

**CASH – BASELINE STUDY SYNTHESIS**

Partner	City characteristics	Energy Policy of the city	Energy Efficiency Plan for housing	Legal framework	Social housing	Target for Pilot Project	Problems	Data Base	Monitoring System	Financial Mechanism	MA Involvement	Stakeholders involvement	Citizen involvement	Energy Production
Echirrolles (France)	<ul style="list-style-type: none"> <li>40 000 inhabitants</li> <li>25-30% GHGs from buildings</li> <li>Various social &amp; urban dev &amp; renovation programmes (ANRU...)</li> <li>Town hall (HCE) seen as best practice in France.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce GHGs by 4 by 2050.</li> <li>Agenda 21 implemented since 2004</li> <li>City has signed <b>Covenants of Mayors</b>.</li> <li>HOE and BBC standards applied for new constructions.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>OPATB 2007-2010: thermal renovation for building in Western district ~6M kWh savings &amp; GHGs reduction by 1500 tonnes / year</li> </ul> <p>Planned:</p> <ul style="list-style-type: none"> <li>Energy situation analysis.</li> <li>Methods for sustainable renovation.</li> <li>Financial engineering + ROI &amp; payback periods calculation.</li> <li>Knowledge dissemination on building techniques &amp; materials.</li> <li>Training planners &amp; companies.</li> <li>Involving inhabitants &amp; training.</li> </ul>		<ul style="list-style-type: none"> <li>Towers &amp; houses mainly owned by lessors</li> </ul>	Viscose (houses) + Village2 (towers)	<ul style="list-style-type: none"> <li>Investments in renovation have to be regained (ex. through higher rents).</li> <li>Search for other financing options: energy contracting / feed-in tariffs... to reduce energy costs for inhabitants of social housing.</li> </ul>	<ul style="list-style-type: none"> <li>Good demographic data.</li> <li>Good overview of nb &amp; quality of houses.</li> <li>Good overview of energy use in public buildings &amp; by public services.</li> <li>NO carbon footprint of the city &amp; of energy use by sectors.</li> </ul>	<ul style="list-style-type: none"> <li>No complete &amp; effective monitoring system of energy data consumption and savings in public buildings, industry and individual houses.</li> </ul>	<ul style="list-style-type: none"> <li>City has a specific budget for energy efficient renovation (10% of investment budget = 1M / 7)</li> <li>ADEME &amp; METRO cover 30% of energy-saving work cost (as in OPATB initiative).</li> </ul>		<ul style="list-style-type: none"> <li>ULSG with:                             <ul style="list-style-type: none"> <li>Municipality: Dept. Env't &amp; SD + Housing</li> <li>METRO (Grenoble agglomeration)</li> <li>Social housing lesors (SDH / OPAC / ACTIS / SONCACOTRA)</li> <li>Architects</li> <li>Energy agencies (ADEME / ALE / RA Energy Experiences)</li> <li>Construction companies</li> <li>Tenants associations</li> <li>Relevant associations</li> <li>Financial institutes &amp; banks</li> <li>ERDF MA</li> </ul> </li> </ul>		
Bridgend County (UK)	<ul style="list-style-type: none"> <li>Coal mining died since 17th century</li> <li>Closure of Welsh coal industry generated mass unemployment.</li> <li>1980s: development of Brackla Housing Estate, largest privately owned estate in Europe.</li> <li>Ageing population ~28% Households contain only elderly of which 86% are owner-occupiers.</li> <li>Emerging Local Development Plan.</li> </ul>	<ul style="list-style-type: none"> <li>All 4 RSLs are on target to deliver Welsh Housing Quality milestone by end 2012.</li> <li>Energy Statement Policy 2006 with NO specific quantitative goals, with a strong reference to Welsh National Policy with quantitative goals of CO2 reduction.</li> <li>City has adopted a 2004-2009 Local Housing Strategy with no accent on local situations or opportunities. No clear own mission statement or LT strategy for the city.</li> <li>Sustainable development strategy 'Starting to Act Differently' + Sustainable Development Forum.</li> <li>Climate Change Task Group of city officers working on the development of GHGs reduction.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>Welsh Housing Quality Standard 2008: dwellings must be capable of being adequately heated at an affordable cost to the residents.</li> <li>Welsh Assembly Government 2003 Fuel Strategy Warm Homes &amp; Energy Conservation Act 2000 – A Fuel Poverty Commitment for Wales with eradication targets of fuel poverty in vulnerable households by 2010, in social housing by 2012 &amp; everywhere by 2016.</li> <li>Home Energy Conservation Act.</li> <li>Changing legislation regarding permits, energy certificates...</li> </ul>	<ul style="list-style-type: none"> <li>Welsh Housing Quality Standard 2008: dwellings must be capable of being adequately heated at an affordable cost to the residents.</li> <li>Welsh Assembly Government 2003 Fuel Strategy Warm Homes &amp; Energy Conservation Act 2000 – A Fuel Poverty Commitment for Wales with eradication targets of fuel poverty in vulnerable households by 2010, in social housing by 2012 &amp; everywhere by 2016.</li> <li>Home Energy Conservation Act.</li> <li>Changing legislation regarding permits, energy certificates...</li> </ul>	<ul style="list-style-type: none"> <li>Bridgend County Borough Council no longer owns housing stock within Borough.</li> <li>Non-profit housing associations known as Registered Social Landlords (RSL) were created.</li> <li>In 200... 6300 dwellings were transferred to Valleys to Coast (V2C) RSL for home improvement for tenants.</li> <li>Older social housing stock built for miners as terrace houses or semi-attached houses are in the valleys (big part of older social housing stock).</li> <li>City has a very different stock profile compared to V2C, both by age &amp; construction type, most from 2004 (~2200 properties built to meet 2004 energy efficiency standards).