



# Networking for Sustainability & Green Digital Charter

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“Sustainability is in our hands - global networking”  
14 May 2014, Zagreb



# Index



GREEN  
DIGITAL  
CHARTER

- How does EURO CITIES work for a sustainable future?
- The Green Digital Charter
- NiCE toolkit



## EUROCITIES



Founded in 1986, representing cities of over 250,000 inhabitants



Over 130 full members in 35 countries, representing 130 million citizens



Over 40 associated partners



Most European capital cities are members



## Mission statement



EUROCITIES is committed to work towards a sustainable future in which all citizens can enjoy a good quality of life



## Our priorities



**JOBS**



**CLIMATE**



**CITIZENS**



## Our activities



- Influencing
- Visibility
- Networking



## EUROCITIES...

1. Represents the interests of cities in an **ongoing dialogue** with the European institutions

**Structural dialogue:**  
Regular meetings between Commissioners and EURO CITIES to represent your views

EUROCITIES brings member cities **face-to-face** with representatives from European institutions



## EUROCITIES...

2. Bringing attention to the **urban dimension** of Community policies and programmes, so strengthening the **role of cities** in European decision-making

**Policy papers & letters** regularly sent to European institutions - both in response to consultations and pro-actively

**Example:** EUROCITIES recently published a statement on the Commission's cyber security strategy and a response to the consultation on rail freight noise





## EUROCITIES...

3. Secures **EU resources** for cities by demonstrating the key role for city governments if EU policies and programmes are to be delivered
  - where they can make most difference, and
  - at the level closest to the citizen.

Working with the **European Parliament** to bring forward EU initiatives on key issues for cities

### **Example:**

Working with the Parliament's Urban Intergroup to ensure a strong urban dimension in EU policies



EURO  
CITIES

## Visibility



- a European **platform** for city politicians
- international **conferences**
- transnational **partnerships**
- European, national and local **media**
- international **campaigns**



# Networking

## EUROCITIES Forums

### COOPERATION

Chaired by the city of Nantes

<b>Culture Forum</b>	<b>Economic Development Forum</b>	<b>Environment Forum</b>	<b>Knowledge Society Forum</b>	<b>Mobility Forum</b>	<b>Social Affairs Forum</b>
Chaired by the city of Bologna	Chaired by the city of Liverpool	Chaired by the city of Birmingham	Chaired by the city of Ghent	Chaired by the city of Mannheim	Chaired by the city of The Hague



## Collaborating

### Support for development of European projects

- early information on Community **calls for proposals**
- access to a network of **potential partners**
- development of **joint projects**
- dissemination of **project results** to members
- **information seminars** on funding opportunities



## Exchanging experience

Members of EURO CITIES can...

meet

people in other European cities who are working on the **same issues** and facing **similar challenges**

learn

from others' experiences, and how to **develop** successful policies and **implement** effective solutions

share

knowledge and develop ideas for common **projects**, new policy **tools** and innovative working **methods**

ask

**questions** about the costs and benefits of different approaches and what problems were encountered



# Executive Committee

## EUROCITIES Executive Committee

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President

Warsaw

Vice-President

Nantes

---

Secretary  
Birmingham

Treasurer  
Ghent

Other members

Birmingham

Budapest

Turin

Leipzig

The Hague

Stockholm

Vienna

Barcelona



Collaborating



Cities for Active Inclusion





# Tomorrow...



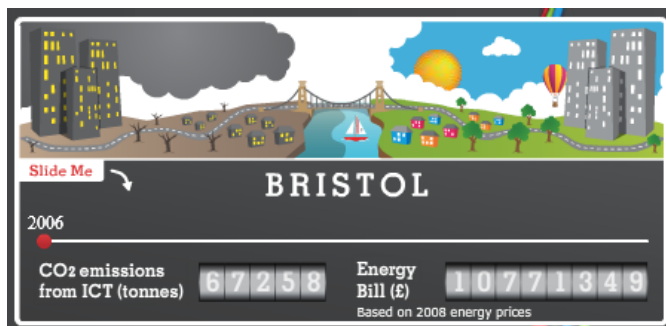
- Digital cities
- Smart cities
- Future cities
- Eco cities
- Sustainable cities
- (Intelligent, Resilient, Flexible, ...)
  
- Can we network and help cities... before "defining" them?

# Cities projects: Green ICT



## Green IT collaboration in the City of Malmö

- Introduce a model for collaboration concerning Green IT within the municipality departments in the City of Malmö



## Green AddICT Bristol

- Carries information on ICT-based carbon dioxide emissions in Bristol including case studies on green businesses, carbon calculators, and statistics on ICT carbon and energy bills.

# Cities projects: ICT4EE in buildings

## Birmingham AIM HIGH project

- Field test and evaluate the effectiveness of digital technologies for energy saving such as domestic smart meters, heating controls etc in a testbed of 348 homes



## Amsterdam Smart Challenge

- Involve 11 organisations over 2 months using the 'Wattcher' to monitor their energy consumption, thereby becoming more aware of their usage and enabling them to save energy

Amsterdam Wattcher  
Source: [http://www.greenlaunches.com/gadgets-and-tech/wattcher\\_to\\_curb\\_energy\\_consumption\\_at\\_home.php](http://www.greenlaunches.com/gadgets-and-tech/wattcher_to_curb_energy_consumption_at_home.php)



# Cities projects: ICT4EE in transport

## Bologna Traffic control centre

- Development of a traffic control centre to manage traffic in the metropolitan area. This will improve traffic flow, provide real-time traffic data, and contributing to the development of municipal traffic planning tools

## Tallinn Real-time information system

- Make up-to-date, reliable travel information available to passengers in an effort to increase ridership levels on public transport.

