

Green Digital Charter Action Tools

Action tools catalogue

V1.0 - 28/02/2012

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1 Introduction

The Green Digital Charter (hereafter also referred to as 'Charter') is a commitment document signed by cities. The GDC commits cities to both:

- Reducing the environmental impacts of Information and Communication Technologies (ICT);
- Using ICT to improve city social, environmental and economic sustainability, measured by carbon emissions.

The Green Digital Charter text is designed for political discussion and commitment. In order to make the Charter implementable, the text has undergone a rigorous analysis process as part of Networking intelligent Cities for Energy Efficiency (NiCE), an EC funded project to develop the Charter into a set of realizable actions and tools to support its implementation. The NiCE project combines detailed analysis of green digital activity worldwide with consultation and discussion with a select group of cities (the NiCE Reference Cities Group) to develop an 'implementation roadmap' for the Green Digital Charter.

For implementation, the Charter breaks down into around 100 commitments which range from 'collaborating with industry to support greener production, logistics and green procurement' (D11.1) to 'developing opportunities for innovation in eGovernment to transform public services, for example through mobile channels' (D15). A full list of these commitments is available in Annex B.

The Green Digital Charter commitments combine to support three overall objectives, namely to:

- Work with Green Digital Charter signatories on ICT & Energy Efficiency;
- Deploy five large-scale ICT pilots per city addressing the above areas within 5 years;
- Decrease ICT direct carbon footprint per city by 30% within 10 years.

This document provides a catalogue of potential action tools designed to help cities deliver on the commitments of the Charter. The tools proposed in this catalogue reflect extensive analysis of the Charter, guided by the 'Green Digital Charter Action Framework (hereafter 'Action framework') and conversations with the NiCE Reference Cities Group.

Many of the action tools listed here are not currently available. The tools are *proposed* and city feedback is sought. Once cities have provided detailed feedback on their preferred tools, these tools will take priority in the ongoing NiCE project. The next stage of the project will identify and review available action tools and where appropriate design new ones.

Subsequent versions of this document will provide a detailed breakdown of individual tools with access to the tools when available. This document will also be made available as an easily accessible online resource.

2 Explaining the Green Digital Charter action tool catalogue

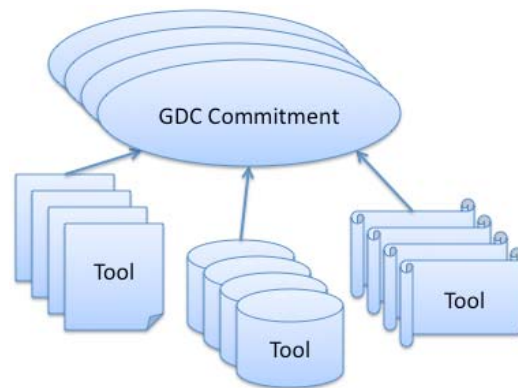


Figure 1 - Providing tools to support Green Digital Charter commitments

Potential action tools to support the delivery of the Charter are identified, categorized and listed in the Green Digital Charter action tool catalogue, provided in Annex A and in the accompanying spreadsheet. The proposed action tools vary in type, from a Word document to online mapping software. Each tool is evaluated for its potential to contribute to the delivery of green digital activity in cities. City feedback is sought on the tools proposed.

Each action tool has the following characteristics:

- Feedback on tool selection and use provided by cities
- Matched to the delivery of one or more Green Digital Charter commitments
- Categorised according to Action framework outcomes
- Matched to one or more indicators for Charter reporting
- Type of action tool
- Tool status

The following section outlines the action tool characteristics in more detail, providing a background context to the catalogue in Annex A and accompanying spreadsheet.

2.1 City feedback on action tools

Some consultation with cities about different tools has already occurred. Based on these conversations, three key requirements for action tools are:

- Data collection, synchronization and analysis of green initiatives;
- Visualisation of green related data;
- Changing behaviour relating to green issues using ICTs.

These findings are influencing which action tools are prioritized and developed further as part of the NiCE project. The next stage of the NiCE project is a detailed consultation with cities to prioritise the tools and identify others not yet been listed.

Cities will also be a source of tools themselves, providing good practice stories, documents and products/services which they are willing to share with other cities. For example, Bristol City Council produced a tool to capture information about carbon generation in their city. They made the tool methodology available as open source and it is informing the development of the GDC ICT reporting tool. In another example, Linköping has an extensive city sustainability programme which naturalizes and integrates ICT. Learning from their activities is being captured and shared as part of the NICE project.

As cities implement the Charter using tools from the Action tool catalogue, they can share their experiences with each other via the GDC website. Cities are also encouraged to share their own tools, both those they commission from independent providers and internal development.

The GDC does not provide guarantees on the success of action tools provided, since the implementation process varies widely from one context to another. However, the detailed analysis and the accumulated wisdom from multiple city use, should give a good indication of the efficacy of the action tools available.

City feedback is sought on the proposed tools in this document and the accompanying spreadsheet. This feedback is essential to the successful development of tools and can be made in consultation workshop and discussion and via the Green Digital Charter website.

2.2 Matching tools to GDC Commitments

The NICE project produced a 'Green Digital Charter action framework which combines an understanding of existing related green digital policies and activities, input from Reference Cities, an analysis of the Green Digital Charter text and also draws on 'transition theory', a development model that acknowledges the unpredictable and often uncontrollable nature of social, economic and political change.

In the Action framework analysis process, the Charter text was broken down into around 100 commitments. Each commitment acknowledges an aspect of green digital related activity. Some commitments are focused on the value of green digital activity, others on delivery, and others on the learning to be gained from it. All the commitments are assessed according to their likely inputs, processes, outputs, outcomes and impacts. This assessment has informed the identification of action tools as outlined in the following examples.

Example 1: Commitment A1.1 is 'ICTs are critical enablers for sustainable growth'.

This commitment breaks down into the following processes, outputs, outcomes and impacts:

- Acceptance that ICTs are significant in supporting sustainable growth (process);
- Activities which encourage this acceptance (output);
- Sustainable growth actually occurring (impact);
- The role of ICT for sustainable growth is subject of local debate (outcome).

The NiCE project proposes the following tools could support delivery on this commitment:

- Green Digital strategy;
- Business case;
- Text for Vision documents;
- Rationale about how green digital can be good for economy and jobs.

