



**ADAPTATION and MITIGATION –
an INTEGRATED
CLIMATE POLICY APPROACH**

Peer Review

Mitigation Scan Stuttgart

20-21 November 2006

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Peer review

During the climate scan, the review group comprised Mr. Gustavo Filippo, environmental officer of the Municipality of Venice Italy, Mr. Andreas Drack, senior climate specialist of the Province of Upper Austria, Mr. Andreas Kress, adaptation and forestry specialist of the Climate Alliance and Mr. Sjaak de Ligt, expert on climate change strategies of the Municipality of Apeldoorn/Klimaatverbond.

The Team gratefully thanks Dr. Ulrich Reuter of the Environmental Service of Stuttgart for the preparation of the Climate scan and the programme.

1 Observations

The team visited several energy and climate related projects and organisations and had discussions with several employees.

The group was impressed by the results achieved in Stuttgart, given the limited resources with respect to the number of employees and budget. Thanks to the dedication and the enthusiasm of its employees, Stuttgart may consider itself as one of the frontrunners in Europe.

As mentioned above the excursions focussed primarily on energy.

The project Burgholzhof gave an impression on how the municipality was able to develop a new housing area with an energy efficiency

surpassing the national requirements by 20%, and that about 10% of renewable energy was implemented and used. This will give a good incentive for further CO₂-reduction.

The team came to the conclusion that in order to reach the target of a 10% reduction in 2010, the CO₂ emission at every new developed area should at least be CO₂-neutral. Otherwise, the growing city will jeopardize the achievement of the CO₂ reduction targets. On the other hand, existing housing has a huge potential for energy saving and CO₂-reduction, too. The presentation of the display on the production of solar energy is very instructive. The energy company should nevertheless ensure the operational efficiency of the display.

The next project visited was the nursery home for elderly people KORIAS. In this building the retrofitting was used for the implementation of a large energy saving programme. One of the introduced items was heating up of the fresh air from outside before entering the rooms. The technical part of the system worked very well but nevertheless it seemed not to be adapted to the needs of the elderly as they wanted to feel fresh air. It is also known from other projects, that the training of the users/employers of new heating or ventilation concepts is necessary beforehand.

Bearing this in mind, the team noted the different requirement of the countries north and south of the Alps. In countries like Italy all the windows are closed in summer during daytime to keep the cold inside. In countries like Austria, Germany and the Netherlands in July

at temperatures above 30 °C people open the windows, to get some 'fresh air'.

Presuming that due to the Climate Changes summers like 2003 and July 2006 will occur more often in the future, the habits of building users should change accordingly.

The team also visited the Stuttgart Energy Agency in their very well-insulated office. The Agency does a good job in advising inhabitants and craftsmen on energy saving options. Their work shows good results in providing an economically sound basis for craftsmen working on insulation. The final turnover in work and income is about ten times higher than the initial investment.

The exhibition is also a good way of showing the materials and techniques that can be used for energy saving activities.

The target of a 10% reduction of CO₂ –emission means that far more should be done. The great potential of the centre could be used i.e. also for educational activities

At the end of the first day the review team had an interesting discussion regarding the car-pooling system of Stuttgart (Pendlernetz). Although the system appears to be very sophisticated, acceptance by the public is still poor. A promotion strategy was set up.

The team informed that there are various car pooling approaches in the different countries. One of the keys for success is the co-operation with large companies. From the moment employees are

encouraged by their company to make use of the system, it starts developing.

In many cases, larger companies have a mobility manager. Making contact with mobility managers, a smart approach could be elaborated. For example a system, where every employee of a company is given a virtual amount of 'free' kilometres per year, encouraging pooling with other employees and then transferring, a certain amount of the passengers' credits – depending on the distance covered – to the driver. From the moment an employee runs out of credits he/she'll have to pay the regular car-pool price.

At the end of the year, people that collected the kilometres should be given the opportunity to change them into a special gift or an amount of money. The company would pay these gifts.

There's a clear benefit for the company: more social contacts between employees and less expensive parking places.

For smooth operation the system should find matching employees in order to arrange the exchange of credits.

The team does encourage the city of Stuttgart for a further implementation of cars with less polluted fuel systems, like natural gas and/or hybrid systems. It has been a good decision that drivers of municipal cars need a training in energy saving driving techniques, before they are allowed driving one of these cars.

2 Climate Change policy

The Climate Change policy of the Municipality of Stuttgart, focussing on the reduction of CO₂, was presented. Presently, the emissions are rising after a decline during 1990-2000. The biggest 'spender' is the increase of traffic. Only the energy saving activities for the public buildings made a strong contribution to the reduction target. The special regulations for municipal buildings have proven to be a good instrument, as well as the regulation that new buildings should be +20% more energy efficient than the national regulations.

2.1 Status quo in local CO₂-reduction in Stuttgart

Table 1 shows a set of indicators to describe the current situation in the fields of energy and traffic as well as the current situation of CO₂-emissions.