## Nice Côte d'Azur Eco Valley

- providing seamless journeys for travelers by coordinating and integrating different methods of transport
- Different pilots: intelligent parking, electric car-sharing schemes and Near Field Communication (NFC) technology around ticketing and payment



# Cities projects: ICT4EE in lighting

## Energy Efficiency Public Lighting in Rijeka

- 97% of public lights in Rijeka are energy efficient. City spends less energy per light and has sustainable goal to reduce lighting pollution



City of Rijeka

## Genoa ILLUMINATE

- investigate the implementation of “smart” lighting in high quality urban areas, with the aim of piloting innovative solutions and achieve both energy efficiency and improved quality of light.

# Cities projects: ICT4EE - cross-sectors

## Manchester Smart Environments

- Enable residents to collect data about the city environment through the use of wearable sensor technology as well as sensors embedded in streets, buildings and green spaces.
- *Example: provide info as “at what time of day pollution is at a high” or “how trees help improve the environment”*



Eindhoven sensors

Source: [http://www.llga.org/past\\_edition.php?idPastE=50&any=2011#](http://www.llga.org/past_edition.php?idPastE=50&any=2011#)

## Eindhoven Ambient sensor network

- Distributed control system for energy management to achieve efficient energy use
- Awarded the Living Labs Global Award in 2011

# The Green Digital Charter

- EUROCITIES initiative
  - City of Manchester and Clicks and Links (Green Shift Europe)
  - European Commission support
- Commits cities to reduce emissions through ICT → Green ICT
- Promotes progress in tackling climate change through the innovative use of digital technologies in cities → ICT for Green





# Commitments

Three tangible commitments:

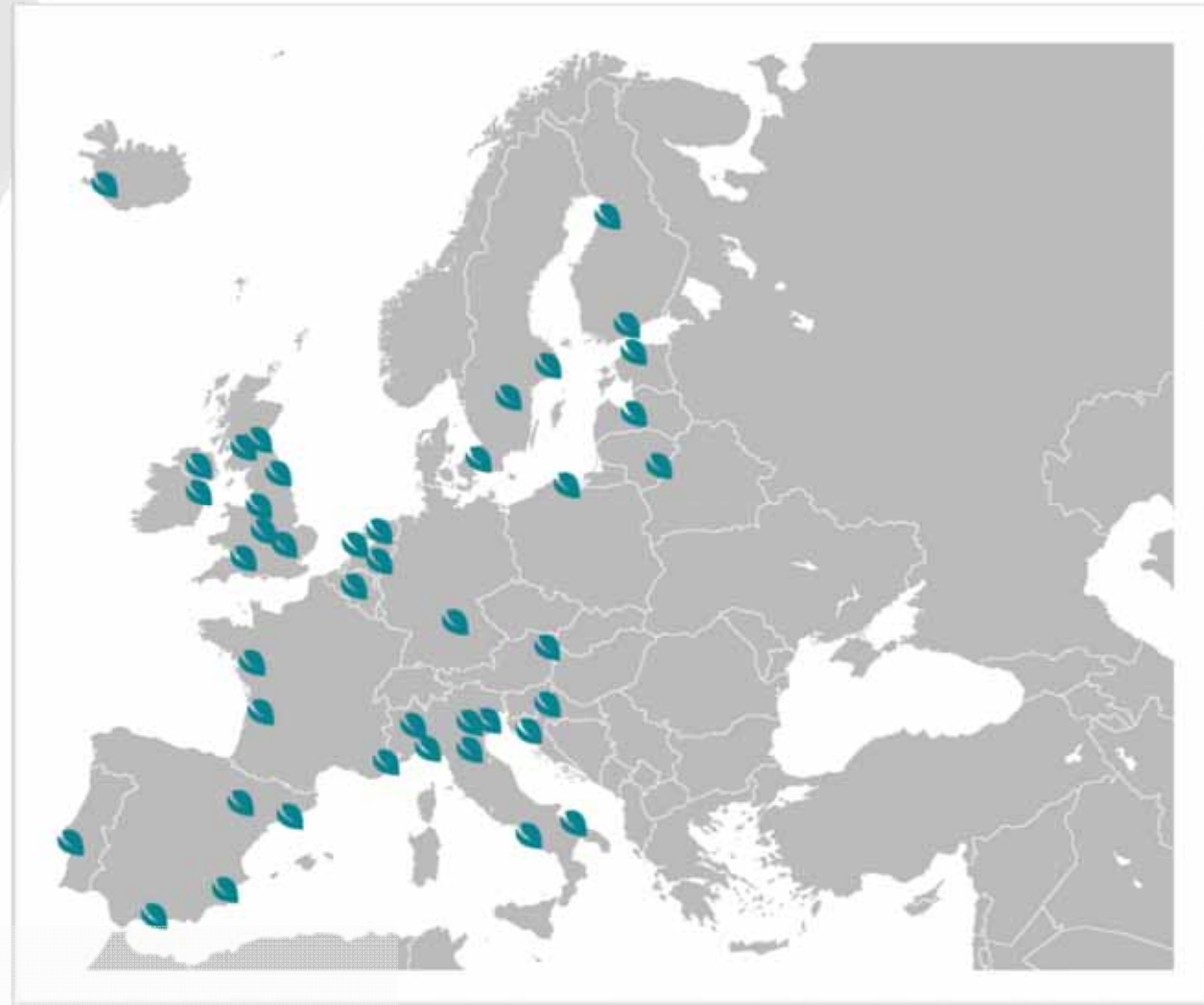
- Work with Green Digital Charter **signatories** on ICT & energy efficiency
- Deploy **5 large-scale ICT pilots** per city within 5 years
- Decrease **ICT's direct carbon footprint** per city by 30% within 10 years