Each of these tools can help foster acceptance that ICTs are critical enablers for sustainable growth: A green digital strategy and business case, text for inclusion in vision documents and an argument for why green digital is valuable, all encourage a new perspective on ICTs as enablers for sustainable growth.

Example 2: Commitment D3.1 is 'Ensure that city use of hosting and data centres is as green as possible by ...maximising renewable energy use to control ICT emissions and encourage green ICT'.

This commitment breaks down into the following inputs, processes, outputs, outcomes and impacts:

- Energy use (input);
- Experimentation and implementation of renewable energy in hosting and data centres (process);
- Activities which support this such as deregulation or re-organisation (output);
- ICT energy efficiency actually occurring (impact);
- City develops and implements a system of renewable energy use for hosting and data centres (outcome).

Since this commitment is focused on practical implementation, the potential tools identified to support delivery on this commitment are good practice examples from cities. For example, Ecohost¹ is a carbon neutral hosting company supporting government services in Manchester. Their business model is a good example of how a city can encourage and support greener hosting and data centres.

A full breakdown of the interrelationships between potential tools and inputs, processes, outputs, outcomes and impacts is provided on the spreadsheet that accompanies Annex A.

¹ <http://ecohost.coop/>

2.3 Matching tools to GDC Action Framework outcomes

Drawing on the 'transition management'² approach in the Action framework, the action tools are grouped into four key outcome categories:

- Cultural outcomes;
- Structural outcomes;
- Practice outcomes;
- Knowledge outcomes.

These are outlined in more detail below with a list of related tools. The full breakdown of these tools is provided in Annex A and in the accompanying spreadsheet. **City feedback is sought on the tools proposed.**

2.3.1 Action tools for a green digital culture

These tools are focused on activities which involve conceptual thinking about the future of cities as they relate to green and digital issues. Activities which aim to better understand the likely futures which will emerge, and to develop ideal scenarios of where cities would like to be under different future conditions.

Possible tools include the following:

Tool title	Tool description
Green Digital Charter website	Green Digital Charter website
Green Digital Charter how to participate pack	Green Digital Charter how to participate pack
Scenario planning/gaming	Examples of how scenario planning and gaming can be used in planning green digital activities.
Green digital literacy strategy	Examples of green digital literacy strategies
Green digital related text for vision documents	A description of the importance of 'green digital' which cities can use in internal and external communications
Rationale for Green Digital Charter including benefits for the economy and jobs	A textual description of Green Digital issues and why they matter to European cities which cities can use in their own internal and external communications
Business cases	Examples of business cases from signatory cities
Communication strategy	Good practice examples of communications strategies
Digital inclusion strategy	Compilation of good practice examples of digital inclusion strategies
Digital strategy	Examples of ICT inclusion plans

² 'Towards a Green Digital Charter Action Framework: Framework Foundation', 2011, NiCE consortium, section 5.4: http://www.greendigitalcharter.com/wp-content/uploads/2011/12/NiCE_D2.1_FrameworkFoundation1.0_-111130.pdf

Tool title	Tool description
eGovernment strategy	A list of e-government strategies in certain European countries
Green digital strategy	Examples of strategies from signatory cities
High level forums e.g. a green digital executive body	A description of how to set up a high level forum.
Inclusive stakeholder engagement strategy	Examples of strategies from signatory cities
Inclusive transformation strategy	Examples of transformation strategies
Industry engagement strategy	Examples of industry engagement strategy
Integration strategy	Examples of integration strategies from signatory cities
Mainstreaming strategy for Living Labs	Description of and application form for Living Labs network
Partnership agreements between divisions, cities, local authorities, regions	A description of how to establish partnership agreements between divisions, cities, local authorities and regions.
Scenario planning	Examples/advice on developing scenario planning
Sector strategies	Examples of sector strategies in the field of green digital.
Stakeholder engagement strategy	Examples of stakeholder engagement strategies in the field of green digital
Transformation strategy	Examples of transformation strategies
Scenario games	Scenario games that cities can use in engagement with stakeholders
Visioning activities	Workshops offering visioning opportunities
Good practice stories on how to go mainstream	Compilation of good practice examples of how to go mainstream
Major solutions providers list	List of major solutions providers which will be placed on Green Digital Charter website
Green digital policy scenarios	Compilation of good practice examples of green digital policy scenarios

2.3.2 Action tools for green digital structures

These tools are focused on activities which have the effect (both planned and unplanned) of bringing about changes in the mechanisms through which the Charter might be implemented. Activities which could lead to changes in institutional structures and responsibilities, could prompt alterations to policies or the formation of new policies, or could lead to new ways of financing green/digital activities.

Possible tools include the following:

Tool title	Tool description
Eurocities membership pack	Eurocities membership pack
Green Digital Charter framework, action and reporting toolkit	Documents which will explain to cities the importance of the Green Digital Charter and how to implement it.
NiCE info pack / website / framework / toolkit	NiCE info pack / website / framework / toolkit
Measures for economic well being	Measures for economic wellbeing which will be placed on Green Digital Charter website
Funding opportunities online portal	Funding opportunities online portal
Green Digital Charter action programme	A timeline highlighting implementation milestones which cities can use to track progress on implementing Green Digital Charter
Regulatory and funding framework examples	List of regulatory and framework funding examples which will be placed on Green Digital Charter website
Baselines and common standards and methods for emissions metrics (EU wide)	Advice on how to calculate EU wide baselines and where to find common standards and methods for emissions metrics
City admin baselines and common standards and methods for emissions metrics	Advice on how to calculate city admin baselines and where to find common standards and methods for emissions metrics
Broadband regulatory environments incentives and planning	A list of broadband regulatory environments incentives and planning which will be made available to cities
City admin compliance arrangements for green hosting	Examples of city admin compliance arrangements for green hosting
City admin planning procedures for green hosting	Examples of city admin planning procedures for green hosting
City admin SLAs for green hosting	Examples of city admin SLAs for green hosting
City greening digital services planning	Examples of city greening digital services planning from signatory cities
City greening ICT planning	Examples of city greening ICT planning from signatory