Inhabitants:	590.000
CO ₂ -emissions:	3,2 Mio t
CO ₂ /capita:	5,4 t
share of users	
Business	29 %
private houses	28 %
Traffic	28 %

Industry	12 %	
Municipality	3 %	
total electricity consumption	3,8 Mio.	1000 kWh/year
total gas consumption	4,2 Mio.	1000 kWh/year
total district heating consumption	1,1 Mio.	1000 kWh/year
share of energy for heating		
Electricity	5,2 %	
district heating	21,6 %	
Gas	45,7 %	
Oil	25,9 %	
Coal	1,7 %	
installed power renewal energy		
wind energy	600 kW	
Water	8000 kW	
Photovoltaik	2506 kW	
area solar collector	0,014 m ² /capita	
electricity generation by biomass	4,8 Mio. kWh/year	

heat generation by biomass	11,9 Mio kWh/year
Motorcars	593 cars/100 capita
modal split passengers	
by cars	43
public transport	24
by bicycle	6
pedestrians	27

Table 1: Quantitative indicators for energy and traffic in Stuttgart 2005

In the year 1995 the municipality of Stuttgart joined the Climate Alliance. Thereupon, the Office of Environmental Protection took on the coordination of activities concerning global climate protection (about 30 % of one person).

City Administration Stuttgart

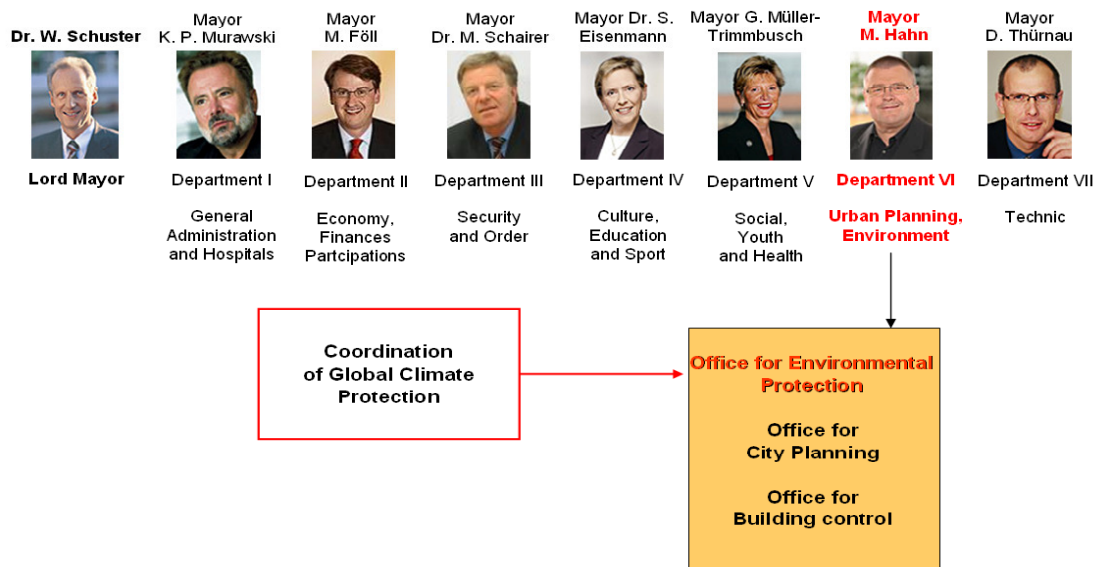


Figure 1: Organisation of global climate protection tasks in the municipality of Stuttgart

Furtheron, a local concept for global climate protection has been developed (KLIKS) before 1997. This work was done by external experts and it was accompanied by a local working group of about 20 members of different institutions affected by measures of global climate protection. This so called “Round Table Energy” comprised craftsmen companies, industry organisations, architects, motorcar organisations and the like.

Also today, there is a local working group of employees of those departments of the municipality affected by measures of mitigation and adaptation.



Figure 2: Logo of the concept KLIKS

The external experts developed different strategies in order to reduce CO₂ emissions. From 1990 to 1995 the emissions were reduced by about 7 %. The experts calculated a reduction of 10 % until 2005 concerning the trend without the implementation any additional measures.

Then they developed two strategies:

Strategy 1 had measures, which were thought to be comparatively easy to be done. For this strategy they calculated a CO₂ reduction of 17 %.

Strategy 2 offered measures to reduce the CO₂ emissions by 30 %.

This was the amount of reduction according to the decision of the municipal politicians (30 % reduction between 1990 and 2005).

Concept for global climate protection in Stuttgart

From 1990 to 1995 the trend of CO₂-emission leads to a reduction of 7%. Till 2005 the reduction will be 10%.