# The Charter Signatories

GREEN  
DIGITAL  
CHARTER



42 signatories

18 European countries

# Why sign? GDC fits cities' agenda & priorities



**40%**  
carbon  
reduction  
by 2020

Bristol - Malmo  
Murcia - Nuremberg

**20%**  
carbon  
reduction  
by 2020

Bologna - Helsinki

**60%**  
carbon  
reduction  
by 2026

Birmingham

**21%**  
carbon  
reduction  
by 2020

Vienna - Zagreb

**31.64%**  
carbon  
reduction  
by 2020

Rijeka

**Carbon neutral  
by 2050**

Ghent



## Why sign? GDC can help cities work better



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- City teams work towards an official and explicit objective
- Signatories gain access to projects and tools developed by other cities
- They can exchange best examples and know-how with pioneering peers
- GDC offers visibility and promotion
- *Cities are supported by the NiCE project*

## Why sign? GDC follows EU priorities



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- Smart cities and communities EIP
- "20-20-20" goals
- Covenant of Mayors
- EU-China cooperation in urbanisation and sustainable development
- Horizon 2020 objectives & goals

# Signing the Charter



## SIGN IN 3 STEPS:

1. Check eligibility (size, importance)
2. City Council decision and application
3. Signing Ceremony



## BENEFITS FOR SIGNATORIES:

- Trainings and study tours
- Networking with pioneering cities
- Visibility → website, events
- Access to GDC toolkit and support
- Opportunities for international cooperations

# The NiCE project



Networking intelligent Cities for Energy Efficiency

- **Duration:** September 2011 - May 2014
- **Coordinator:** EUROCITIES
- **Partners:**
  - Clicks and Links Ltd
  - Manchester City Council
  - Leibniz institute for Ecological Urban and Regional Development
- **Funding programme:** FP7-ICT

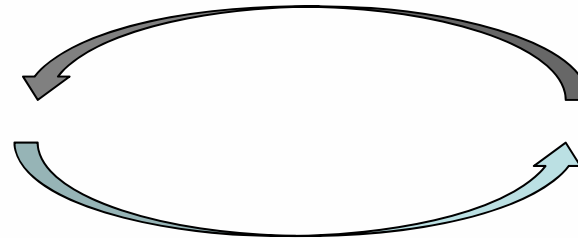




# NiCE approach

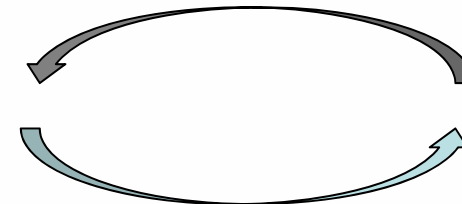
## **GDC TOOLKIT**

Action Framework  
Action Tools Catalogue  
Reporting tools



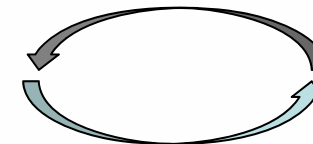
## **SUPPORT TO CITIES**

GDC Contact Point  
Technical trainings  
Study tours



## **OUTREACH**

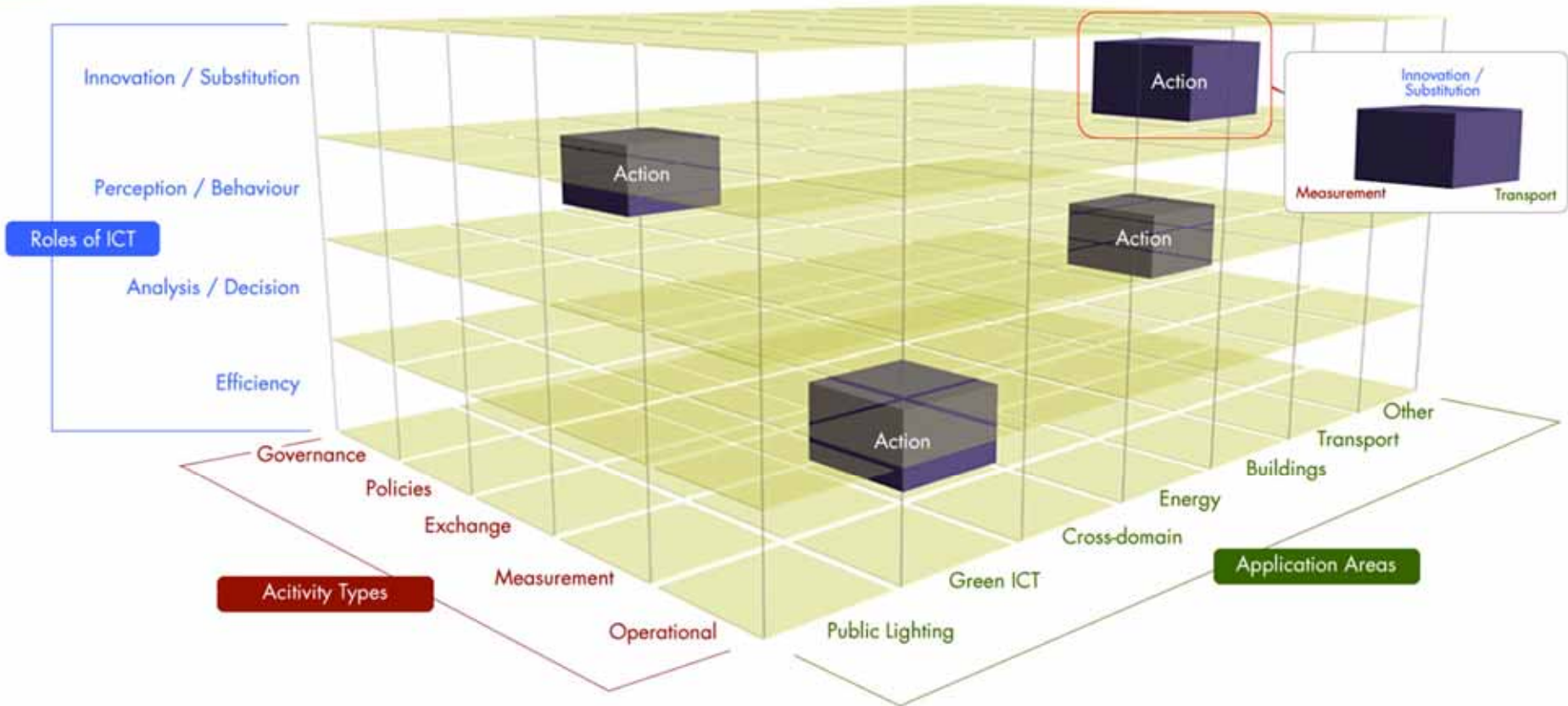
Roadshows  
Cooperation with CoM  
Focus on China