Tool title	Tool description
	cities
Co-production planning	Examples/advice on developing co-production planning
Communication planning	Good practice examples of communication planning
Competitions	Example competitions which cities can use
Cross city implementation plans relating to strategies	Examples of implementation plans relating to strategies
Digital Inclusion planning	Examples/advice on digital inclusion planning
Digital infrastructure planning	Examples of digital infrastructure planning from signatory cities
Digital master planning	Examples of digital master planning from signatory cities
eGovernment rollout plans	A list of eGovernment rollout plans in certain European countries.
eParticipation planning	Examples/advice on developing eParticipation planning
Good practice and methods on incentivisation	Compilation of good practice examples of incentivisation
Good practice digital plans	Compilation of good practice examples of digital plans
Good practice examples of green digital strategies	Compilation of good practice examples of green digital deployment projects
Good practice examples of implementation	Compilation of good practice examples of implementation
Good practice examples of implementation of Living Labs	Compilation of good practice examples of Living Labs
Good practice innovative technical solutions	Compilation of good practice examples from cities on innovative technical solutions
Green digital organisation	Description of what 'digital planning' means, which cities could use in internal communication
Green digital services planning	Examples of green digital services planning from signatory cities
ICT impact analysis and measurement	Impact analysis templates for cities to use
ICT inclusion plans	Examples of ICT inclusion plans
Implementation plans	Examples of implementation plans from signatory cities
Joint programmes	Compilation of stories, events, activities
Next generation investment plans	Examples of next generation investment plans
Partnership implementation plan	A description of how to put together a partnership implementation plan

Tool title	Tool description
Regulatory and other incentive based ICT disposal plans	Examples of regulatory and other incentive based ICT disposal plans
Strategies for using ICT for energy efficiency	Examples of strategies which have focused on used ICT for energy efficiency
Planning processes for wireless and mobile apps	A description of planning processes in European context for wireless and mobile apps
Process for inclusive stakeholder engagement	Templates which cities can use to plan stakeholder engagement activities
Process for stakeholder engagement in projects	Templates which cities can use to plan stakeholder engagement activities
Processes for supporting green production/logistics/procurement	Process maps which cities can use in managing green production/logistics/procurement
Baselines and common standards and methods for buildings	A spreadsheet which outlines EU wide baselines and common standards and methods for buildings.
Measurement methods	Available methods of measurement of energy use of ICTs
Measures for environmental well being	A list of measures for environmental wellbeing on Green Digital Charter website
Measures for social well being	A list of measures for social wellbeing on Green Digital Charter website
Strategic planning templates	Strategic planning templates for cities to use
Digital governance	Check-list of issues to be considered for digital governance
Living labs good practice	Good practice examples of living labs
Virtual policy modelling strategies	A list of virtual policy modelling strategies being used in Europe
Inter city cooperation programme	List of cities already involved in Living Labs network to be provided on Green Digital Charter website
Living Labs methods	Details of Living Labs approach

2.3.3 Action tools for green digital practices

These tools are focused on activities that are direct and practical responses to strategic problems associated with Green Digital agenda.

Possible tools include both good practice stories and reusable materials from:

Tool title	Tool description
Data visualisation tools	Digital data visualisation tools (software solutions)
Online standards data collection and measurement	Development of online standards for data collection and measurement
Broadband implementation projects	Compilation of good practice examples of broadband implementation project
Communications	Compilation of good practice examples from cities for low emissions ICT
Green digital deployment projects	Compilation of good practice examples of green digital deployment projects
Green digital R&D projects	Compilation of good practice examples of green digital R&D
Green-led projects - good practice from cities	Compilation of good practice examples of green led projects
ICT implementation - good practice from cities	Compilation of good practice examples of ICT Implementation project
ICT-led projects - good practice from cities	Compilation of good practice examples of green digital policy scenarios
Digital plan template	A template for cities to use in developing their own digital plans
Data collection and analysis tools	Data collection and analysis tool to be used by cities in managing energy use

2.3.4 Action tools for green digital knowledge

These tools focus on activities that foster reflexivity e.g. through evaluation, assessment and research, as well as exchange and debate. Activities which capitalise upon successes and avoid replication of failures, enhance knowledge transfer and evaluate arenas, agendas and innovative actions and widely share lessons learned and good practices within stakeholder communities across levels.

Possible tools include the following:

Tool title	Tool description
R&D on effectiveness of integration; good practice	Compilation of good practice examples of R&D on effectiveness of integration
R&D on effectiveness of large-scale solutions; good practice	Compilation of good practice examples of R&D on effectiveness of large scale solutions
Data comparison tools	Digital data comparison tools (software solutions)
Feedback from Green Digital Charter cities on value of NiCE/Charter	Questionnaires which cities can use to evaluate their involvement in NiCE/Charter
Standards based data and good practice models	Good practice examples of data measurement and analysis
Standards based data measurement and analysis	Good practice examples of data measurement and analysis
City admin good practice stories	Compilation of good practice examples from cities about city admin structures which work.
Community engagement docs	A List of community engagement techniques that cities might want to develop
Good practice on integrated approaches	Compilation of good practice examples of integrated approaches
Good practice on large-scale solutions	Compilation of good practice examples of large scale solutions
R&D into effectiveness in encouraging behaviour change	Compilation of good practice examples of behaviour change programs
Business engagement docs	Samples of business engagement documents
Communications with community	Good practice examples of community communications strategies
Communications with private sector	Good practice examples of business communication strategies
Questionnaires, workshop formats for inclusive sustainability	Questionnaires and workshop formats which can be used by cities to pursue inclusive sustainability
R&D into effectiveness in	Examples of business engagement documents that cities can

Tool title	Tool description
stakeholder engagement	amend for their purposes
R&D into effectiveness in stakeholder engagement	Examples of communications engagement documents that cities can amend for their purposes
R&D on stakeholder engagement impacts; questionnaires, workshop formats etc	Questionnaires and workshop format descriptions which cities can use to evaluate their stakeholder engagement activities.
Visualisation data tools	Visualisation Data tools that can be used by cities
ITU and other standards bodies synchronisation	Description of ITU and other standards bodies to be provided on Green Digital Charter website
Knowledge exchange programme	Establish knowledge exchange program through roadshows, study tours and training events.

2.4 Aligning tools with Green Digital Charter reporting process

Part of the 'implementation roadmap' for the Green Digital Charter are structured reporting processes. The Action framework analysis ensured commitments were 'SMART':

- Commitment theme (Specific);
- Activities possible for that commitment (Achievable);
- What is likely (Realistic);
- What can be accounted for (Measurable);
- What can be achieved in a particular timeframe (Timebound).

The proposed Action tools are SMART focused, so cities can capture useful and relevant information for their reporting on the Charter.