KLIKS offers two strategies to reduce CO₂-emissions:

Strategy 1:
17% reduction till 2005

Strategy 2:
30 % reduction till 2005

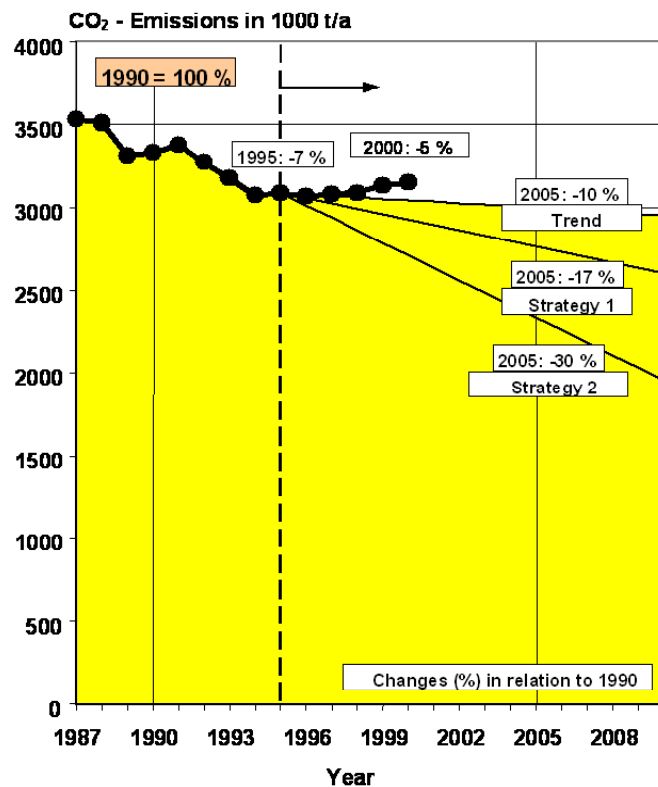


Figure 3: Development of the calculated CO₂ emissions according to KLIKS

The total amount of CO₂ emissions in Stuttgart is about 3.2 million tons per year. That is about 5.7 tons per year and capita. This is a rather low value compared to the value of the district of Baden-

Württemberg (about 7.5 tons per year and capita) and compared to the value of the state of Germany (between 10 and 11 tons per year and capita).

The reason for the rather low value in Stuttgart is the high amount of energy produced by nuclear power plants.

CO₂-Emissions in Stuttgart

- 3.2 Millionen tons per year

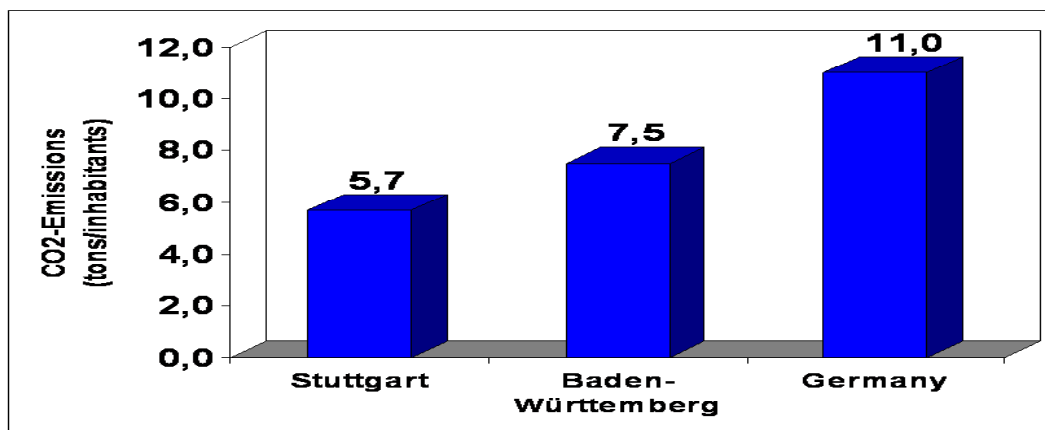


Figure 4: CO₂ emissions in Stuttgart (1995/2000)

The development of the CO₂-emissions during the last years can be seen in figure 5. In Stuttgart up to now the CO₂ balance was calculated every 5 years (1990, 1995, 2000). The next calculation will be for the year 2005. It is in preparation. Starting from 2006 it is intended to have an annual balance.

According to figure 5 the CO₂ emissions from energy consumption reduced by about 8 % from 1990 to 1995 and then didn't reduce

further on until the year 2000. However the energy consumption increased from 1995 to 2000 for 1.3 %.

Concerning the traffic the emissions reduced by 5 % from 1990 to 1995, but they increased by 7.5 % between 1995 and the year 2000.

Altogether the CO₂ emissions reduced by 7 % from 1990 to 1995.

Then they increased until 2000. This is why the reduction from 1990 to 2000 is only 5 %. This is mainly caused by the increase of the traffic emissions.