**GDC cities**

**ADVISORY GROUPS:** Reference Cities Group & Expert Advisory Board

# Green Digital Action Framework





# NiCE toolkit



The screenshot shows the NiCE Toolkit website interface. At the top, there is a dark teal navigation bar with the NiCE Toolkit logo on the left and 'TestCity's Activities', 'Log Out', and a flag icon on the right. Below this is a lighter teal secondary navigation bar with links for 'Home', 'Green Digital Progress', 'Activities', 'Tools', 'City Exchange', and 'Help'. The main content area is divided into several sections:

- TestCity**: A green header with icons for a gear and a wrench, and the numbers '8' and '2' below them.
- ICT Carbon Footprint Tool**: A purple box with the text 'Visualise your energy usage with this online tool.' and a button 'Start using the ICT Carbon Footprint tool'.
- ICT-1**: A white box with a gear icon, containing details for 'City: TestCity', 'Activity Type: Exchange', 'Application Area: Buildings', 'Role of ICT: Efficiency', and 'Test for CoM'. It also includes a timestamp: '- Last edited by Testcity User on 07-01-2014 16:25:07' and a comment input field.
- LA for CoM Testing**: A white box with a gear icon, containing details for 'City: TestCity' and 'Activity Type: Governance | Policy | Exchange | Monitoring'.
- Green Digital Progress**: A white box with a title 'Taking the temperature of Green Digital activity' and a sub-header 'View your Green Digital Progress'. It features five horizontal progress bars with percentages: 70%, 44%, 22%, 27%, and 25%. The 44% bar is highlighted in orange and labeled 'Average Of Top 10 Cities'. Below the bars is a yellow callout box with the text: 'Great Start! Your city is facing the challenge of Green Digital Activities and is on the right track. If you would like to further intensify your activities or if you are looking for more ideas for further progress you might be interested in what others do. Look here for activities that other cities shared.'
- Test Tool 3**: A white box with a wrench icon, containing details for 'City: TestCity | Tool type: Business case / Argument', 'Test Act', 'sdfsdfsf', and a 'Visit website' link.

On the right side of the main content area, there is a vertical orange button labeled 'Feedback'. At the bottom right of the screenshot, there is a small orange button with an upward-pointing arrow.



## NiCE toolkit

- “Review my city’s progress”
- Add activities and tools
- “Review city ICT carbon footprint”
- “Review GDC in Covenant of Mayors”
- City exchange tools

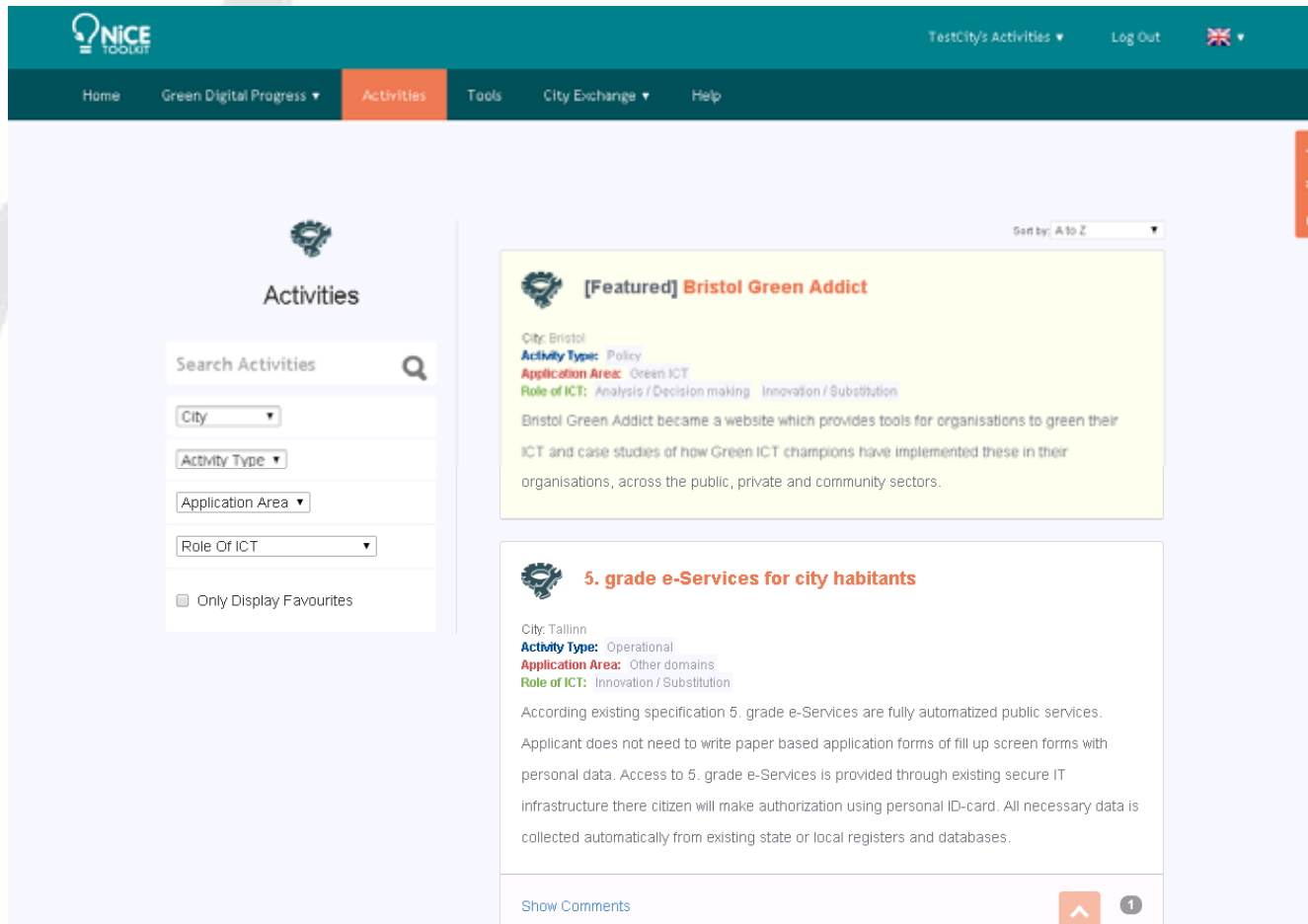
## “Review my city’s progress”