The reporting tools are:

1. Green Digital Charter implementation progress reporting tool
2. Green Digital Charter-Covenant of Mayors reporting tool
3. ICT footprint reporting tool

These reporting tools are outlined briefly below with links to further information.

City feedback is also sought on these tools.

2.4.1 Green Digital Charter implementation progress reporting tool

City progress on the Charter can be tracked in the Green Digital Charter implementation progress reporting tool. There are indicators ranging from assessing news coverage on green digital activity to measuring carbon saved through a green digital project. Each indicator requires an

initial baseline entry after signing the Charter, allowing the city to track progress as it uses the tools and works towards delivery.

Where possible, action tools will support the capturing of data to be inputted into this reporting tool.

Green Digital Charter implementation progress reporting tool: available on the Charter website www.greendigitalcharter.eu

2.4.2 Green Digital Charter-Covenant of Mayors reporting tool

Many cities are also signatories to the Covenant of Mayors. The Charter-Covenant reporting tool provides guidance to cities to align their reporting across the Charter and the Covenant.

Where possible, action tools will support the capturing of data to be inputted into this reporting tool.

Green Digital Charter-Covenant of Mayors reporting tool: available on the Charter website www.greendigitalcharter.eu

2.4.3 ICT footprint Reporting Tool

A key aim of the Green Digital Charter is to reduce carbon emissions by 30% in 10 years. This progress can be tracked through the ICT footprint reporting tool.

Where possible, action tools will support the capturing of carbon emission data to be inputted into this reporting tool.

ICT footprint reporting tool: available on the Charter website: www.greendigitalcharter.eu

2.5 *Types of action tools*

The tools proposed in the Action tool catalogue will be a mixture of bespoke tools designed specifically to deliver the Charter and existing tools (free/open-source or proprietary). Some tools will develop and change (e.g. from a Word document / spreadsheet to an online website), others will not change. Some tools will be sourced from cities with the intention of being reused in other contexts, other tools will be good practice stories to act as inspiration.

The following three types are used to define the tools in the action tool catalogue:

- **Stories** - these are outline descriptions of what could happen or is happening in some cities (e.g. good practice stories for inspiration);
- **Documents** - these are detailed documents (including websites) focused on delivery of green digital activity (e.g. actual example documents from cities that could be reused, GDC website);
- **Service** - these are templates, online tools or services that actually deliver a green digital related product or service.

For example:

Commitment D15.6 is to 'Develop opportunities for innovation in eGovernment to transform public services, for example through enhanced visualizations'.

Different types of tools relating to this commitment are as follows:

- Story:** A discussion on how signatory cities could deliver on this commitment and a review of existing activities relating to innovation in eGovernment that has transformed public services using enhanced visualizations;
- Document:** A detailed breakdown of the process through which a city can deliver on this commitment including existing products and services and a detailed description of a new product/service;
- Service:** The provision of a product and service to achieve this commitment.

Another example:

Commitment B1.2 is to 'Develop cities as platforms for innovation through ... new digital infrastructures to enable low carbon activities and achieve systemic carbon efficiencies'.

- Story:** A discussion on how a particular signatory city is delivering on this commitment and a review of their digital infrastructure which has enabled low carbon activities and achieved efficiencies;
- Document:** Digital infrastructure documents from a particular city which could be reused in another city context;
- Service:** The provision of a product and service to achieve this commitment.

2.6 Tool status

Some tools can be made available immediately, particularly when they are provided by third parties, such as the cities. Others need to be developed.

A tool status is provided for each tool in the catalogue.

3 Example action tools

The NiCE project has already produced some Charter action tools and others are in development. This section outlines these action tools and categorises them.

3.1.1 Green digital glossary

The green digital glossary provides explanations for the many terms used in both a green and digital context. The terminology of carbon reduction, ICT and EU policy can often be difficult to navigate, so the glossary provides a common ground upon which cities can communicate internally and with each other.

This glossary would form part of a 'Green digital literacy strategy'.

Categorisation within the tool catalogue:

1. Matched to the delivery of one or more Charter commitments	Commitment B6.2 "Involve citizens, service providers, businesses and public sector organisations in test-bed implementation projects"
2. Categorised according to Action framework outcomes	Culture: fostering green digital culture
3. Matched to one or more indicators for Charter reporting	City drives stakeholder involvement for test-bed implementation
4. Feedback on tool use provided by cities (where available)	
5. Type of action tool	Document
6. Tool status	On Charter website

3.1.2 Green digital event calendar

The green digital event calendar provides details of events related to green digital activity in particular.

This calendar forms part of a 'Stakeholder engagement strategy'.

Categorisation within the tool catalogue:

1. Matched to the delivery of one or more Charter commitments	Commitment B6.2 "Involve citizens, service providers, businesses and public sector organisations in test-bed implementation projects" Commitment D15 "Develop opportunities for innovation in eGovernment to transform public services, for example through mobile channels"
2. Categorised according to Action framework	Culture: fostering green digital culture

outcomes	
3. Matched to one or more indicators for Charter reporting	City creates general conditions for eGovernment
4. Feedback on tool use provided by cities (where available)	
5. Type of action tool	Document
6. Tool status	Currently on Charter website: http://www.greendigitalCharter.com/?page_id=673

3.1.3 Green digital document archive

The NiCE project has collected together many documents relating to green digital activity in particular. These are in the process of being made available via the Charter.

This document resource forms part of a 'Communication strategy'.

Categorisation within the tool catalogue:

1. Matched to the delivery of one or more Charter commitments	Commitment B7.1 "Support open innovation by encouraging low carbon activities in all sectors"
2. Categorised according to Action framework outcomes	Culture: fostering green digital culture
3. Matched to one or more indicators for Charter reporting	City develops green and digital strategy embracing open innovation
4. Feedback on tool use provided by cities (where available)	
5. Type of action tool	Document
6. Tool status	In development (expected May 2012)

3.1.4 Virtual forums - Green digital discussion

Green digital activity is an emergent area bringing together two areas of work which are often not recognized as compatible or integrated. Virtual forums provide online places where ICT and green workers can meet and discuss their activities, to look for opportunities for alignment and collaboration. The virtual forums are based on the hugely successful 'Green drinks' model where people interested in green issues would meet regularly in bars and cafes across the world. By putting the facility to meet online, ICT facilitates the sharing of green-related knowledge to cities across the world.

