



Supporting the Green Digital Charter: the NICE project

29th November 2011, 11:30 - 13:45,
European Parliament, Brussels

**Murcia City Council
Local Energy Agency of
Murcia**

Municipality of Murcia



- **7th most populated city in Spain**
445.000 inhabitants + 1.5% hab/year
- CAPITAL+ 54 urban districts in 882 km²

Renewable Energy Potential:

- Solar: yearly average 5 kWh/m²/day.
- No hydro (rain<250mm/year): no viability of Solar thermoelectric just PV.
- No wind, no geothermal.
- Biomass under sustainability limit of the CO₂ emissions cycle.

Murcia Sustainable City

Raises in citizens and politicians the awareness about **energy saving**, **climate change** and **water shortage**

- **2009: SUSTAINABLE CITY AWARD of SPAIN**



- **2010: FINALIST OF SUSTAINABLE CITY GLOBE AWARD**
Selected within the 6 most sustainable cities in the World



- **2008-2010: FINALIST OF EUROPEAN MOBILITY WEEK AWARD**
3 times within 10 finalists and last year in second place

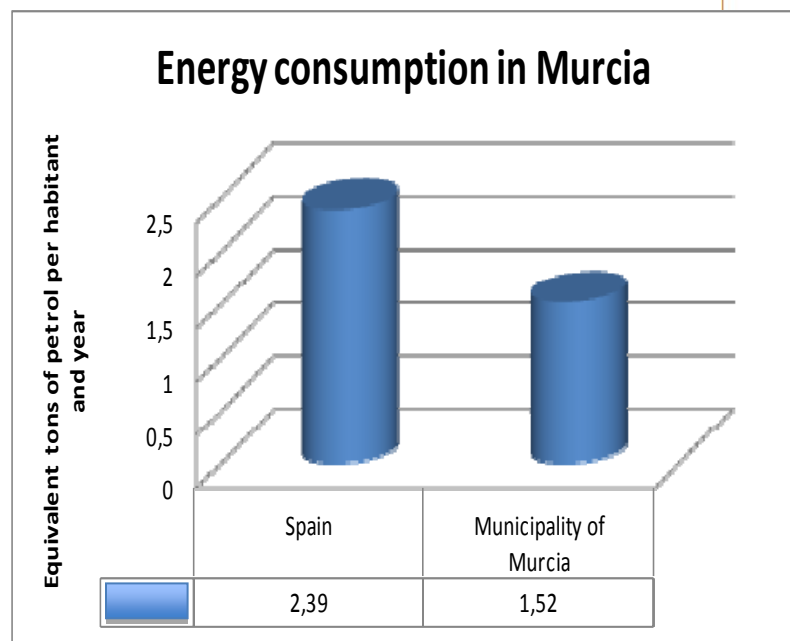


- **2011: GLOBAL LIGHT RAIL AWARD**
Awarded Murcia tramway in environmental category

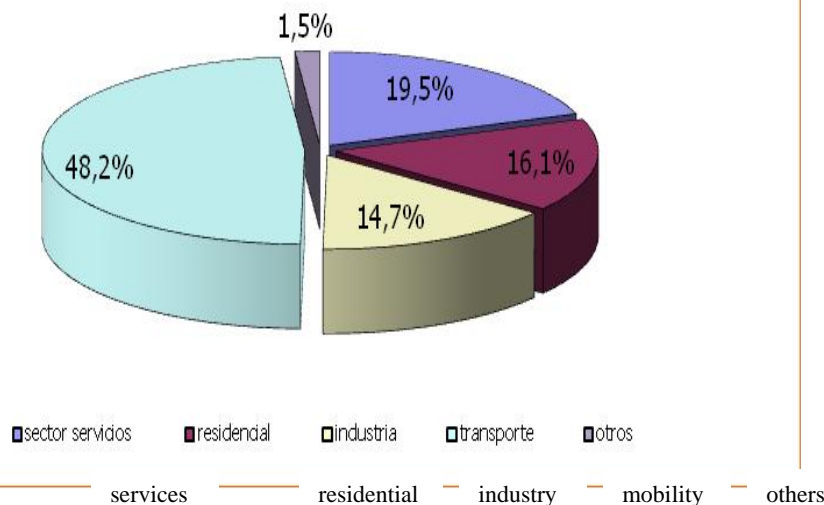
Energy Diagnosis

Base year 2007

Distribution of energy consumption by sectors
in Murcia during 2007 (Toe/year)