- The "Self Assessment Questions" (SAQ) allows a city to easily assess and monitor its status on green digital activities and its development.

The term "green digital" specifies strategies or activities combining information and communication technology (ICT) with energy efficiency/carbon emission reduction.

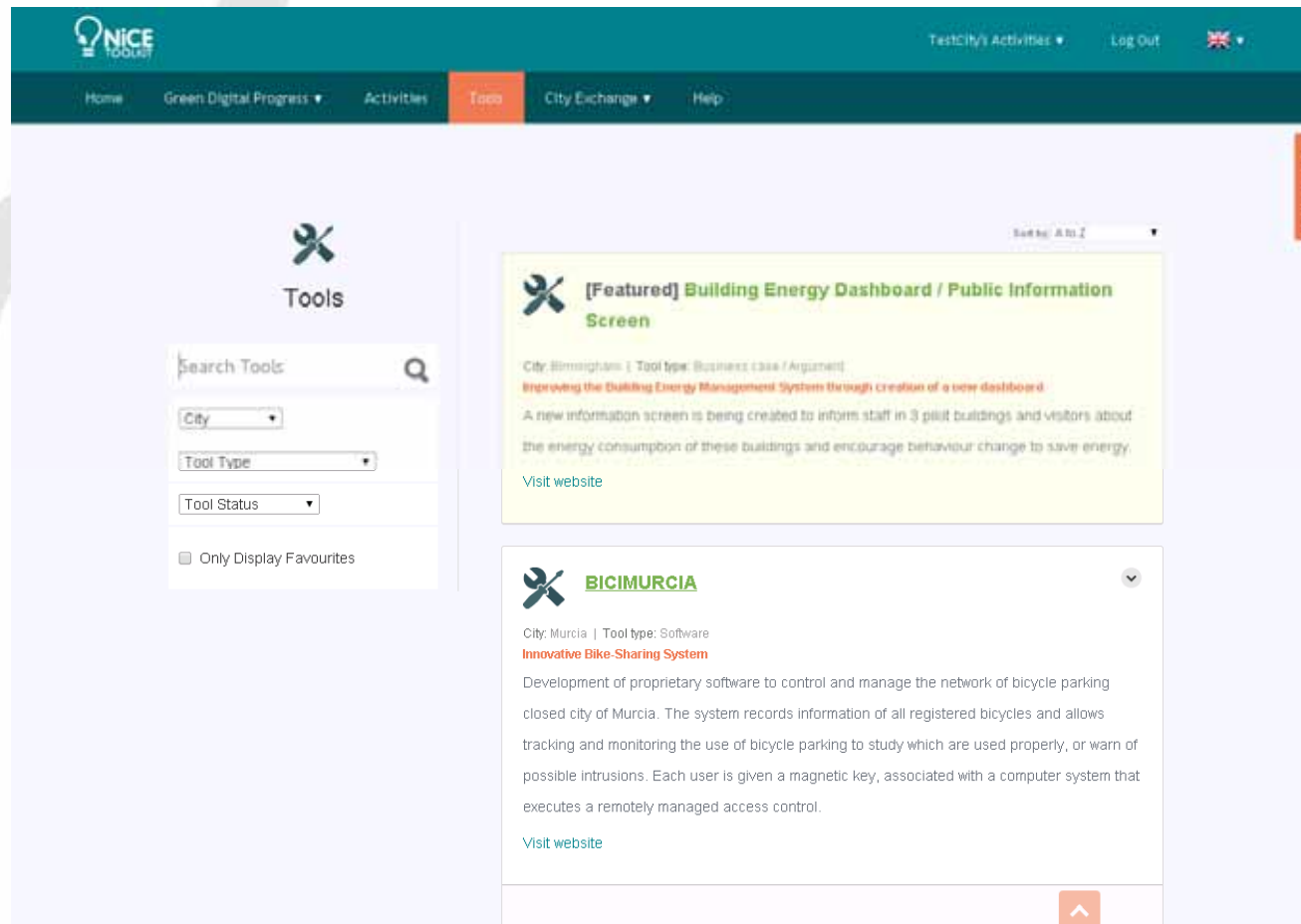
Although the Charter is a very comprehensive political document, it is the aim of the SAQ to cover all the commitments and at the same time limit the effort of the assessment process to a feasible amount.