CO₂ - Emissions in Stuttgart		
changes since 1990 in %		
	1995	2000
energy *	-8	-8 (0)
traffic	-5	+1,8 (+7,5)
total	-7	-5

* energy consumption increased from 1995 to 2000 for 1,3 %

Next calculation of CO₂- Emissions will be done for the year 2005

Figure 5: Development of CO₂ emissions in Stuttgart

Because of the increase between 1995 and 2000 the CO₂ emissions in the year 2000 are higher than the calculated trend in KLIKS (see figure 3), although the municipality did a lot of measures to reduce the CO₂ emissions (see chapter 2).

2.2 Description of some activities in Stuttgart

The measures which were done in Stuttgart according to the concept for global climate protection KLIKS are summarized in the scheme in annex 1. Some of the important measures will be described in more detail in this chapter. The municipality of Stuttgart investigated about 50 million EURO in all these measures between 1995 and 2005. In the Internet more informations can be found www.stadtklima-stuttgart.de and there via “Klima” – “Klimaschutzkonzept”.

2.3 Local energy agency

Based on the discussions of the “Round Table Energy” during the development of KLIKS, the experts recommended the foundation of a local energy agency. This agency was then founded in the year 1999. There exists an own building, which was renovated to be a model for the use of few energy. The agency is operated as an association under the leadership of the municipality. Members are different

companies (craftsmen company, chamber of architects, chambers of trade, house building societies etc.). Financially the agency is supported by the municipality, by membership subscriptions and by receiving money for consultation services.

The agency is operated by 7 employees. 2006/2007 a branch is founded in a smaller town near Stuttgart.

The agency organizes about 70 training-colleges per year, for example to teach architects and craftsmen. A special label “Stuttgarter Standard” has been developed. It’s a special method of high quality to refit buildings. These works then are done only by those experts which were instructed in the training-colleges of the local energy agency.

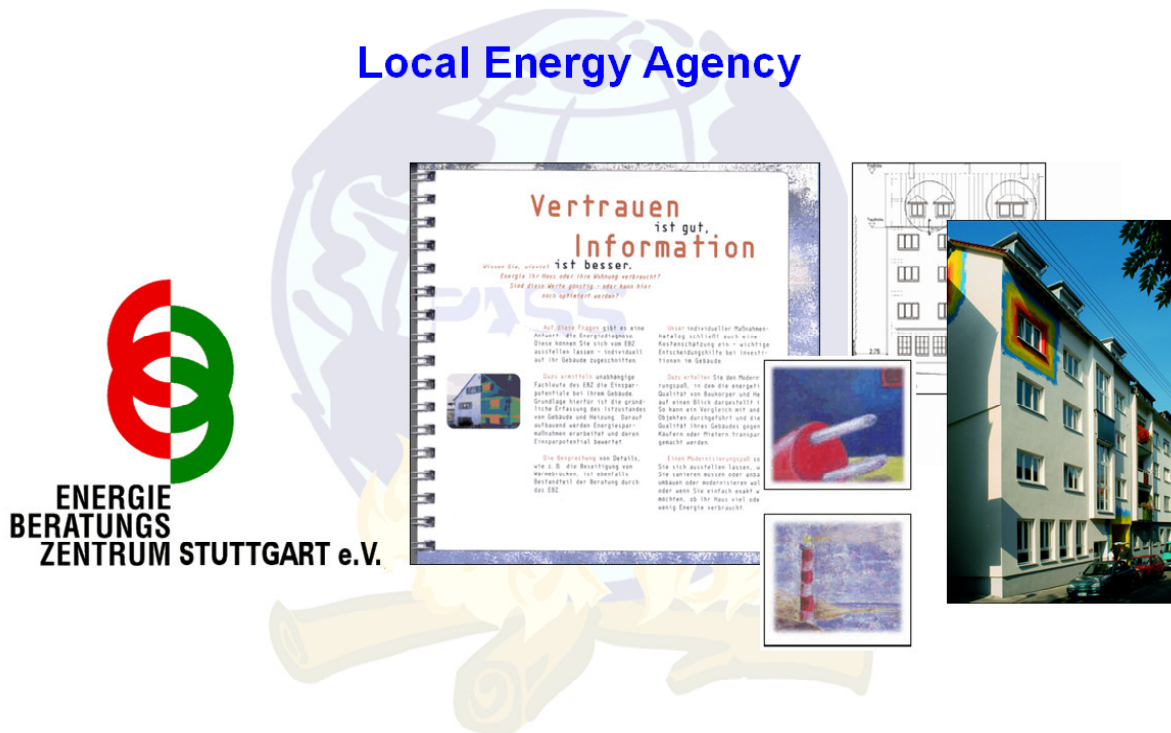


Figure 6: Local Energy Agency in Stuttgart

More informations on the Local energy agency Stuttgart can be found in the internet (only in German): www.ebz-stuttgart.de.

2.4 Grant program to save energy

The municipality of Stuttgart offers their citizens a financial support program to save energy when refitting old buildings and flats. The program started in 1998. From 1998 to 2007 about 15 Million EURO are available.