</li> </ul>		<ul style="list-style-type: none"> <li>Growing amount of owner / occupants in former social housing. This renders difficult group wide renovation as the number of private tenants increases in a block.</li> <li>Social housing stock built for miners as terrace houses or semi-attached houses is getting older.</li> <li>No real awareness of changing legislation on permits and energy certificates and their environmental background among builders, architects and project developers.</li> <li>City has no solutions for houses in fuel poverty without sufficient income &amp;/or ineligible for grant support. (e.g. tenants who exercised their Right to Buy)</li> </ul>	<ul style="list-style-type: none"> <li>Demographic data from Local Housing Market Assessment (LHMA) commissioned by city in 2009.</li> <li>Stock Condition Survey gives insight of private houses (age, type, energy improvements made...), but not all available data are being used by the city for policy development (e.g. demographic, socio-economic &amp; environmental context).</li> <li>Carbon footprint is being developed in cooperation with Cardiff University.</li> </ul>	<ul style="list-style-type: none"> <li>Exists policies' monitoring in line with RSLs. It is not clear if &amp; to what extent these subsidies are being used &amp; if they lead to more energy efficiency.</li> <li>Private banks just discovering possibility of green loans for energy saving. Energy contracting is not offered.</li> </ul>	<ul style="list-style-type: none"> <li>Range of grant opportunities available to home-owners &amp; tenants, to clients &amp; to RSLs. It is not clear if &amp; to what extent these subsidies are being used &amp; if they lead to more energy efficiency.</li> <li>Private banks just discovering possibility of green loans for energy saving. Energy contracting is not offered.</li> </ul>	<ul style="list-style-type: none"> <li>Structure exist for regular exchanges with key stakeholders (Registered Social Landlords RSLs &amp; SD Platform). However it can be expanded to internal &amp; external potential partners (housing assoc., private house owners, energy suppliers, representation of tenants, financial institutions, energy supply Cies, MA...). Motivating &amp; involving entrepreneurs &amp; private initiatives would be a new challenge.</li> </ul>			
Brindisi (Italy)	<ul style="list-style-type: none"> <li>90 000 inhabitants.</li> <li>Ageing population.</li> <li>Energy is produced from 3 power plants powered by coal (5000 MW/year = 90% of the city's needs).</li> </ul>	<ul style="list-style-type: none"> <li>Brindisi should sign the Covenant of Mayors (~20% CO2).</li> <li>Apulia Region has an 'Environmental Policy 2008' (PEAR) promoting gradual withdrawal from carbon based fuel energy source &amp; stricter policy for energy criteria for buildings (Energy consumption for households is about 20%).</li> <li>Brindisi has NO specific Local Energy Plan for Housing but has started the process to draw the new urban planning tools. Local energy is focused on production of cleaner energy (wind, solar, waste) and less on energy efficiency.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>Brindisi is promoting renewable energies. For energy production, City has a Plan for wind turbine and it promotes the use of photovoltaic panels on roofs of public offices schools. Its goal is to include, as well, energy from household wastes (~5% CO2).</li> <li>Revitalization of the Pantheon district (Northern edge of city) is an example for many cities.</li> <li>City is working on changing Stakeholders' consumption behavior.</li> </ul>	<ul style="list-style-type: none"> <li>With Region &amp; Province, City is working on agreements with stakeholders (mainly management of energy plants) to reduce fossil dependency &amp; emissions and is developing local information &amp; educational programmes.</li> </ul>	<ul style="list-style-type: none"> <li>Houses &amp; buildings follow 10/91 regulation insufficient for actual challenges.</li> <li>Energy infrastructure (electricity, gas, district heating) is old &amp; distribution inefficient.</li> </ul>		<ul style="list-style-type: none"> <li>City is collecting economic &amp; population data.</li> <li>Environmental data is collected by the Region and regularly published.</li> </ul>	<ul style="list-style-type: none"> <li>There is no specific system for monitoring energy data from households. City is working on a system to exchange info with energy providers.</li> </ul>	<ul style="list-style-type: none"> <li>Brindisi is studying way to reduce tax for building contractors going for energy efficient constructions.</li> <li>Financial instruments are needed for retrofitting, as an incentive for renovation of existing housing stock.</li> <li>City has modified its Regolamento Edilizio Comunale to oblige new building to have a solar collector to provide at least 1kW. This is supported by the National regulation 'Comio Energia' for a guaranteed feed-in tariff during 20 years which offers very good conditions for development of solar energy.</li> </ul>		<ul style="list-style-type: none"> <li>Possible stakeholders: Instituto Autonomo Case Popolari IACP, tenants/unions, Region &amp; Province, private investors, Research institute CETMA, Regional monitoring Committee for living conditions CRCA, Regional Environmental Agency ARPA, National association of building contractors ANCE and national energy provider ENEL.</li> </ul>			