# Add activities and tools



The screenshot shows the NICE Toolkit interface. At the top, there is a navigation bar with the NICE Toolkit logo on the left and 'TestCity's Activities', 'Log Out', and a flag icon on the right. Below this is a secondary navigation bar with 'Home', 'Green Digital Progress', 'Activities' (highlighted in orange), 'Tools', 'City Exchange', and 'Help'. The main content area is titled 'Activities' and features a search bar with a magnifying glass icon. Below the search bar are four filter dropdown menus: 'City', 'Activity Type', 'Application Area', and 'Role Of ICT'. There is also a checkbox for 'Only Display Favourites'. On the right side of the main content area, there is a 'Feedback' button. The main content area displays a list of activities. The first activity is '[Featured] Bristol Green Addict' from Bristol, with details on Activity Type (Policy), Application Area (Green ICT), and Role of ICT (Analysis / Decision making, Innovation / Substitution). The second activity is '5. grade e-Services for city habitants' from Tallinn, with details on Activity Type (Operational), Application Area (Other domains), and Role of ICT (Innovation / Substitution). At the bottom of the list, there is a 'Show Comments' button and a small orange button with an upward arrow and a '1' notification badge.

# Add activities and tools

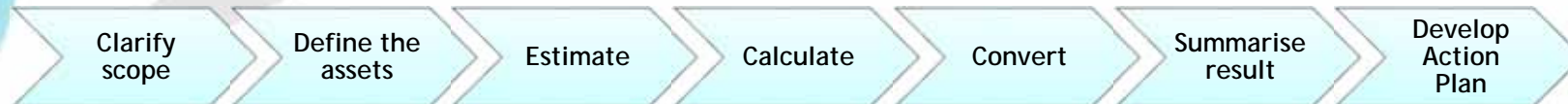


The screenshot shows the NICE TOOLKIT website interface. The top navigation bar includes 'Home', 'Green Digital Progress', 'Activities', 'Tools' (highlighted), 'City Exchange', and 'Help'. The right side of the header has 'TestCity's Activities', 'Log Out', and a language selector. The main content area is titled 'Tools' and features a search bar with filters for 'City', 'Tool Type', and 'Tool Status'. There is also a checkbox for 'Only Display Favourites'. The tool list includes:

- [Featured] Building Energy Dashboard / Public Information Screen**  
City: Birmingham | Tool type: Business case / Argument  
**Improving the Building Energy Management System through creation of a new dashboard**  
A new information screen is being created to inform staff in 3 pilot buildings and visitors about the energy consumption of these buildings and encourage behaviour change to save energy.  
[Visit website](#)
- BICIMURCIA**  
City: Murcia | Tool type: Software  
**Innovative Bike-Sharing System**  
Development of proprietary software to control and manage the network of bicycle parking closed city of Murcia. The system records information of all registered bicycles and allows tracking and monitoring the use of bicycle parking to study which are used properly, or warn of possible intrusions. Each user is given a magnetic key, associated with a computer system that executes a remotely managed access control.  
[Visit website](#)

# “Review city ICT carbon footprint”

- With this tool a city can collect, visualise and compare data with regard to its ICT equipment



1. Clarify organisational scope
  2. Define ICT assets
  3. Estimate number of assets according to type
  4. Calculate energy usage from estimation
  5. Convert energy usage to carbon emissions data
  6. Summarise results
  7. Develop action plan to reduce emissions
- ... Repeat process bi-annually...

## The example of Linköping (Sweden)

- The city's action plan is a continuous process
  - Started 2004 and is still running...
- Compared to a similar measurement made in 2008:
  - Linköping has reduced the total ICT energy usage by more than 50 %
  - The reduction has taken place even though the number of computers has increased from 6,000 to 10,000 units
  - Reason; computers use less energy and sleep mode functions work better today
- The ICT Carbon Footprint Tool works!
  - Provides a good basis for further planning and actions
- But, first you need to decide *why* to use the model?
  - The purpose is the input to define the scope
  - The Footprint Tool gives you knowledge, and...
  - ...the output is *input to the action plan* or the *report to the city council*

# The example of Linköping

ICT Footprint spreadsheet Linköping v.5 - Microsoft Excel

Organisational Scope	Operational Scope	Time in Use (hours per year)	Time on Standby (hours per year)	Switched off (hours per year)	in-use	Power usage (watts) standby	switched off	Annual unit consumption (kWh)	Number of units	Total power consumption pa. (kWh)	Total Cost SEK per kWh	CO <sub>2</sub> emissions (%) (kgCO <sub>2</sub> e)
Detail City Depts.	Categorise ICT Assets											
	Device Type											
	Portable PC	1,789	0	6,971	43	1.45	1.43	87	2195	190,743	108,151 kr	76,297
	Desktop PC	1,789	0	6,971	86	4.2	2.5	171	2577	441,365	250,254 kr	176,546
	Thin client	3,769	0	4,991	43	2.75	0.75	166	457	75,718	42,932 kr	30,287
	Projector Hitachi CP-WX3015WN	452	8,308	8,308	180	11.1	n/a	#VALUE!	170	#VALUE!	#VALUE!	#VALUE!
	Projector Hitachi CP-AW2519N	452	8,308	8,308	267	0.8	n/a	127	44	5,603	3,177 kr	2,241
	Projector Hitachi IPJ-AW250N	452	8,308	8,308	191.6	14.7	n/a	209	721	150,495	85,331 kr	60,198
	Projector Hitachi CP-WX410	452	8,308	8,308	291	7.4	n/a	193	45	8,686	4,925 kr	3,474
	Network Switch HP2620 - 24 port	8,760	0	0	28	n/a	n/a	245	493	120,923	56,471 kr	48,369
	Network Switch HP2620 - 48 port	8,760	0	0	43.5	n/a	n/a	381	158	60,207	28,117 kr	24,083
	Network Switch HP2620 - 24 port power	8,760	0	0	38.5	n/a	n/a	337	58	19,561	9,135 kr	7,824
	Network Switch Extreme X460 - 28 port	8,760	0	0	107	n/a	n/a	937	22	20,621	9,630 kr	8,248
	Smartphone	565	0	0	5	n/a	n/a	3	1189	3,359	1,905 kr	1,344
	Simple cell phone	113	0	0	5	n/a	n/a	1	419	237	134 kr	95
	Surfpad iPad	1,017	0	0	13.5	n/a	n/a	14	669	9,185	5,208 kr	3,674
	IP-phone Alcatel 4028IP	8,760	0	0	3.1	n/a	n/a	27	670	18,195	8,497 kr	7,278
	Printer	226	8,534	0	610	52	0.5	582	1770	1,029,482	583,716 kr	411,793
	Printer Multifunction	226	8,534	0	680	113	1	1,118	77	86,088	48,812 kr	34,435
	Datacenter	8,760	0	0	97000	n/a	n/a	849,720	1	849,720	396,819 kr	339,888
										<b>Totals</b>	<b>#VALUE!</b>	<b>#VALUE!</b>