From 1998 to 2005 about 3700 flats were sponsored with about 9.5 million EURO. This caused investments for the local trade and craftsmen of about 58 million EURO. So this measure for global climate protection can be said to be an important economic program.

2.5 Energy management of municipal buildings

Since 30 years there exists a department for energy management of municipal buildings in the municipal office for environmental protection. The value of the saved energy costs is 500 % of the personel and equipment costs of the department.

Development of consumed energy for heating in Stuttgart (only buildings of the municipality)

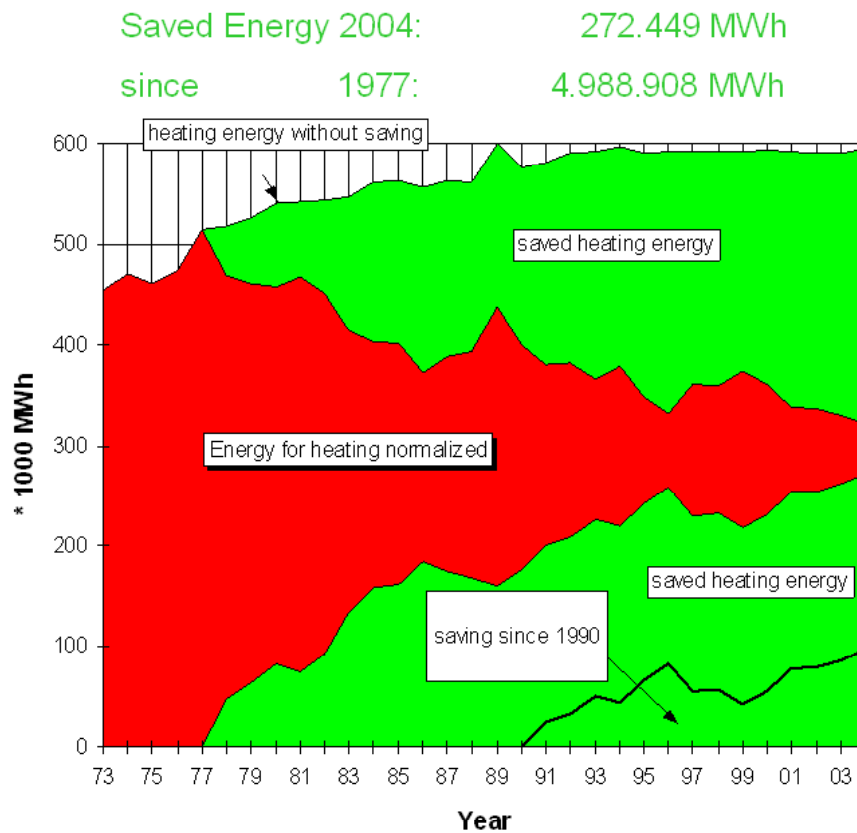


Figure 7: *Development of consumed energy in municipal buildings in Stuttgart*

Since 1977 the energy consumption for heating of all municipal buildings could be reduced by about 45 %.

In municipal buildings also renewable energy is used. There are 16 photovoltaic installations as well as 6 solar systems. Some of the photovoltaic systems are operated commercially, others are operated by associations of schools. Additionally 10 combined heat and power

stations are installed as well as 5 heating systems for wood chips or pellets. More installations for renewable energy are planned.

There are also some model projects to save energy in municipal buildings, which are sponsored by the state or the EU, for example the refitting of a building for old people (KORIAS) or the refitting of a school (MOSES). Further there exists a program to save energy in schools by changing the awareness for the energy use. Some money of the reduced energy costs is given to the school to do other purchases (program LESS).

Many refitments in municipal buildings are financed by an internal contracting.

2.6 Traffic measures

There are consequent efforts to improve the public traffic and the bicycle traffic. The office for planning has one employee who only works for improving bicycle traffic in Stuttgart.

Since 1998 there exists a Mobility Information Centre (“m-punkt”) near the main railway station in the building of the Stuttgart tourist office. People can get there information on all questions and problems of mobility. About 60.000 informations are given every year.

The municipality offers a grant program to learn driving with less fuel. Till 2004 this program was also open to the citizens. Since then it is offered only to municipal employees. Those who are allowed to drive municipal cars have to take part in this education program.

Also a very comfortable car-pooling system has been developed (PENDLERNETZ). It's one of the most innovative carpooling systems in the EU so far, especially with regard to the three main features

- communication via SMS,
- geographically referenced route mapping and
- automatic data transfer to the public transport information.

The system was developed in the framework of the ISCOM Project, supported by the European Commission (IST/5th Framework Programme).