Frankfurt (Germany)	<ul style="list-style-type: none"> <li>680 000 inhabitants.</li> <li>City of energy efficiency.</li> </ul>	<ul style="list-style-type: none"> <li>Energy &amp; Climate Action Plan adopted by city 2009: get 10% reduction every 5 years; reduce energy demand in buildings, namely residential buildings through extension of combined heat &amp; power co-generation to more households, district heating &amp; indirect measures (info &amp; training target group).</li> <li>Housing Cies, architects &amp; building Cies all support the City's energy policy.</li> <li>In Frankfurt's housing sector, a potential reduction of 4.2% in heat &amp; 3.4% in electricity (energy demand) is possible. Additional savings on the production side are even bigger (9% of total CO2 by CHP/District heating).</li> <li>Electricity consumption did not reduce from 1995 to 2005 &amp; Frankfurt initiated a 'Smart Living' campaign offensive for households next to the activities for heating.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>Municipal Energy Agency (EnergieReferat) offers consultancy service for private people about energy saving &amp; state subsidy programmes.</li> <li>ABG Holding is establishing an energy management system, systematic insulation of building blocks, often combining district heating network &amp; a co-generation plant (50-80% CO2 reduction, keeping energy bill in good ratio to raising of rent).</li> <li>Energy pricing: there is an individual metering for electricity.</li> <li>Heat is metered central in house at boiler/heat exchanger &amp; individually in dwellings at radiators. ~ individual part: 50-70% of total costs. Rest shared based on rented surface.</li> <li>Insulation of houses is a major goal &amp; City is promoting rise in rent according the energy quality level.</li> <li>Mandatory energy performance labelling of household appliances, energy performance certification of buildings &amp; other energy consumption informing systems are widely used.</li> <li>City organises campaigns &amp; energy advisory team to raise awareness among population &amp; higher training &amp; education for specific target groups. House of the future, an association for energy advice grouping 10 organizations, inform on subsidies, regulations &amp; support. Successful pilot projects are actively used to promote energy saving renovation.</li> </ul> <p>Planned actions:</p> <ul style="list-style-type: none"> <li>Establish an integrated energy consultancy service unit with partners (craftsmen, energy Cies, tenants &amp; landlords associations) quality insurance serve for craftsmen's work, additional funding for an energy guide to help house owners understand complicated funding schemes.</li> </ul>	<ul style="list-style-type: none"> <li>Historical buildings: 20% of residential buildings built 1890-1910.</li> <li>City is 100% owner of the residential part of the city. ABG Holding is managing with &gt;50 000 dwellings (1950-70). There exist 3 or 4 other bigger housing Cies.</li> <li>Energy pricing: there is an individual metering for electricity.</li> <li>Heat is metered central in house at boiler/heat exchanger &amp; individually in dwellings at radiators. ~ individual part: 50-70% of total costs. 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It is found too expensive but includes the 'full service heat' with boiler, chimney cleaning... Marketing measures are necessary.</li> <li>Interest of the tenants are not always well served: before big renovation projects they are moved &amp; only few come back new rents being too high. Families with lower incomes are forced to move to the outskirts of the city. ABG is starting a project where the social aspects during renovation are considered.</li> <li>Smaller house owners cannot keep up with high insulation quality &amp; believe their apartments will get less attractive.</li> <li>Complicated funding schemes. Since there are no subsidies for individual apartments, individual owners of apartments in a block must unite to make use of subsidies.</li> </ul>	<ul style="list-style-type: none"> <li>Measuring of real energy data to validate the success of City's energy policy is only done on a project level base.</li> <li>City has developed a CO2 balance for 2005, 1995, 92 &amp; 87.</li> </ul>	<ul style="list-style-type: none"> <li>Germany = 1st European country with effective feed-in tariff regulated by law.</li> <li>There are subsidies for insulation of house blocks, not for individual apartments.</li> <li>Households can get an additional financial reward if they save electricity (City's additional financial bonus).</li> </ul>		<ul style="list-style-type: none"> <li>Housing Cies, local engineers &amp; architects working with Energy Dept for consultancy &amp; info service. Tenant's organisations are important but not strongly involved yet. City's owned housing Cie ABG Frankfurt Holding is active but other housing Cies are still reluctant to set high energy targets.</li> </ul>				
Les Mureaux (France)	<ul style="list-style-type: none"> <li>33 225 inhabitants.</li> <li>City is dominated by social housing in the south part: 5 159 social housing =46% of housing stock.</li> <li>41% owners of co-properties &amp; individual houses in whole town.</li> <li>Unemployment 16%.</li> <li>1100 persons asking for housing.</li> <li>Town Hall 1<sup>st</sup> HOE building in France</li> <li>Emerging green construction sector with creation of an energy centre in 2010 with info centres oriented on energy poverty.</li> <li>Educ. centre with + energy 2012.</li> </ul>	<ul style="list-style-type: none"> <li>Energy policy of city reviewed in 2009</li> <li>Covenant of Mayors signed in 2009 but has not led yet to an energy plan.</li> <li>For 2010, Town plans a carbon assessment &amp; an action plan to reduce GHGs by 20%.</li> <li>In 2004 Local Agenda 21 including energy-saving.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>Municipal Energy Agency (EnergieReferat) offers consultancy service for private people about energy saving &amp; state subsidy programmes.</li> <li>ABG Holding is establishing an energy management system, systematic insulation of building blocks, often combining district heating network &amp; a co-generation plant (50-80% CO2 reduction, keeping energy bill in good ratio to raising of rent).</li> <li>Energy pricing: there is an individual metering for electricity.