This spreadsheet is accompanied by a 7 step guide on measuring carbon footprint of ICT in city administrations - accessible here: [http://www.greendigitalcharter.eu/toolkit/toolkit\\_ICTcarbonFootprint/](http://www.greendigitalcharter.eu/toolkit/toolkit_ICTcarbonFootprint/)



## “Review GDC in Covenant of Mayors”

- The "Green Digital Charter/Covenant of Mayors" reporting tool is designed to allow for cities to report more easily and effectively their activities and projects in both initiatives:
  - In the case a city has completed its CoM reporting, it needs only to identify its ICT related activities and projects (among the CoM actions) and copy all CoM fields to the GDC/CoM reporting tool, adding some GDC specific information
  - In the case a city reports first to the GDC, after reporting its green digital activities, it needs only to download the excel file, provided by the GDC toolkit and copy/paste all activities to the CoM reporting template.

# City exchange tools

City Exchange Forum
+

Home > Forums > City Exchange

This forum contains 8 topics and 6 replies, and was last updated by [Anonymous](#) 1 week, 4 days ago.

Viewing 8 topics - 1 through 8 (of 8 total)

Topic	Voices	Posts	Freshness
Test Started by: <a href="#">Anonymous</a>	1	1	1 week, 4 days ago <a href="#">Anonymous</a>
Training for Building Managers Started by: <a href="#">Birmingham-1</a>	1	1	1 month, 1 week ago <a href="#">Birmingham-1</a>
retraining of the ICT Clusters of the signatory countires Started by: <a href="#">Testcity User</a>	1	1	6 months, 3 weeks ago <a href="#">Testcity User</a>
Feedback on ICT Carbon Footprint tool Started by: <a href="#">Testcity User</a>	2	2	6 months, 3 weeks ago <a href="#">Testcity User</a>
Are we ICT Footprint hubs or not..? Started by: <a href="#">Linkoping-1</a>	2	2	6 months, 3 weeks ago <a href="#">Linkoping-1</a>
Should signatories act as ambassadors in their regions? Started by: <a href="#">Ghent-1</a>	1	1	6 months, 3 weeks ago <a href="#">Ghent-1</a>
Could we raise ICT & Energy Efficiency in national forums? Started by: <a href="#">Birmingham-1</a>	1	1	6 months, 3 weeks ago <a href="#">Birmingham-1</a>
Welcome Started by: <a href="#">jess.symons</a>	4	5	7 months, 2 weeks ago <a href="#">jess.symons</a>

Viewing 8 topics - 1 through 8 (of 8 total)

Create New Topic in "City Exchange"