The online car-pooling service "Pendlernetz Stuttgart" is free of charge. During the EU CARAVEL Project, which is just running, the service will be advanced and extended by event-oriented traffic features to also encourage event-oriented car-pooling, for example, in case of soccer games, big concerts etc. To this aim an event data pool will be integrated into the Stuttgart car-pooling system Pendlernetz. Finally an access from a special regional web-portal will be implemented. Dedicated marketing measures will be launched to increase the use of the service throughout the project phase.

Of course the municipality also offers a lot of measures to raise public awareness. Two years ago a public competition to save energy in private houses was organized. Then there was a financial grant program for the citizens of Stuttgart to buy energy saving lamps (buy one, get a second one free). This program was stopped meanwhile, because it was not really successful.



Public competition to save energy



Financial support for the inhabitants of Stuttgart to buy energy saving lamps

Figure 8: *Examples of public awareness raising*

2.7 Measures of urban development

Regarding urban development, it should be mentioned that there exist some zero energy houses in Stuttgart. There is also the possibility to minimize the energy consumption in new building plans by a special calculation program (GOSOL).

Urban development is done in Stuttgart according to the words “urban, compact, green”. New buildings in existing building areas are preferred compared to the planning of new building areas in the open space.

3 Recommendations

3.1 Make it visible

In the city of Stuttgart, a lot of innovative pilot projects reducing greenhouse gases are located. These project could be a nucleus for spreading innovative measures. Until now there are no organised excursion tours offered in Stuttgart. The main barrier was the limitation of the suitable time possible to visit innovative buildings. A solution could be having a pool of interesting projects as a base for individual excursion tours, taking into account the opportunities for visiting at certain days. The energy agency could be the organiser and with their exhibition be a part of the excursion too. Co-operation with the tourism office could help in advertising these new service.

3.2 Good support

For a good result in CO₂-reduction a strong support of the city council is necessary, providing not only the financial and functional means, but especially acting as ambassadors that are proud to live in a city that take care of it's environment, creating jobs by this work and giving more air to breath for the citizens. Reduction of CO₂ – emissions has a strong relationship with the solution of the PM10 problem (small dust particles).

The team was surprised to learn that the city council members did not arrange for a special viewing of Al Gore's movie "An inconvenient

truth”, for example in combination with an invitation for students to discuss afterwards with the Board of Mayors. They expected this as a natural activity for the council of such a front running city.

3.3 Good co-operation

Stuttgart is one of the business centres in Germany and therefore a challenge for co-operation with the government organisations of the city. Lower energy consumption can both give benefits to climate protection and a better economic situation. Especially small and medium sized companies often have enormous potential for additional measures. The energy agency of Stuttgart can be a focal point to organise and manage these advice services. In a second step the advice services can be boosted to other items. For example could the mobility centre of Stuttgart focus on mobility management in companies having synergy effects to the actual workplan. Different examples in other European regions and cities can provide experience in launching such a program (for example Upper Austria, see <http://www.betrieblicheumwelt offensive.at/>).

3.4 Promotion of RES in the city of Stuttgart

Renewable energy sources are a key factor for a successful climate policy. In cities very often the situation is more complicated because of other environment problems like emissions in nitrous oxide and particular matter. An integrated study should analyse the potential for

RES taking into account the areas available for solar systems (PV, thermal collectors), locations for wind-mills and small hydro power stations, districts and sources for the use of heat pumps (sewage systems) and the biomass production (wood, wood-chips including contributions from the forests and parks, biogas). Biomass boilers should be realised at a larger scale with lower specific emission per energy output. The locations should take into account the meteorological situation and the vicinity to dwellings. Therefore industrial applications outside of the centre could be a better solution.

3.5 Revitalisation of Brownfields Development

During the last 40 years, the population of the Stuttgart Region rose by ca. 25 %, whilst at the same time the increase of land use lay with 88 % much higher. At the moment 1,5 hectares are paved each day.

In Stuttgart it already exists the “Kommunaler Altlasten-Fond” (municipal brown field fond). 250 sites with 400 ha area have been identified for inner development so far. For example, Stuttgart practices this form of land recycling already on the area of the former freight depot of Bad Cannstatt, where 22 hectares of wasteland are being transformed into a mix of housing and working areas. In such cases it is important to install a balance between builded spaces and green areas to increase the quality of human life and the air at the same time.

It is recommended that Stuttgart, which yet gives grants for interest payment when reusing a brownfield-area, should think about tax reduction for institutions and business that are fulfilling environmental guidelines. A further step could be the development of a “Stuttgart Standard” (development of criteria for the sound combination of housing areas, working areas, green areas and transport infrastructure) to define aims for the reduction of brownfields in the region. These steps should be realised in cooperation with the 2004 formed alliance “Flächen gewinnen in Baden-Württemberg”, that represents amongst others the ministry of the environment, the communities and several groups for nature conservation.

3.6 Increase “green electricity”

Local Electricity supplier in Stuttgart is "Energie Baden-Württemberg" (EnBW). Actually the share of renewable energy is pretty low.