These virtual forums form part of a 'Communication strategy'.

Categorisation within the tool catalogue:

1. Matched to the delivery of one or more Charter commitments	Commitment B7.1 "Support open innovation by encouraging low carbon activities in all sectors"
2. Categorised according to Action framework outcomes	Culture: fostering green digital culture
3. Matched to one or more indicators for Charter reporting	Local green and digital strategy embracing open innovation available
4. Feedback on tool use provided by cities (where available)	
5. Type of action tool	Service
6. Tool status	In development

3.1.5 Green digital policy analysis

In the Green Digital Action Framework document development, the NiCE project team undertook considerable analysis of existing green digital policy at an EU level. This analysis is complemented by a wide range of related policy documents provided in the Green Digital document archive.

This policy analysis contributes to a number of tools including 'Green digital policy scenarios' and 'Virtual policy modelling'.

Categorisation within the tool catalogue:

1. Matched to the delivery of one or more Charter commitments	Commitment B1.1 "Develop cities as platforms for innovation through ... digital planning to enable low carbon activities and achieve systemic carbon efficiencies" Commitment B15.3 "Develop opportunities for innovation in eGovernment to transform public services, for example through virtual policy modeling "
2. Categorised according to Action framework outcomes	Structures
3. Matched to one or more indicators for Charter reporting	City develops innovative digital planning applications to enable low carbon activities City develops strategy to implement virtual policy modeling
4. Feedback on tool use provided by cities (where available)	
5. Type of action tool	Document
6. Tool status	The analysis is available on the Charter website, together with a large collection of related

	<p>documents. http://www.greendigitalCharter.eu/resources/gdc-action-framework</p> <p>A further Framework document will be available on the website from July 2012.</p>
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3.1.6 Green Digital Charter analysis

In the Action framework development, the NiCE project team undertook considerable analysis of the Green Digital Charter, describing the underlying process that informed the development of the Charter commitments, indicators and action tools.

This analysis contributes to a number of tools including the 'NiCE Info pack'.

Categorisation within the tool catalogue:

1. Matched to the delivery of one or more Charter commitments	Commitment F1.2 "Make use of the EU funded project NiCE (Networking intelligent Cities for Energy Efficiency) to coordinate efforts"
2. Categorised according to Action framework outcomes	Structures
3. Matched to one or more indicators for Charter reporting	Documented guidance received from NiCE (reporting tools, action tools, etc.)
4. Feedback on tool use provided by cities (where available)	
5. Type of action tool	Document
6. Tool status	<p>The analysis is available as a Word document on the Charter website, together with a large collection of related documents.</p> <p>http://www.greendigitalCharter.eu/resources/gdc-action-framework</p> <p>A further Framework document will be available on the website from July 2012.</p>

4 Process for using the Action tool catalogue

City activity in the green digital arena varies significantly. Furthermore, this document is available to non-signatory cities. Outlined below are three different stages to help cities orient themselves in relation to delivering on the Green Digital Charter. A review and use of the tool catalogue will happen at every stage.

4.1 *Before signing*

Cities are encouraged to examine the Green Digital Charter commitments and consider how they align with their existing strategic objectives. They should identify any existing commitments already ongoing within their city. They should also assess their capacity to meet the primary targets of five ICT projects within five years and a 30% CO2 reduction on ICT generated carbon within 10 years. Baselines for measurement are provided as part of the Charter delivery process and will be central to determining their achievements as a city.

The city should also look at the tools available in the Action tool catalogue to see if they are useful in helping deliver their strategic city objectives.

If a city decides that delivering on the Green Digital Charter can indeed support them in achieving their wider objectives, they can arrange to sign the Charter.

4.2 *After signing*

After signing, the cities identify any existing commitments already ongoing in their city and subsequently:

- Plan delivery of the primary targets of five ICT projects within five years and a 30% CO2 reduction of ICT related carbon within 10 years;
- Identify and prioritise key indicators to focus on;
- Identify useful and relevant action tools.

They should also log their baselines and any existing activity in the Green Digital Charter implementation progress reporting tool.

4.3 *Ongoing*

As cities' green digital activities continue, they provide regular updates on their progress. It is likely that the cities will combine existing projects that they relate to Charter delivery, together with new projects initiated in response to signing the Green Digital Charter. They are encouraged to share good practice by providing feedback on the action tools and make suggestions for further action tools needed. This will assist other cities in their Charter delivery and ensure that the Action tool catalogue stays current and responsive to changing political, technical and operational environments. There is also a facility to share cities own action tools this way.

Cities should also log their baselines and any existing activity on an ongoing basis. Training events, roadshows and study tours are also available to Green Digital Charter signatories. See Charter website for more details www.greendigitalcharter.eu.

5 Annexes

5.1 Annex A: Green Digital Charter action tools catalogue

Below is a list of proposed action tools mapped onto the commitments in the Green Digital Charter, the categories in the Action framework and the tool status. This Annex is accompanied by a spreadsheet for city and NiCE use available on the Charter website.

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Green Digital Charter website	Green Digital Charter website	Available on Charter website	Documents - communication	E1	Culture
Green Digital Charter how to participate pack	Green Digital Charter how to participate pack	Available on Charter website	Documents - communication	E1	Culture
Scenario planning/gaming	Examples of how scenario planning and gaming can be used in planning Green Digital activities.	Desk research	Documents - planning	C1.1, C1.2, C1.3	Culture
Green digital literacy strategy	Examples of Green Digital Literacy Strategies	Glossary available now	Documents - strategy	B6.2	Culture
Green digital related text for Vision documents	A description of the importance of 'green digital' which cities can use in internal and external communications	In development as part of Charter Framework	Documents - communication	A1.1	Culture
Rationale for Green Digital Charter including benefits for the economy and jobs	A textual description of Green Digital issues and why they matter to European cities which cities can use in their own internal and external communications	In development as part of Charter Framework	Stories - communication	A1.1	Culture
Business cases	Examples of business cases from signatory cities	Need examples from cities	Documents - business cases	B1.1, D13.1, D13.2, D13.3, D13.4	Culture

