, a historical centre and limited influence on transport, the targets were set conservatively. When approving the climate plan update and its targets the city council ordered the city board to develop scenarios showing ways to achieve climate neutrality.

■ Växjö, Sweden

Politicians in Växjö decided unanimously on the Fossil Fuel Free Växjö strategy in 1996. This decision was preceded by educational seminars for decision-makers on energy issues and climate change. Recognising that both citizens and the business sector were (and are) in favour of lowering emissions, Växjö politicians have had a long standing commitment to energy and climate issues. They are keen to know the latest developments on energy and climate impacts, and are proud of the positive effort made so far. This pride does not mean complacency however, and politicians are still eager to know how the development can be improved. After focusing on CO₂ emissions and renewable energy sources, the revised environmental program 2010 also includes targets regarding energy efficiency.

■ Vastseliina, Estonia

In 2006 Vastseliina included an energy chapter in the municipality development plan with targets for future development. It consisted of actions to achieve a wider use of renewable resources and to raise awareness about



energy efficiency. In 2010 a new document, the Energy Management Plan 2011–2021, was published, which covers the municipal territory. It includes targets and actions to improve the present situation regarding energy and climate issues, as well as improving living conditions and the socio-economic situation in Vastseliina through better energy management. Local members of the council and key local persons were involved in the process of drafting the Vastseliina Energy Management Plan. They realised that energy is one field of local development that relates closely to everyone in the community, and that local management of energy provides an opportunity to raise the socio-economic welfare of the region.

Implementation and monitoring

To achieve the targets set out in the plan approved by the city council, measures of different kinds have to be outlined and implemented. Energy measures can be split into soft and hard measures. Soft measures relate to education, behavioural and awareness-raising campaigns, and energy saving methods or the setup of a climate platform. Hard measures relate mostly to physical system refurbishments, implementation of new technology solutions, renewable energy source production, etc. The measures being implemented as part of the energy strategy are monitored and kept on track, or, when facing delays, action is taken to secure their continuation. In this way, monitoring also allows the local government to identify its progress with respect to the longer-term strategy.

■ Grenoble, France

The writing of a new local climate plan charter in 2009 led to a new and stronger commitment for each of the 70 climate plan stakeholders. Each local authority and stakeholder involved has adopted an action plan, organised into four chapters: the local authority as energy supplier, as energy consumer, as planning authority and builder, and as awareness-raising actor. To help the monitoring and the implementation of the action plans, Grenoble local plan steering team developed follow-up tools, such as a best practice case study and an evaluation template. The annual evaluation template sums up the actions realised during the year, but also the CO₂ emissions and energy consumed. Results are shared among stakeholders during the local climate plan forums.

■ Kaunas, Lithuania

The preparation, implementation and the monitoring of the Sustainable energy action plan involved several departments of the Kaunas City Municipal Administration as well as enterprises. The funding has already been provided in the endorsed Strategy Plan of Kaunas City for 2005–2015. The total implementation budget is over 1.4 billion LTL, of which about 10% comes from the Kaunas City Municipality budget. The rest of the funding comes from EU programmes and programmes of foreign states, as well as the state budget and private funds.

■ Miskolc, Hungary

The City of Miskolc has used a number of soft and hard measures. The municipal district heating company has sent the Energy-saving Regulations (principles and tips for energy efficiency and saving) to every municipal institution, and small teams have been set up in each. Every team has to monitor the annual energy consumption and then recommend and enact measures. Awareness raising campaigns and competitions for citizens such as the Environmental Friendly House and the Environmental Friendly Family of Miskolc are organised every year. Some hard measures include the reconstruction program for prefabricated buildings and the utilisation of bio-gas from the old landfill in the district heating system.

Evaluation and reporting

On-going assessments of the implementation of the measures and their effectiveness in reaching the stated targets will help in understanding the extent to which the strategic objectives of the municipality are being met. This assessment can lead to new measures or to the redefinition of planned actions; a flexible approach that enables decision-makers to respond to changing circumstances. Evaluation results are reported back to decision-makers and stakeholders as a way to keep the process transparent and to maintain the interest of stakeholders. This step concludes the first round of the cycle and informs or even merges into the baseline review, the first step of the next round.



Energy efficient buildings at De Bonne in Grenoble.

■ Delft, the Netherlands

After producing the baseline inventory, Delft decided to publish the CO₂ monitoring report every second year. As well as this, Delft participates in a regional initiative in which energy projects are presented in a web-based tool. During the SESAC project, ICLEI facilitated a workshop on the original Climate Plan 2003–2012. The result of this workshop was a SWOT analysis, which was used in developing the new Sustainability Plan 2008–2012 and the Climate Plan Update 2008–2012.