In 1997, the EU Commission published a municipal action plan 'Energy for the future: renewable sources of energy', which set the target of doubling the share of renewable energy from 6 to 12 per cent of total energy consumption by 2010. The 2010-target is quite ambitious, and though strong efforts have already been undertaken a progress report in May 2004 stated that most member states were off track from their national indicative targets. A survey found out that if

all public authorities across the EU demanded green electricity, an equivalent of 60 million tonnes of CO₂ would be saved.

For instance, Sheffield Hallam University in the UK decided to cover 5% of their electricity demand with green electricity, a measure that enabled the University to lower their carbon emissions by nearly 2 % a year. Further energy efficiency measures will bring this figure to 3%. Another example is the Netherlandic area of South East Brabant, where in the meantime nearly all public buildings and street lightings are powered by green electricity. 21 municipalities of this region signed a contract with a supplier to obtain green electricity for 75% of their consumption, what represents about 29 million kWh. The municipalities banded together in order to obtain a better price. As well as the environmental improvement, the negotiated contract offers a cost saving of €620,000 over previous contracts [1].

The examples show that the use of green electricity gives advantages to both sides, the cities and the environment. Stuttgart should become involved in this win-win-situation so that the EU target of providing 12% green electricity in 2010 and 20% in 2020 will be realised.

1 <http://www.ucd.ie/procure/resources/buyinggreen.pdf>

Attachments

A) Agenda

B) Matrix 'Urban Development'

C) Matrix 'Energy'

D) Matrix 'Tourism'



AMICA Mitigation Peer Review in Stuttgart, 20/21 November 2006

AGENDA

November 20, 2006

- | | |
|---------------|---|
| 10.00 | Meeting point (Office for env. protection, 3 rd Floor, room 316) |
| 10.15 | trip to Burgholzhof (residential quarter with a progressive concept to save energy) |
| 10.30 – 11.30 | visit of Burgholzhof |
| 11.30 | trip to Sonnenberg (project KORIAS to save energy in a building for old people) |
| 12.00 – 13.00 | lunch in Sonnenberg |
| 13.00 – 14.00 | visit Sonnenberg (project KORIAS) |
| 14.00 | trip to the energy advice centre (EBZ) |
| 14.30 – 15.30 | visit of EBZ |
| 15.30 | trip to office for env. protection |
| 16.00 – 16.30 | car pooling system „Pendlernetz“ |
| 16.30 – 17.00 | climate protection measures in Stuttgart (KLIKS) |
| 17.00 – 18.00 | discussion |
| 19.00 | meeting with dinner (informations will be given short-dated in Stuttgart) |

November 21, 2006

- | | |
|--------------|-----------------------------|
| 9.00 – 13.30 | Climate Scan and discussion |
|--------------|-----------------------------|

URBAN DEVELOPMENT

Step:	1: getting started	2: moving forward	3: forging ahead	4: taking the lead
A Define your overall planning strategy	Review the relevant policies in the fields of land use, transport and environment	Identify opportunities, but also hindrances of your current planning policy	Review and eventually adjust existing institutional frameworks	Integrate and amplify planning competences within your local authority
B Establish structures for cooperative planning	Inform the public about upcoming planning processes	Establish a working committee with political representatives, relevant administration departments and external stakeholders	Develop and offer plausible and transparent participation schemes for citizens	Negotiate agreements on plans with the different stakeholders
C Define visions for a sustainable development of your urban area	Identify general guidelines for the future development of your city/municipality	Assess priority areas for development and check for incorporation of energy, transport and land use criteria	Decide about urban growth boundaries and develop strategies for infill and brownfield sites	Resolve on a vision for an efficient resource use city/municipality and define indicators for future monitoring of progress
D Define energy efficiency as a basic principle in urban planning	Introduce basic energy criteria for all planning processes	Include energy evaluation/balance as obligatory theme/section in all planning documents	Set up energy efficiency standards for refurbished and new buildings	Include energy efficient systems, like CHP or district heating, in every new or renovated urban area
E Assign a firm place to renewable energy sources (RES) in urban planning	Remove administrative barriers towards renewables (permissions, procedures)	Plan the progressive introduction of RES when refurbishing buildings or renovating urban areas	Include the use of renewables energy for renovating or new urban areas	Identify and reserve locations for renewable energy plants
F Reduce transport demand by sustainable land use planning	Investigate intelligent transport solutions when (re)designing residential areas or for housing projects	Introduce criteria for urban planning that aim at reducing transport demand	Plan in favour of pedestrians and cyclists, traffic calming as well as energy efficient and responsible car use	Seek for innovative models of urban design regarding transport (car free residential areas, etc.)
G Stimulate the development of sustainable business	Develop a strategy to involve the business sector in your sustainable development plan	Inform local enterprisers about the possibility of protecting the environment ensuring the company profits	Implement your action program: achieve environmental management agreements (for a sustainable business development)	Establish a local eco-label for environmentally friendly companies / improve the eco standards of the business sector in your municipality