</li> <li>Heat is metered central in house at boiler/heat exchanger &amp; individually in dwellings at radiators. ~ individual part: 50-70% of total costs. 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This leads to important disparities in the co-ownership housing stock.</li> </ul>	<ul style="list-style-type: none"> <li>City has an annual energy data from its heat boiler.</li> <li>A cabinet collects data on energy consumption &amp; housing dimension inside urban renewal area.</li> </ul>	<ul style="list-style-type: none"> <li>NO monitoring mechanisms for energy policy &amp; housing dimension reporting of activities to the municipal council.</li> <li>NO indicators about housing energy aspects.</li> <li>Only monitoring instrument is the household bills for heating sector in the installation of roof photovoltaic panels of up to 10 Kw. No subsidy for cost of installation but payment of 0.66 Euros/kWh provided to power system (fixed 20 years contract with a payback period estimated to 4-5 yr).</li> <li>New subsidy of 40% for energy efficiency by Ministry of Environment, Energy &amp; Climate Change (outer cell insulation, windows replacement...)</li> <li>Some banks have launched long term loans for financing of energy efficient improvements + installation of solar panels at low interest rate (still high)</li> <li>District heating system is prepared in accordance with the law which could be useful for a better steering of the heat supply</li> </ul>	<ul style="list-style-type: none"> <li>Energy pricing: City is keeping price of district heating deliberately low to raise attractiveness of net connection (done on a voluntary basis), but no guarantee that this could continue since city is depending on PPC global energy pricing.</li> <li>City instrument to develop energy efficiency in housing sector is the installation of roof photovoltaic panels of up to 10 Kw. No subsidy for cost of installation but payment of 0.66 Euros/kWh provided to power system (fixed 20 years contract with a payback period estimated to 4-5 yr).</li> <li>New subsidy of 40% for energy efficiency by Ministry of Environment, Energy &amp; Climate Change (outer cell insulation, windows replacement...)</li> <li>Some banks have launched long term loans for financing of energy efficient improvements + installation of solar panels at low interest rate (still high)</li> <li>District heating system is prepared in accordance with the law which could be useful for a better steering of the heat supply</li> </ul>	<ul style="list-style-type: none"> <li>Large group of potential participants: municipal &amp; inter-municipal departments with strong cooperation; financial institutions; architects; builders; corporate energy network, energy agencies...</li> </ul>	<ul style="list-style-type: none"> <li>External organizations &amp; citizens are often excluded from institutional cooperation.</li> <li>Raising citizens' energy awareness can't be done only by the energy bill.</li> </ul>	<ul style="list-style-type: none"> <li>City projects to build (at a large scale) a biomass based district heating system.</li> </ul>			
Ploemada (Greece)	<ul style="list-style-type: none"> <li>Ploemada is known as the 'Energy City' of Greece with 6 power plants (steam-electric plants of the Public Power Cie, using lignite from mines of the area), but recognized for its air pollution. In 1990's it was 1<sup>st</sup> Greek city to be certified &amp; operated a district heating network.</li> <li>On-going local authority reformation merging of 3 municipalities with Ploemada which will evolve, in the next years, into Municipality of Corinth.</li> <li>Most dwellings are owned by their owners.</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> Greek city to sign Covenant of Mayors and to set itself high targets for energy-saving &amp; energy efficiency 20-20-20 and realize a Local Action Plan which contains (small scale) restorations of municipal buildings in order to achieve energy efficiency &amp; decrease of CO2 emissions (~ by 260 000 tons).</li> <li>City became member of Energie Cites network.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>City Energy Efficiency Plan with specific actions for public buildings &amp; lighting, but no links made between agreed 20-20-20 goals &amp; actions. Construction of energy-biometric Town Hall and biometric renovation of AEA's building 'Smart Lamp' project leading to optimum use of public lighting.</li> <li>Since last year, ongoing process to raise public awareness through mass media publications (newspapers, press releases, TV shows...), congresses &amp; participation to external events (e.g. Ecology/innovation-Energy days during European Sustainable Energy week).</li> <li>Planned actions:                             <ul style="list-style-type: none"> <li>A 2<sup>nd</sup> phase of Energy Efficiency Plan should include houses &amp; industry target groups.</li> <li>2010 Operational Master Plan foresees actions for sustainable energy development &amp; energy efficiency to be realized between 2011-2014.</li> <li>City has secured to finance by State funds a new pipeline with the Kardias power plant of total thermal power of 100 MW. It will allow all city's households &amp; nearby villages to be connected to district heating network, as well as, non-urban use of district heating (greenhouses, SPA...), seen as CO2 free energy being a side product of power plants.</li> <li>In long term a new energy source has to be found to replace lignite power plants because of the exhaustion of the lignite.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>NO concept of 'social housing' in Greece. Owners of land build their own houses, or provide their land to contractors covering the cost of construction and getting back 25-50% of the constructed area. This 'loft' led to a strong development of construction sector &amp; unbalanced urban development. There are no big house owners.