Distribución de consumo de energía final del Municipio de Murcia 2007 por sectores de consumo (tep/año)



Murcia's energy consumption per inhabitant is 35% under the Spanish average

Total emissions 2007: 2.7MtCO₂/year

SEAP -40% greenhouse gas emissions by 2020

- Murcia emissions 2007: 2.7 MtCO₂/year
- There must be safe of :
0.47 MtCO₂/year in 2020
- SEAP measures implies an average saving of:
0.20 MtCO₂/year (2009-2020)
- It will generate a saving of :
48 M€/year in 2020



SEAP Murcia actual status:

Energy auditing in city council buildings 324 tn CO₂/year

- Biogas cogeneration in waste water treatment plants 100.000 tn CO₂/year
- Extension of Tram 17GWh/year 4300tCO₂/year
- Solar Photovoltaic facilities: 976 tn CO₂/year
- Biogas waste plant cogeneration 31.464 tn CO₂/year
- City Council Subsidies to citizens & enterprises on energy efficiency & renewable energy: 1.4GWh/year 1675tCO₂/year



GREEN DIGITAL CHARTER

- **Opportunity to lead and implement sustainable politics** by executing the best practices and state of the art of ITCs and being an example for citizens and industries.
- **Awareness other City Councils and regions** about the importance of ITCs for modernization of the cities, the reduction in energy and water resources, and the creation of new specialized jobs.
- **Municipalities as showrooms for I+D+i companies and their products.** The best way to support them and multiply the benefits of the new global connected society.

Murcia City Case Study

- **Energy efficiency measures in buildings:**

As a way to reduce HVACs systems and lighting energy consumption

- Participation in **SmartSpaces EU project** with a pilot project consisting in monitoring 3 municipal buildings energy consumptions.
- Leader of **SmartCities EnerAgen project** consisting of analyzing the best practices and state of the art of ITCs and creating a manual for its implantation.
- **Awareness program for public employees:**
Implementation of **screensavers** with energy saving advises in all the City Council computers.

Murcia City Case Studies

- Renewable energies:

Multiple photovoltaics installations. Most of them monitorized for the citizens in a public website.

- PV pergola in street parks.
- Bus shelters illuminated with PV energy
- 100% street parking payment devices powered by PV.
- Municipal building roofs with PV: Over 40 buildings and 1,5 MWp power.
- Solar farms in municipal lands for 22,5MW of PV.