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Communication strategy	Good practice Examples of Communications Strategies	Need examples from cities	Documents - strategy	B7.1	Culture
Digital inclusion strategy	Compilation of Good Practice Examples of Digital Inclusion Strategies	Need examples from cities	Stories - digital inclusion	C4	Culture
Digital strategy	Examples of ICT inclusion plans	Need examples from cities	Documents - strategy	C5.1, C5.2	Culture
eGovernment strategy	A List of e-government strategies in certain European countries	Need examples from cities	Documents - strategy	D15	Culture
Green Digital strategy	Examples of strategies from signatory cities	Need examples from cities	Documents - strategy	A1.1	Culture
High level forums e.g. a green digital executive body	A description of how to set up a high level forum.	Need examples from cities	Templates - forums	B4.1	Culture
Inclusive stakeholder engagement strategy	Examples of strategies from signatory cities	Need examples from cities	Documents - strategy	A3.2, C4, C5.1, C5.2	Culture
Inclusive transformation strategy	Examples of Transformation Strategies	Need examples from cities	Documents - strategy	D13.1, D13.2, D13.3, D13.4, D16	Culture
Industry engagement strategy	Examples of Industry Engagement Strategy	Need examples from cities	Documents - strategy	D11.1, D11.2, D11.3	Culture
Integration strategy	Examples of Integration Strategies from signatory cities	Need examples from cities	Documents - strategy	B4.1, D5.1, D12	Culture
Mainstreaming strategy for Living Labs	Description of and application form for Living Labs network	Need examples from cities	Documents - strategy	D17	Culture
Partnership agreements between divisions, cities, local authorities, regions	A description of how to establish partnership agreements between divisions, cities, local authorities and regions.	Need examples from cities	Documents - networking	B4.1, B5.1	Culture

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Scenario planning	Examples/advice on developing Scenario Planning	Need examples from cities	Documents - planning	D15.4	Culture
Sector strategies	Examples of sector strategies in the field of Green Digital.	Need examples from cities	Documents - strategy	B7.1	Culture
Stakeholder engagement strategy	Examples of Stakeholder Engagement Strategies in the field of Green Digital	Need examples from cities	Documents - strategy	B6.2, D15	Culture
Transformation strategy	Examples of Transformation Strategies	Need examples from cities	Documents - strategy	D12	Culture
Scenario games	Scenario games that cities can use in engagement with stakeholders	Need examples from cities / desk research	Templates - stakeholder engagement	A3.2	Culture
Visioning activities	Workshops offering visioning opportunities	Need examples from cities / desk research / development	Templates - stakeholder engagement	D12	Culture
Good practice stories on how to go mainstream	Compilation of Good Practice Examples of how to go mainstream	Need examples from cities. Good example from Linköping - should be made available to other cities with permission	Stories - implementation	B5.2	Culture
Major solutions providers list	List of major solutions providers which will be placed on Charter website	Need recommendations from cities / desk research	Documents - resources	B5.2	Culture

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Green digital policy scenarios	Compilation of Good Practice Examples of Green Digital Policy Scenarios	Some policy analysis in Charter Framework Foundation document. Further development needed	Stories - digital planning	B1.1	Culture
R&D on effectiveness of integration; good practice	Compilation of Good Practice Examples of R&D on effectiveness of integration	Desk research	Stories - effectiveness	B5.1	Knowledge
R&D on effectiveness of large-scale solutions; good practice	Compilation of Good Practice Examples of R&D on effectiveness of large scale solutions	Desk research	Stories - effectiveness	B5.2	Knowledge
Data comparison tools	Digital data comparison tools (software solutions)	Desk research / specification for development	Software - data analysis	D7	Knowledge
Feedback from Green Digital Charter cities on value of NiCE/Green Digital Charter	Questionnaires which cities can use to evaluate their involvement in NiCE/Green Digital Charter	In development as part of Charter Framework / to be made available via the Charter website	Stories - GDC	E1	Knowledge
Standards based data and good practice models	Good practice examples of data measurement and analysis	In development as part of the ICT Reporting tool	Documents - standards	F4	Knowledge
Standards based data measurement and analysis	Good practice examples of data measurement and analysis	In development as part of the ICT Reporting tool	Documents - standards	E3	Knowledge

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
City admin good practice stories	Compilation of Good Practice Examples from Cities about city admin structures which work.	Need examples from cities	Stories - city admin	A2.2	Knowledge
Community engagement docs	A List of community engagement techniques that cities might want to develop	Need examples from cities	Documents - communication	D7	Knowledge
Good practice on integrated approaches	Compilation of Good Practice Examples of Integrated Approaches	Need examples from cities	Stories - implementation	A3.2	Knowledge
Good practice on large-scale solutions	Compilation of Good Practice Examples of Large Scale Solutions	Need examples from cities	Stories - implementation	C5.2	Knowledge
R&D into effectiveness in encouraging behaviour change	Compilation of Good Practice Examples of Behaviour Change programs	Need examples from cities	Stories - effectiveness	A3.2	Knowledge
Business engagement docs	Samples of business engagement documents	Need examples from cities	Documents - communication	A2.2	Knowledge
Communications with community	Good practice Examples of Community Communications Strategies	Need examples from cities	Stories - communication	B3.2	Knowledge
Communications with private sector	Good practice Examples of Business Communication Strategies	Need examples from cities	Stories - communication	B3.1	Knowledge
Questionnaires, workshop formats for inclusive sustainability	Questionnaires and workshop formats which can be used by cities to pursue inclusive sustainability	Need examples from cities / desk research	Documents - communication	C5.1	Knowledge
R&D into effectiveness in stakeholder engagement	Examples of business engagement documents that cities can amend for their purposes	Need examples from cities / desk research	Stories - effectiveness	C5.2	Knowledge
R&D into effectiveness in stakeholder engagement	Examples of communications engagement documents that cities can amend for their purposes	Need examples from cities / desk research	Stories - effectiveness	C5.1	Knowledge