</li> <li>Labour housing (2-3 floors) with low rents built by State or big Cies (like power plant Cie)</li> <li>Energy pricing: even when individual metering for each apartment is available, District Cie invoices on housing level &amp; leaves, division to households, whereas PPC invoices electricity costs directly to the individual users.</li> </ul>	<ul style="list-style-type: none"> <li>Until now housing is not an issue in the LAP and CASH project has here a gap to fill.</li> <li>City has no specific Department for Energy policy or strategy development. It has an 'Environment &amp; Urban Planning' department ensuring that all state laws about housing &amp; buildings are being followed.</li> <li>Majority of existing housing stock will not, or not soon, be affected by legislative framework regarding energy efficiency.</li> <li>There is a lack of the control tools.</li> <li>District heating Cie sees its task as energy provider &amp; not in helping reducing the demand.</li> <li>Energy pricing: even when individual metering for each apartment is available, District Cie invoices on housing level &amp; leaves, division to households, whereas PPC invoices electricity costs directly to the individual users.</li> </ul>	<ul style="list-style-type: none"> <li>NO carbon footprint or other basic data about present energy use.</li> <li>Demographic data are provided to policy makers through National Statistical Service, with 1-2 years delay.</li> <li>Only actively retrieved data can be number of new buildings &amp; new constructed surface by Urban Planning Department.</li> <li>Electrical power consumption can be retrieved only through private Cies like Public Power Corporation.</li> <li>District heating system is prepared in accordance with the law which could be useful for a better steering of the heat supply</li> </ul>	<ul style="list-style-type: none"> <li>NO monitoring mechanisms for energy policy &amp; housing dimension reporting of activities to the municipal council.</li> <li>NO indicators about housing energy aspects.</li> <li>Only monitoring instrument is the household bills for heating sector in the installation of roof photovoltaic panels of up to 10 Kw. No subsidy for cost of installation but payment of 0.66 Euros/kWh provided to power system (fixed 20 years contract with a payback period estimated to 4-5 yr).</li> <li>New subsidy of 40% for energy efficiency by Ministry of Environment, Energy &amp; Climate Change (outer cell insulation, windows replacement...)</li> <li>Some banks have launched long term loans for financing of energy efficient improvements + installation of solar panels at low interest rate (still high)</li> <li>District heating system is prepared in accordance with the law which could be useful for a better steering of the heat supply</li> </ul>	<ul style="list-style-type: none"> <li>Energy pricing: City is keeping price of district heating deliberately low to raise attractiveness of net connection (done on a voluntary basis), but no guarantee that this could continue since city is depending on PPC global energy pricing.</li> <li>City instrument to develop energy efficiency in housing sector is the installation of roof photovoltaic panels of up to 10 Kw. No subsidy for cost of installation but payment of 0.66 Euros/kWh provided to power system (fixed 20 years contract with a payback period estimated to 4-5 yr).</li> <li>New subsidy of 40% for energy efficiency by Ministry of Environment, Energy &amp; Climate Change (outer cell insulation, windows replacement...)</li> <li>Some banks have launched long term loans for financing of energy efficient improvements + installation of solar panels at low interest rate (still high)</li> <li>District heating system is prepared in accordance with the law which could be useful for a better steering of the heat supply</li> </ul>	<ul style="list-style-type: none"> <li>Many stakeholders involved for 1<sup>st</sup> time in a municipal energy policy.</li> <li>Property owners. These owner-occupants are majority of households but, heterogeneous &amp; difficult to organise &amp; not involved.</li> <li>Managing Authority (for legislation &amp; the financing of initiatives):                             <ul style="list-style-type: none"> <li>Energy Agency of West Macedonia;</li> <li>Certified Engineers Club;</li> <li>Finance industry of financial institutions;</li> <li>Building Cies;</li> <li>Retail industry</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>District heating uses thermal energy of the co-generated thermal &amp; electrical power from 2 power plants (total thermal power: 75MW).</li> </ul>				
Sonderborg (Denmark)	<ul style="list-style-type: none"> <li>76 236 inhabitants.</li> <li>Population is growing older.</li> <li>Average housing stock around 35 years, 35% is 'socialised/apartment' housing and 60% houses are privately owned.</li> <li>12 houses have been insulated.</li> <li>City wants to achieve transition from farming society to zero carbon with new green jobs.</li> <li>There is a strong partnership between district heat suppliers &amp; municipality</li> </ul>	<ul style="list-style-type: none"> <li>Turn Sonderborg into CO2 neutral city by 2029, reducing CO2 emissions by 25% by 2025 through its Action Plan on Energy Efficiency &amp; its Project Zero (public/private foundation) which focusses on existing buildings in different target groups:                             <ul style="list-style-type: none"> <li>households, public buildings, Cie buildings, farm houses, etc., to create comprehensive energy-saving reductions. Retrofitting &amp; converting to renewable energies to become CO2 neutral, are other goals.</li> </ul> </li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>Content of Project Zero:                             <ul style="list-style-type: none"> <li>replace natural gas district heating production (current energy source) with geothermal Heat (2 wells planned to be drilled &amp; used by new geothermal plant by 2011), solar heat, waste...