Murcia City Case Studies




Fecha y hora update	Centro autorizado	Número registro	Número matricul. Bicicleta	Número licencia	Accreditación	Tarifa	Estado
21/02/2011 11:25	PENYO TOMAS PEREZ MOYA	MUR04C	M1HE9	L100920322	MARIA SANCHEZ TORRES	Año T. Normal	Aceptada
21/02/2011 11:16	PENYO TOMAS PEREZ MOYA	MUR04B	M1H4N	L10092105	PAULA THOMAS GAYOSO	Año T. Reducida	Aceptada
21/02/2011 10:50	PENYO TOMAS PEREZ MOYA	MUR04T	M1H4B	L100923943	JOSEFA CANOVAS SANCHEZ	Año T. Reducida	Aceptada
21/02/2011 10:28	COSIO YRTEGALO JIMENEZ LOPEZ	MUR04Y	M1H8B	L10092128	ALBUJUCHI COSTA	Año T. Normal	Aceptada
21/02/2011 09:58	METER MOON BIKES, S.L.	MUR04S	M1H47	L100920272	RAMON RIQUELME GARCIA	Año T. Normal	Aceptada
21/02/2011 09:58	METER MOON BIKES, S.L.	MUR04A	M1H0D	L100920278	ASBENIO SANCHEZ LORCA	Año T. Normal	Aceptada
21/02/2011 09:32	12 FRANCISCO JAVIER ABELLAN MONTOYA	MUR04E	M1HFS	L100920111	MARIA JOSEFA VALERO RODRIGUEZ	Año T. Normal	Aceptada
21/02/2011 09:30	JUAN PEDRO GARCIA TORRES CLAY, S.L.	MUR04L	M1H4C	L100920230	MARIA JOSEFA FERNANDEZ DIAZ	Año T. Normal	Aceptada
21/02/2011 09:19	12 FRANCISCO JAVIER ABELLAN MONTOYA	MUR04S	M1HCF	L100920110	ANA LORCA VALERO	Año T. Normal	Aceptada
21/02/2011 09:10	METER MOON BIKES, S.L.	MUR04G	M1H8D	L100920082	JOSE ANTONIO BARRIOS DELGADO	Año T. Reducida	Aceptada
21/02/2011 09:05	METER MOON BIKES, S.L.	MUR042	M1HEV	L100920329	OSCARA MORIS HERNANDEZ	Año T. Reducida	Aceptada
21/02/2011 08:49	METER MOON BIKES, S.L.	MUR04L	M1H8R	L100920135	PURIFICACION PIVA GARCIA	Año T. Reducida	Aceptada
21/02/2011 08:34	METER MOON BIKES, S.L.	MUR04V	M1H8S	L100920114	Rosa Maria Garcia Navarro	Año T. Reducida	Aceptada
21/02/2011 20:24	METER MOON BIKES, S.L.	MUR04V	M1D1C	L100204726	MARIA DEL MAR HERNANDEZ OLÓMEZ	Demaria T. Normal	Rechazada
21/02/2011 20:22	METER MOON BIKES, S.L.	MUR04V	M1D1L	L100204581	ANTONIO COMEDAÑA LÓPEZ	Demaria T. Normal	Rechazada

- Public information devices and Internet consulting and delivering of documents:
- Traffic management control and digital street banners: Provide real time traffic information for drivers in the main streets.
- Online consulting of taxes and official forms download and presentation through City Council website.
- Environmental information by digital street banners: Real time City Council's environmental information: Bicycle, recycling, green activities and events.

Murcia City Case Studies



- Public information devices and Internet consulting and delivering of documents:
- Free on-line access points: Panels with free computers in the main streets permits free Internet access to citizen
- WiFi street net: permits WiFi Internet access in the main streets and districts of the city
- Real time public monitoring of temperature and % moisture in public climatized swimming pools for citizens
- Video cameras net for public gardens guarding

Murcia City Case Studies

• Transport & Mobility:

- Pilot project for monitoring the use of bio-diesel in 20% of public buses.

Savings of 75 MWh/year from conventional fuel and 27 tCO2/year



• ITC services of Murcia Bicycle Bureau:

- New software development for a pioneer bikesharing system in collaboration with bicycle retailers and workshops of the city.
- Net of Covered Public Bicycle Parkings: Each user has its own personalized key. The system control the access automatically.
- Recovery of lost and stolen bicycles web service: Permits identifying the bike and recovering.
- Interchange of bicycles web service.



Murcia City Case Studies

Transport & Mobility:

- Biogas fuel for municipal vehicles from waste water treatment plant (EDAR-Este)
- Street public charging points for bikes and motorbikes. Tele-operated by ALEM
- Fleet of municipal electric vehicles (cars, motorbikes & bikes)
- Public service buses with GPS and time arrival controlling: Includes SMS and Bluetooth information service
- Tramway of Murcia with all the ultimate ICT advances



Conclusions

- The success of the global energy and climate policies depends on cities. Local authorities are city planners, developers and regulators
- Local authorities, being the closest administration to the citizens and companies are ideally positioned to understand their concerns, to communicate with them and involve them actively to the action of sustainability and ITCs implementation
- Local governments must therefore become leading actors for implementing sustainable energy policies and ITCs, and must be recognized and supported in their effort
- 75% EU inhabitants live in cities and consume 80% of total energy
- The battle against climate change “is played locally”



Climate Change



global problem ... local answer