■ Grenoble, France

An evaluation of the 2004 local climate plan was conducted, which helped politicians to redefine the strategic objectives and tools of the plan. In 2007 new targets were adopted, a scientific council was created, follow-up tools implemented and a call for collaborative projects among stakeholders was launched. Since then, the evaluation of the local climate plan is an on-going process, with new targets and tools proposed. For example, a web-platform will soon be implemented among partners and the local climate plan will focus much more on dissemination of information to citizens. The reporting is done during local climate plan forums, and disseminated through newsletters. The energy balance is updated each year, showing the progress toward the long term objectives in energy consumption, renewable energy and CO₂ reduction.

■ Växjö, Sweden

Växjö uses the environmental management system ecoBUDGET as a tool to plan and monitor progress towards sustainable energy targets. For every target a set of actions are listed, to be implemented during the year. These actions help the city come closer to achieving its targets. A follow-up of each target is made after eight months and again after twelve months to provide feedback on the development. This information is presented in two public reports that are adopted by the city council. The information contained in these reports is important for the planning of future measures.

■ Vastseliina, Estonia

A revision of the development plan and action plan is organised each year, as well as an assessment of the completed planned actions. The assessment takes into account the quality of actions and the best methods to reach strategic targets. Depending on circumstances, the action plan may be corrected to better reflect the assessment findings.

Final words

These guidelines are meant to give an idea of how a community can work with cyclic energy management systems. But what has the work meant for the SESAC communities during the project time?

In each of the SESAC communities, the energy policy has included more intensive cooperation with other stakeholders within the community. Local cooperation involves citizens, businesses and public institutions, as they are all part of a growing awareness and activities towards sustainability.

We also created a good cooperation at the European level. We have learnt from each other during the site visits and workshops in each of the six SESAC communities.

Delft shifted from a project approach to a management approach in climate policy. The outcomes of the baseline inventory confirmed the policy change focus change from big new development towards the existing building stock and energy consumption by institutes and business.

Grenoble has learnt a lot on how to evaluate the climate plan during the project, such as how to present the results

of greenhouse gas emissions annually, compared to the goal to reach. The example of the other cities helped Grenoble to progress quickly on this subject. Moreover, ambitious objectives of other cities showed that it was possible to have ambitious objectives in Grenoble too.

Successful and fruitful participation in the SESAC project helped Kaunas to make the city energy balance, to install an energy efficiency system for the city lighting, and importantly it encouraged the city to sign and participate in the Covenant of Mayors.

The project has helped the city council of Miskolc to approve a new energy strategy for the municipal companies and institutions.

As a result of the project, Vastseliina has started systematically planning activities for different target groups within the municipal energy management work.

The SESAC project has helped Växjö in the work to follow up and communicate the energy targets annually towards politicians, which has created an increased interest in energy data as an important input to decisions on further measures to be taken in order to reach those targets.



ICLEI's role in the project:

ICLEI has developed the integrated management system and adapted it for the purpose of the SESAC project. Following this integrated management approach, ICLEI has provided tools and training to support developing capacity among staff of the SESAC communities in order to achieve the routine implementation of energy management systems in the municipality's operations. Understanding the importance and implications of practising a sustainable management of energy and ecosystem services (which includes fuels) has been a cornerstone of ICLEI's message within this project. It has led to the adoption of the integrated energy management system by the involved municipalities, extending the concept to others reached through various dissemination channels.

Training materials

A number of training materials have been collected as a practical help for the readers of this guide.

The following training materials are available at www.concerto-sesac.eu in what is referred to as Deliverable 2.2:

Inventory template (Annex I)

Describes the SESAC philosophy to energy management, and provides the user with a structure for the inventory, guiding him/her later in how to develop and analyse it.

Inventory Forms (Annex II)

Provides the forms that need to be filled in for each of the elements of the Environmental Management System.

Summary of SWOT analysis of Delft's climate plan (Annex III)

The SWOT analysis of the climate plan of Delft gives an idea on what the results of a SWOT analysis can look like.

Summary of inventory and SWOT analysis in Grenoble (Annex IV)

Grenoble's summarised points on the development of its inventory and its SWOT analysis. The document gives an idea on what the results of a SWOT analysis can look like.

Materials from ecoBUDGET training in Grenoble (www.ecobudget.org)

Exercises for understanding and applying the concept of ecoBUDGET.

Energy questions for guiding municipalities (Annex V)

Energy questions for guiding municipalities in focusing on relevant energy efficiency and energy consumption areas.

The Environmental Programme for the City of Växjö, 2010. (Annex VI)

The document shows an example of a structure for energy management.

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