</li> <li>establish a transmission pipe line connecting all existing district heating networks</li> <li>generate biogas from pigs manure, organic waste &amp; energy crops;</li> <li>generate power from biogas, wind &amp; photovoltaic</li> <li>supplement photovoltaic &amp; heat pumps for rural areas</li> <li>rethink transportation.</li> </ul> </li> <li>Climate policy goals have been clearly disseminated (publicity campaigns, school involvement...). They are widely understood &amp; supported by all citizens. In 2009, 100 role MODEL ZERO families have been engaged in integrating climate wise solutions in their everyday life. Experience gained will be spread to all citizens.</li> <li>Local action plan will include:                             <ul style="list-style-type: none"> <li>segmentation of buildings by age, engineering/architecture plan per segment</li> <li>establish an energy labelling system together with banks &amp; real-estate agents</li> <li>upgrade craftsmen's competencies (training to make buildings with a better energy class)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>NO concept of 'social housing' in Greece. Owners of land build their own houses, or provide their land to contractors covering the cost of construction and getting back 25-50% of the constructed area. This 'loft' led to a strong development of construction sector &amp; unbalanced urban development. There are no big house owners.</li> <li>Labour housing (2-3 floors) with low rents built by State or big Cies (like power plant Cie)</li> <li>Energy pricing: even when individual metering for each apartment is available, District Cie invoices on housing level &amp; leaves, division to households, whereas PPC invoices electricity costs directly to the individual users.</li> </ul>	<ul style="list-style-type: none"> <li>Desire widely shared Energy policy goals, City's big hurdle is to make interesting &amp; comprehensive campaigns that makes the various target groups what to adopt.</li> </ul>	<ul style="list-style-type: none"> <li>City has started measuring CO2 emissions per sector (housing is responsible for 25% CO2 emissions).</li> </ul>	<ul style="list-style-type: none"> <li>Government has allocated funds allowing 30 000 households to receive 2500 Euros subsidy to replace oil burner with heat pump (nb. installation cost of heat pump ~12000 Euros).</li> </ul>	<ul style="list-style-type: none"> <li>City will involve:                             <ul style="list-style-type: none"> <li>All municipality departments</li> <li>technology/businesses</li> <li>local building &amp; construction sector, including local cooperative housing societies</li> <li>Cleantech Cies</li> <li>education centres, schools, research institutes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>New platform will be defined for citizen participati on to Energy policy – Project Zero.</li> </ul>	<ul style="list-style-type: none"> <li>Through ZEROCarbon roadmap, priority is given to expansion &amp; transformation of gas-based District Heating system (only 34% buildings are connected to district heating).</li> <li>Goals:                             <ul style="list-style-type: none"> <li>replace gas-based district heating with geothermal heating;</li> <li>establish transmission pipe line connecting all district heating networks;</li> <li>establish new district heating networks along transmission pipe line;</li> <li>50% buildings using gas or oil heating should switch to district heating before 2015.</li> </ul> </li> </ul>				
Tatabánya (Hungary)	<ul style="list-style-type: none"> <li>70 333 inhabitants.</li> <li>City between railway &amp; road junction.</li> <li>City had an industrial character until fall of socialist government in 1989. Nowadays no active mine &amp; important CO2 reduction.</li> <li>Devaluation of forint created difficulties since many house owners have their mortgage in foreign currency.</li> <li>Unemployment problem.</li> </ul>	<ul style="list-style-type: none"> <li>Agreement in 2007 with Sociological Research Institute of Hungarian Academy of Sciences to elaborate 1<sup>st</sup> Local Climate Change Strategy of Hungary.</li> <li>Tatabánya has set up an own voluntary carbon offset system on regional level (www.nco22.hu).</li> <li>City joined international Organization KLEI &amp; the Cities for Climate Protection (CCP) campaign.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>Local Climate Change Strategy &amp; Integrated Town Developing Strategy approach the topic in 4 areas:                             <ul style="list-style-type: none"> <li>energy efficiency, promoting the use of renewable energy;</li> <li>reducing vehicular traffic, promoting the use of renewable energy;</li> <li>reducing volume of waste &amp; separated waste collection;</li> <li>reducing need for road transport through spatial planning.</li> </ul> </li> <li>Of all social housing, ~20-25% have undergone some energy related renovations, but these are seldom and not structural and City has no real pilot or demonstration projects of well executed energy efficient renovation.</li> </ul> <p>Suggestions for the future:</p> <ul style="list-style-type: none"> <li>Energy contracting, responsible procurement, awareness raising can be stimulated in cooperation with the 'Authorized Joint Representatives'.</li> <li>Good examples of energy efficient renovations can be used as demonstration.</li> <li>Educational programmes can be combined with demonstration projects.</li> <li>Heating &amp; ventilation habits have to be adapted to new building quality.</li> <li>City should investigate financial tools where investments can be earned back, like revolving funds or energy contracting.