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
R&D on stakeholder engagement impacts; questionnaires, workshop formats etc	Questionnaires and workshop format descriptions which cities can use to evaluate their stakeholder engagement activities.	Need examples from cities / desk research	Stories - effectiveness	C3	Knowledge
Visualisation data tools	Visualisation Data tools that can be used by cities	Need examples from cities / desk research / development	Software - data analysis	B5.3.2, B7.2	Knowledge
ITU and other standards bodies synchronisation	Description of ITU and other standards bodies to be provided on Charter website	NiCE team in discussion with ITU	Documents - standards	D6	Knowledge
Knowledge exchange programme	Establish knowledge exchange program through roadshows, study tours and training events.	Recommendation to EC to develop/fund	Templates - knowledge exchange	A2.2	Knowledge
Data visualisation tools	Digital data visualisation tools (software solutions)	Desk research / specification for development	Software - data analysis	D7	Practices
Online standards data collection and measurement	Development of online standards for data collection and measurement	In development as part of the ICT Reporting tool	Software - standards	D8.1, D8.2	Practices
Broadband implementation projects	Compilation of Good Practice Examples of Broadband Implementation project	Need examples from cities	Stories - broadband	D12.1	Practices
Communications	Compilation of Good Practice Examples from Cities for Low Emissions ICT	Need examples from cities	Stories - communication	A2.1	Practices
Green Digital deployment projects	Compilation of Good Practice Examples of Green Digital Deployment projects	Need examples from cities	Stories - implementation	B7.4	Practices
Green Digital R&D projects	Compilation of Good Practice Examples of Green Digital R&D	Need examples from cities	Stories - implementation	B7.3	Practices

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Green-led projects - good practice from cities	Compilation of Good Practice Examples of Green Led Projects	Need examples from cities	Stories - implementation	A3.2, B1.3, C1.3, D2.1, D3.1, D3.2, D9.1, D9.2, D9.3, D10.2, D10.3, D17.2, D17.3	Practices
ICT implementation - good practice from cities	Compilation of Good Practice Examples of ICT Implementation project	Need examples from cities	Stories - implementation	D16.4	Practices
ICT-led projects - good practice from cities	Compilation of Good Practice Examples of Green Digital Policy Scenarios	Need examples from cities	Stories - implementation	B1.2, B1.3, B2.2, B5.3.1, B6.1, C2.1, D2.2, D12.2, D13, D15.1, D15.5, D15.6, E2, F1.2	Practices
Digital plan template	A template for cities to use in developing their own digital plans	Need examples from cities / desk research	Templates - digital planning	B1.1	Practices
Data collection and analysis tools	Data collection and analysis tool to be used by cities in managing energy use	Need examples from cities / desk research / development	Software - data analysis	B5.3.2	Practices
Eurocities membership pack	Eurocities membership pack	Available on Eurocities website	Documents - networking	F1.1	Structures

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Green Digital Charter Framework, action and reporting toolkit	Documents which will explain to cities the importance of the Green Digital Charter and how to implement it.	Available on Charter website	Documents - planning	A1.2, F2	Structures
NiCE info pack / website / framework / toolkit	NiCE info pack / website / framework / toolkit	Available on Charter website	Documents - communication	F1.2	Structures
Measures for economic well being	Measures for economic wellbeing which will be placed on Charter website	Desk research	Documents - standards	C1.1	Structures
Funding opportunities online portal	Funding opportunities online portal	Document in development / software needs specification	Documents - funding	F4	Structures
Green Digital Charter action programme	A timeline highlighting implementation milestones which cities can use to track progress on implementing Green Digital Charter	In development as part of Charter Framework	Documents - networking	F2	Structures
Regulatory and funding framework examples	List of regulatory and framework fundingExamples which will be placed on Charter website	In development as part of Charter Framework / to be made available via the Charter website	Documents - planning	B4.2, C1.1, C1.2, C1.3	Structures
Baselines and common standards and methods for emissions metrics (EU wide)	Advice on how to calculate EU wide baselines and where to find common standards and methods for emissions metrics	In development as part of the ICT Reporting tool	Documents - standards	D6	Structures
City admin baselines and common standards and methods for emissions metrics	Advice on how to calculate city admin baselines and where to find common standards and methods for emissions metrics	In development as part of the ICT Reporting tool	Documents - standards	D5.1, D5.2	Structures

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Broadband regulatory environments incentives and planning	A list of Broadband regulatory environments incentives and planning which will be made available to cities	Need examples from cities	Documents - planning	D12.1	Structures
City admin compliance arrangements for green hosting	Examples of City Admin compliance arrangements for green hosting	Need examples from cities	Documents - planning	D3.4	Structures
City admin planning procedures for green hosting	Examples of City Admin planning procedures for green hosting	Need examples from cities	Documents - planning	D3.3	Structures
City admin SLAs for green hosting	Examples of City Admin SLAs for green hosting	Need examples from cities	Documents - planning	D3.5	Structures
City Greening Digital Services planning	Examples of City Greening Digital Services planning from signatory cities	Need examples from cities	Documents - planning	B2.2	Structures
City Greening ICT planning	Examples of City Greening ICT planning from signatory cities	Need examples from cities	Documents - planning	B1.3	Structures
Co-production planning	Examples/advice on developing co-production planning	Need examples from cities	Documents - planning	D16.3	Structures
Communication planning	Good practice Examples of Communication Planning	Need examples from cities	Documents - planning	B7.1	Structures
Competitions	Example competitions which cities can use	Need examples from cities	Templates - competitions	D12.2	Structures
Cross City Implementation plans relating to strategies	Examples of implementation plans relating to strategies	Need examples from cities	Documents - planning	C1	Structures
Digital Inclusion planning	Examples/advice on digital inclusion planning	Need examples from cities	Documents - planning	D16.4	Structures
Digital infrastructure planning	Examples of digital infrastructure planning from signatory cities	Need examples from cities	Documents - planning	B1.2	Structures
Digital master planning	Examples of digital master planning from signatory cities	Need examples from cities	Documents - planning	B1.2	Structures

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
eGovernment rollout plans	A List of egovernment rollout plans in certain European countries.	Need examples from cities	Documents - planning	D15	Structures
eParticipation planning	Examples/advice on developing E-participation planning	Need examples from cities	Documents - planning	D16, D16.2	Structures
Good practice and methods on incentivisation	Compilation of Good Practice Examples of Incentivisation	Need examples from cities	Stories - communication	D11.1, D11.2, D11.3	Structures
Good practice digital plans	Compilation of Good Practice Examples of Digital Plans	Need examples from cities	Stories - digital planning	B1.1	Structures
Good practice examples of green digital strategies	Compilation of Good Practice Examples of Green Digital Deployment projects	Need examples from cities	Stories - digital strategy	C1	Structures
Good practice examples of implementation	Compilation of Good Practice Examples of Implementation	Need examples from cities	Stories - implementation	A3.2, D13.1, D13.2, D13.3, D13.4	Structures
Good practice examples of implementation of Living Labs	Compilation of Good Practice Examples of Living Labs	Need examples from cities	Stories - implementation	D17	Structures
Good practice innovative technical solutions	Compilation of Good Practice Examples from Cities on innovative technical solutions	Need examples from cities	Stories - implementation	A3.1	Structures
Green digital organisation	Description of what 'digital planning' means, which cities could use in internal communication	Need examples from cities	Stories - digital planning	B4.2	Structures
Green Digital Services planning	Examples of Green Digital Services planning from signatory cities	Need examples from cities	Documents - planning	B1.3	Structures
ICT impact analysis and measurement	Impact analysis templates for cities to use	Need examples from cities	Templates - impact analysis	D14, D14.1, D14.2	Structures