ENERGY

	Step: 1: getting started	2: moving forward	3: forging ahead	4: taking the lead
A Define your energy policy and adopt targets	Define fundamental objectives of your energy policy	Lay the ground for your energy policy, formulate the action programme	Adopt detailed targets for individual sectors or subjects	Adopt the target: 100% renewable!
B Institutionalise your energy policy	Define responsibilities and allocate staff	Install cross-sectoral cooperation structures within the administration	Involve municipally owned companies in the energy policy	Install a local/regional energy agency
C Use innovative financing schemes	Inform yourself about national and European funding opportunities	Identify first buildings for energy performance contracting (EPC)	Analyse results of your first contract and potentials for enlargement to additional buildings	Reform financial framework conditions to facilitate internal EPC and apply it to all public buildings
D Bring your own facilities up to scratch	Check selected own facilities in terms of energy use and saving potentials	Establish energy performance standards for municipal buildings	Install an energy management system for all municipal buildings, including energy audits	Improve energy performance standards for public buildings
E Become a model for sustainable energy use	Investigate potentials for a renewable energy project on/at a municipal building	Define a package of cost-effective sustainable building measures	Define a package of sustainable building measures that require investment	Implement innovative measures and technologies and promote them as demonstration projects
F Purchase green electricity	Inform yourself about certified green electricity suppliers	Buy a portion of your energy demand from a green electricity supplier	Resolve upon the continuous progression of the share of green electricity	Adopt the target: 100% green electricity in your facilities and purchase them from regional suppliers
G Become a supplier of sustainable electricity heat & gas	Create an offer of green electricity for your citizens	Study the possibilities for cogeneration and RES and develop a sustainable energy supply strategy	Generate a share of your city's electricity and/or heat in own RES plants	Implement a long term action programme for RES and CHP to achieve a 100 % community
H Provide "green" public lighting	Analyse potentials for immediate savings in public lighting	Formulate a public lighting policy plan focussing on energy efficiency	Purchase green electricity for public lighting	Implement the policy plan and move forward to 100% RES target for your public lighting network

I	Inform and involve the citizens	Inform the citizens about your energy policy and give hints for own contributions	Install a local energy advice centre	Organise targeted campaigns on energy efficiency	Mainstream energy in education and professional training
J	Refurbish existing housing stock	Inform house-owners about the potentials to increase energy efficiency of their building	Collect data and set up a land register for energy use in the housing stock	Label the housing stock according to their energy efficiency and offer targeted advice and recommendations	Set up a loan programme for retrofitting the housing stock in terms of energy efficiency
K	Work on green office buildings	Promote your energy management system towards external companies	Investigate an establish energy performance standards for offices	Set up demonstration projects	Establish energy forums and offer energy performance services
L	Work with SMEs	Inform and consult local companies and organisations on energy efficiency and RES	Work with the Chamber of Crafts on branch specific measure recommendations and campaigns	Offer professional trainings for facility managers	Offer specific training for craftsmen, technicians and engineers
M	Collaborate with "powerful" partners (large-scale energy consumers)	Inform large-scale energy consuming companies about your energy policy	Adress corporate clients with targeted advice	Set up agreements on the use of RES in plants/sites of such companies	Set up a joint project on efficient energy use (cogeneration, industrial waste heat, etc.)
N	Kick off RES implementation	Place municipally owned roofage or other areas at the disposal for RES	Set up a land register for the potentials of RES use	Support or initiative the formation of investedin companies for RES use	Support private RES projects financially
O	Monitor your progress	Check data availability and define indicators	Monitor CO2 reduction impact of individual measures and report, incl. own facilities	Prepare a rough CO2 inventory every two years and publish it in a report, including the indicators	Monitor your CO2 emissions in detail every year and publish the full set of indicators



Tourism

Step:	1: getting started	2: moving forward	3: forging ahead	4: taking the lead
A Develop a local strategy for sustainable tourism	Develop a vision and adopt targets for sustainable tourism in your city / municipality	Integrate the strategy for sustainable tourism into the local planning framework	Identify priorities and develop a specific action plan for tourism in your city / municipality	Promote the vision for sustainable tourism in your city's / municipality's marketing
B Involve the providers of tourist infra-structures or services	Inform tourism operators about the potentials and benefits of climate protection	Establish a joint working group with representatives of the tourism branch to develop further the action programme	Set up joint information campaigns both for tourism operators and visitors	Promote quality tourism vs mass high impact tourism
C Minimise the environmental impact of tourism	Provide sector advice on the economical feasibility of energy efficiency and RES use (in order to reduce polluting emissions)	Develop measures to reduce the consumption of natural resources/water and to minimise waste production	Provide/develop tourist oriented transport services for "a car free holiday" in your city/municipality	Conceive a plan for a sustainable development of sport activities in your area (golf, skiing, motor vehicles, etc.)