</li> </ul>	<ul style="list-style-type: none"> <li>NO social housing in Yambol since City doesn't own affordable apartments for social weaker groups. 91% of housing is private &amp; most dwellings are occupied by their owners.</li> <li>A complicating aspect for renovation are shared premises not part of individual owned apartments but essential parts of the house (roof, common entrances).</li> <li>15% of apartments in residential buildings are uninhabited since many leave because of lack of financial resources to maintain dwellings.</li> </ul>	<ul style="list-style-type: none"> <li>Energy efficiency related activities are seldom and not structural.</li> <li>Architects, building owners don't take a pro-active approach.</li> <li>Investments that have to be made in the infrastructure of the district heating network are mainly concentrated on houses' level. Transport pipes from energy plant to the city district seem not to be insulated enough. City could gain by keeping network in good quality, together with re-negotiating the contract with the energy plant of which it is the major shareholder (51%).</li> </ul>	<ul style="list-style-type: none"> <li>29700 houses &amp; apartments in city.</li> <li>22200 dwellings in block of flats.</li> <li>67% of population lives in flats.</li> <li>City possesses 2145 flats, 2049 is social housing.</li> <li>75.5% of buildings are heated by district heating provided by local central heating Cie 'District Heating Joint Stock Company' using energy from local Power plant owned at 51% by City.</li> </ul>	<ul style="list-style-type: none"> <li>Many aspects of housing (number of social housing, newly built, economic value of houses...) are monitored &amp; updated regularly.</li> <li>City has made an estimated emission of CO2 for the city &amp; for houses, calculated with general assumptions &amp; averaged data about consumption validated with an audit + demographic changes.</li> </ul>	<ul style="list-style-type: none"> <li>NO monitoring system for energy of CO2 data. Energy data are not specifically patterned (energy labels/ consumption...). They are owned by energy infrastructure Cie &amp; not easily available. The national Dutch Energy Agency is building a web based tool for data collection on energy policy &amp; action plans of Dutch municipalities, energy labels, consumption &amp; subsidies.</li> <li>Monitoring is based on existing data base. More detailed monitoring is being considered.</li> </ul>	<ul style="list-style-type: none"> <li>City has several projects running, funded by national &amp; European subsidies and additional local subsidies:                             <ul style="list-style-type: none"> <li>subsidy for block of flats to support insulation, windows replacement &amp; modernization of heating. If applicants accomplish a high quality regeneration, they get an energy certificate. The higher is the level of energy efficiency reached, the higher would be the extra-support they can receive from national government;</li> <li>national programme supporting modernization of heating.</li> <li>Great renovation plan of the Kertváros district (4600 inhabitants, 11% on social support &amp; 24% buildings owned by local government.</li> </ul> </li> <li>City also gives interest free loans.</li> <li>In preparation within 2-8 years is:                             <ul style="list-style-type: none"> <li>Central heating modernization programme of block of flats with individual meters &amp; regulation possibility in all flats, based on new financial instrument 'Heating Modernization Fund' (applicants' contribution will be ~20-30%);</li> <li>City hopes to earn, with sale of energy, of its local energy plant, the subsidies &amp; funding of the different projects.</li> </ul> </li> <li>New concepts like energy contracting are known but not used. New Energy Efficiency bachelor offered at University will help spread this concept.</li> </ul>	<ul style="list-style-type: none"> <li>City has experience in working with stakeholders in support groups (local climate group).</li> <li>CASH ULSG is covering:                             <ul style="list-style-type: none"> <li>Relevant municipal departments</li> <li>Economic development organizations;</li> <li>Federation of Technical &amp; Scientific societies;</li> <li>Chamber of Trade &amp; Commerce of Komárom-Esztergom County;</li> <li>District Heating Joint Stock Cie of Komárom-Esztergom County;</li> <li>National Development Agency (MAA)...</li> </ul> </li> <li>authorized Joint representatives (general private Cies appointed by associations of owners – some manage several thousands of apartments &amp; can have major influence);</li> </ul>	<ul style="list-style-type: none"> <li>Since 1923, Utrecht has district heating, which is still a major strategy in the energy efficiency of the City with planned expansion.</li> </ul>			
Utrecht (Netherlands)	<ul style="list-style-type: none"> <li>300 000 inhabitants and an increase to 350 000 in 2018.</li> <li>City with historic centre</li> <li>It is an important transportation hub</li> <li>City is building the largest housing area in the country &gt;30 000 houses will be completed in coming years, housing about 73 000 people.</li> <li>Young population with almost no ageing.</li> <li>Around 25% of inhabitants are students.</li> <li>1/3 citizens: immigrant background</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> Environmental policy plan in 1990, with energy-saving.</li> <li>2007, city adopted 'Utrecht Creates New Energy' with target to be carbon neutral by 2030.</li> <li>In 2009, Utrecht Makes New Energy to reduce CO2 emissions in 2012 by 7000 tons. For living housing a reduction of 30000 tons is set.</li> <li>City has signed Covenant of Mayors in 2009 &amp; EUROCLIMATE declaration on CC &amp; is involved in EnergieCités.</li> <li>Specific goal of use of renewable energy has NOT been set.