↑

Feedback

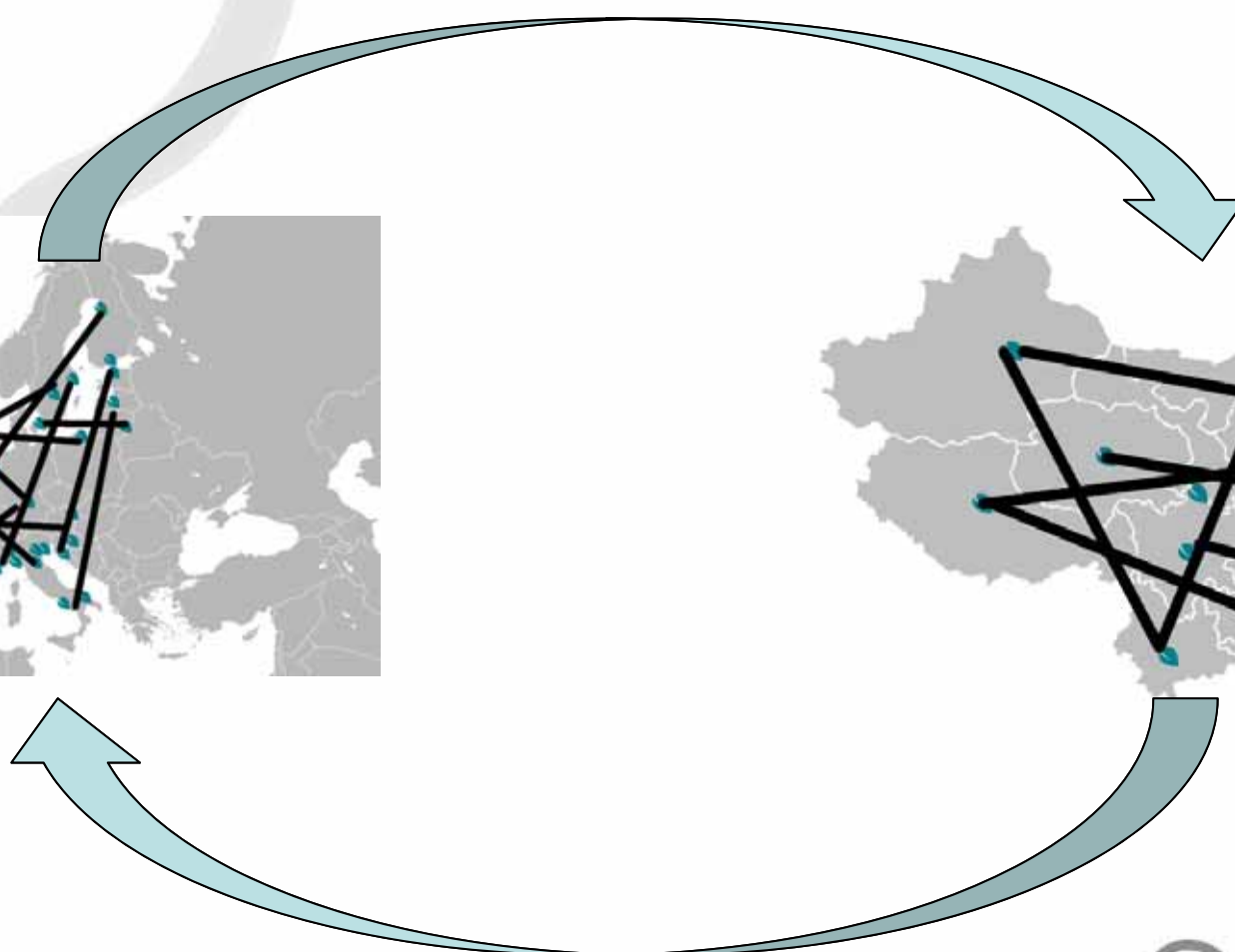
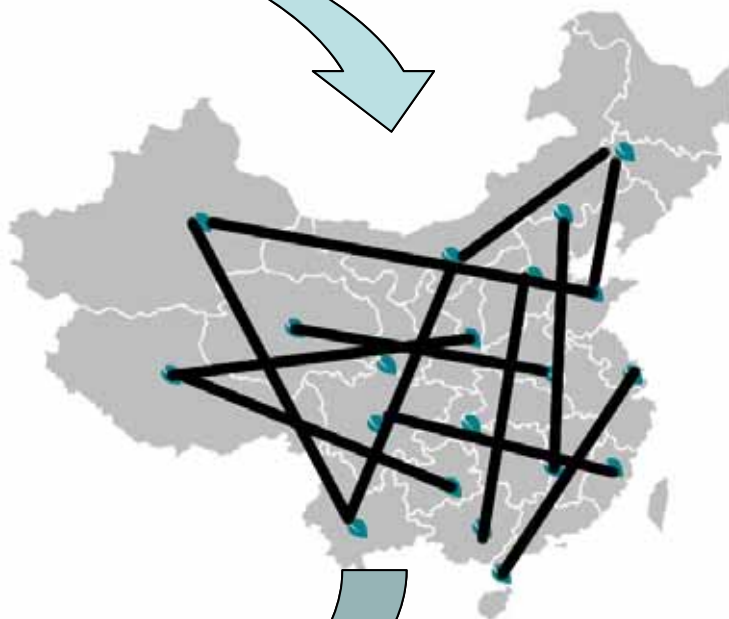
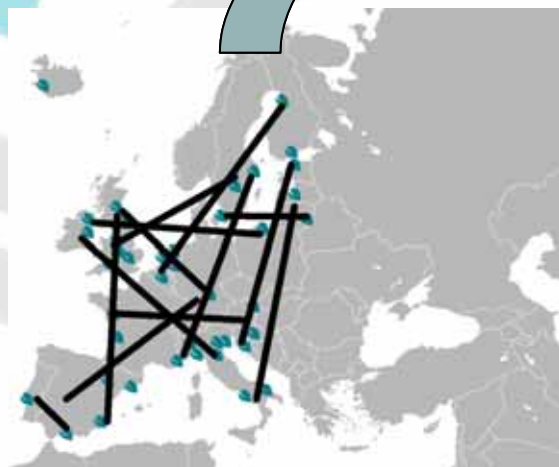
# The next day?



- Updated (& upgraded/ enhanced/ enriched) Green Digital Charter?
- Sustainability & resource efficiency content?
- “NiCE-2” project?
- New ways of training and knowledge transfer?
- More GDC signatories?
- Access to EU funding and opportunities?
- The role of industry stakeholders?
- SCC-EIP “Invitation for commitments”?
- *Cooperation beyond Europe?*

# Two networks working together 中欧合作网络

GREEN  
DIGITAL  
CHARTER



 **NiCE**  
Networking Intelligent Cities  
for Energy efficiency

  
SEVENTH FRAMEWORK  
PROGRAMME

# Thank you!



- GDC CONTACT POINT

[info@greendigitalcharter.eu](mailto:info@greendigitalcharter.eu)

[www.greendigitalcharter.eu](http://www.greendigitalcharter.eu)

 @GDCharter

- COORDINATOR: EURO CITIES – Nikolaos Kontinakis

[nikolaos.kontinakis@eurocities.eu](mailto:nikolaos.kontinakis@eurocities.eu)

+32 (0)2 552 08 46



- PARTNERS:

<http://www.greendigitalcharter.eu/contacts>



MANCHESTER  
CITY COUNCIL



Leibniz Institute  
of Ecological Urban and  
Regional Development