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>City's priority is to improve energy efficiency of existing houses and ensure affordable rental housing for low incomes.</li> <li>District heating since 1923, is being expanded, with renovation and insulation of houses.</li> </ul> <p>Planned actions:</p> <ul style="list-style-type: none"> <li>Actions of Energy Efficiency Plan for Housing into Energy Action Plan are:                             <ul style="list-style-type: none"> <li>declaration of social housing Cies;</li> <li>Carbon neutral district with networking &amp; cooperative solutions;</li> <li>Insulation for houses in historical centre (rehabilitation 2011); solar heat, waste...</li> <li>Pilot project with owners of family houses &amp; with educative measures in off school care;</li> <li>website</li> <li>City is putting much time &amp; efforts in consultation process, convincing &amp; motivating actors</li> <li>Energy labelling for housing is not yet widely implemented.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>West district is a pilot area for ambitious CO2 goals of Utrecht with a facilitated network for citizens. (??)</li> </ul>	<ul style="list-style-type: none"> <li>Too many of the housing stock for social housing are occupied by higher incomes.</li> <li>Implementation of voluntary building codes is difficult. Clear structures for the dissemination of available info, are not easily available.</li> </ul>	<ul style="list-style-type: none"> <li>Many aspects of housing (number of social housing, newly built, economic value of houses...) are monitored &amp; updated regularly.</li> <li>City has made an estimated emission of CO2 for the city &amp; for houses, calculated with general assumptions &amp; averaged data about consumption validated with an audit + demographic changes.</li> </ul>	<ul style="list-style-type: none"> <li>NO monitoring system for energy of CO2 data. Energy data are not specifically patterned (energy labels/ consumption...). They are owned by energy infrastructure Cie &amp; not easily available. The national Dutch Energy Agency is building a web based tool for data collection on energy policy &amp; action plans of Dutch municipalities, energy labels, consumption &amp; subsidies.</li> <li>Monitoring is based on existing data base. More detailed monitoring is being considered.</li> </ul>	<ul style="list-style-type: none"> <li>City's policy to improve energy efficiency of existing houses is supported by national government fund with 340 million for 2009-2010.</li> <li>Only few financial instruments are available: national subsidies are the most common but not directed toward tenants of social housing.</li> <li>City has the possibility to provide low interest loans but this tool is not developed yet.</li> <li>In 2006, City delivered a free energy advice &amp; an energy saving box with ~9000 (40%) of low income houses (mostly tenants of social housing). A specific project was directed at the inhabitants with immigrant background. A</li> </ul>	<ul style="list-style-type: none"> <li>City role as facilitator, mediator &amp; initiator is strongly developed. There is a culture of action on housing, but this takes time.</li> <li>City is working since many years with social housing Cies &amp; representatives of tenants to sign an agreement/declaration on energy efficiency.</li> </ul>					
Yambol (Bulgaria)	<ul style="list-style-type: none"> <li>89 633 inhabitants with stable trend</li> <li>Average age 39.4 years.</li> </ul>	<ul style="list-style-type: none"> <li>Energy efficiency is one of the priorities in the Development Plan at a community level but the City has no quantitative goals for energy efficiency or CO2 reduction.</li> <li>Yambol has an Energy efficiency programme based on the Plan made by the national Energy Efficiency Agency and is preparing an update with specific parameters for the implementation of indicative targets for energy-saving by 2016.</li> <li>City is member of Municipal Energy Efficiency Eco Energy Network.</li> <li>Adaptation to EU regulations &amp; quality levels requires great efforts &amp; flexibility of population &amp; administration.</li> </ul>	<p>Existing actions:</p> <ul style="list-style-type: none"> <li>Since 2001, City has been pursuing a policy regarding replacement of solid fuels &amp; diesel with natural gas. Present gas distribution system is 101km long &amp; connects 1733 individual consumers, 26 industrial, 150 public &amp; administration buildings. Further expansion is planned. It is the 1<sup>st</sup> city in the country to use natural gas for domestic purposes.</li> <li>In 2010, City will be implementing integrated energy efficiency measures in children's complexes providing gas connection supported by gas company and renewal of boilers.</li> <li>Investments will be pre-financed &amp; paid afterwards by saved energy costs.</li> </ul> <p>Planned actions:</p> <ul style="list-style-type: none"> <li>Yambol has possibilities for the development of renewable energy sources, especially solar energy; region being the sunniest in the country. City has a project to attract investors, the 'Photovoltaic Electrical Plant' project, a 5 MW power plant with a capacity up to 10 MW.</li> <li>There should be a targeted policy to attract specific Cies that fit City's EE goals (solar equipment Cies, energy service Cies...).</li> </ul>	<ul style="list-style-type: none"> <li>NO social housing in Yambol since City doesn't own affordable apartments for social weaker groups. 91% of housing is private &amp; most dwellings are occupied by their owners.</li> <li>A complicating aspect for renovation are shared premises not part of individual owned apartments but essential parts of the house (roof, common entrances).</li> <li>15% of apartments in residential buildings are uninhabited since many leave because of lack of financial resources to maintain dwellings.</li> </ul>	<ul style="list-style-type: none"> <li>There is NO</li></ul>									