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
ICT inclusion plans	Examples of ICT inclusion plans	Need examples from cities	Documents - planning	C4	Structures
Implementation plans	Examples of implementation plans from signatory cities	Need examples from cities	Documents - planning	A3.2, D13.1, D13.2, D13.3, D13.4, D17	Structures
Joint programmes	Compilation of stories, events, activities	Need examples from cities	Stories - programme planning	A3.2	Structures
Next generation investment plans	Examples of Next Generation Investment plans	Need examples from cities	Documents - planning	D12.1	Structures
Partnership implementation plan	A description of how to put together a partnership implementation plan	Need examples from cities	Documents - planning	B4.1	Structures
Regulatory and other incentive based ICT disposal plans	Examples of regulatory and other incentive based ITC disposal plans	Need examples from cities	Documents - planning	D4	Structures
Strategies for using ICT for energy efficiency	Examples of strategies which have focused on used ICT for Energy Efficiency	Need examples from cities	Documents - strategy	D1.1, D1.2, D1.3	Structures
Planning processes for wireless and mobile apps	A description of planning processes in European context for wireless and mobile apps	Need examples from cities	Documents - planning	D12.2	Structures
Process for inclusive stakeholder engagement	Templates which cities can use to plan stakeholder engagement activities	Need examples from cities	Templates - stakeholder engagement	C4	Structures
Process for stakeholder engagement in projects	Templates which cities can use to plan stakeholder engagement activities	Need examples from cities	Templates - stakeholder engagement	B6.2	Structures

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Processes for supporting green production/logistics/procurement	Process maps which cities can use in managing green production/logistics/procurement	Need examples from cities	Templates - logistics	D11.1, D11.2, D11.3	Structures
Baselines and common standards and methods for buildings	A spreadsheet which outlines EU wide baselines and common standards and methods for buildings.	Need examples from cities / desk research	Documents - standards	D8.1, D8.2	Structures
Measurement methods	Available methods of measurement of energy use of ICTs	Need examples from cities / desk research	Documents - standards	D1.1, D1.2, D1.3	Structures
Measures for environmental well being	A list of measures for environmental wellbeing on Charter website	Need examples from cities / desk research	Documents - standards	C1.3	Structures
Measures for social well being	A list of measures for social wellbeing on Charter website	Need examples from cities / desk research	Documents - standards	C1.2	Structures
Strategic planning templates	Strategic planning templates for cities to use	Need examples from cities / desk research	Templates - planning	D15.2	Structures
Digital governance	Check-list of issues to be considered for digital governance	Need examples from cities / desk research / development	Stories - digital governance	B1.1	Structures
Living labs good practice	Good practice examples of living labs	Need recommendations from cities / desk research	Stories - implementation	D17.1	Structures
Virtual policy modelling strategies	A List of virtual policy modelling strategies being used in Europe	On Charter website	Documents - strategy	D15.2	Structures

Tool title	Tool description	Tool status	Tool type	Charter Commitment target	Action Framework Category
Inter city cooperation programme	List of cities already involved in Living Labs network to be provided on Charter website	To be made available on Charter website	Documents - communication	D17.1	Structures
Living Labs methods	Details of Living Labs approach	To be made available on Charter website	Stories - implementation	B6.2	Structures

5.2 Annex B: Green Digital Charter commitments

The following table lists the Green Digital Charter broken down into 96 constituent parts. The original text is available on the Charter website: www.greendigitalcharter.eu.

Commitment ID	Commitment text
A1.1	ICTs are critical enablers for sustainable growth
A1.2	ICTs must be integrated into the work of European cities to mitigate climate change
A2.1	European good practices for low-emissions ICT must be ... based on the practical experience of public authorities.
A2.2	Public authorities can set an example for others.
A3.1	Cities can lead Europe in maximising the potential for ICT to reduce emissions by ...delivering innovative technical solutions
A3.2	Cities can lead Europe in maximising the potential for ICT to reduce emissions by ...encouraging behavioural change
B1.1	Develop cities as platforms for innovation through ... digital planning to enable low carbon activities and achieve systemic carbon efficiencies
B1.2	Develop cities as platforms for innovation through ... new digital infrastructures to enable low carbon activities and achieve systemic carbon efficiencies
B1.3	Develop cities as platforms for innovation through ... services to enable low carbon activities and achieve systemic carbon efficiencies
B2.1	Demonstrate that cities can lead by practical example by ensuring that ... the city's own ICT infrastructure has the smallest possible carbon footprint
B2.2	Demonstrate that cities can lead by practical example by ensuring that ... the city's own digital services have the smallest possible carbon footprint
B3.1	Promote city's practices of leading by practical example to ensure that the city's own ICT infrastructure and digital services have the smallest possible carbon footprint towards the private sector
B3.2	Promote city's practices of leading by practical example to ensure that the city's own ICT infrastructure and digital services have the smallest possible carbon footprint towards the wider community
B4.1	Create new partnerships by connecting leaders and stakeholders together in each city
B4.2	Secure practical commitments for implementing a new green digital agenda
B5.1	Promote integrated approaches
B5.2	Promote large-scale solutions
B5.3.1	Promote through the implementation of a series of digital applications for improving measurement of energy use
B5.3.2	Promote through the implementation of a series of digital applications for improving transparency and visibility of energy use
B6.1	Realise test-bed implementation projects
B6.2	Involve citizens, service providers, businesses and public sector organisations in test-bed implementation projects
B7.1	Support open innovation by encouraging low carbon activities in all sectors
B7.2	Support open innovation by promoting low carbon activities in all sectors

Commitment ID	Commitment text
B7.3	Support open innovation by encouraging and promoting low carbon activities in all sectors through R&D activities in user-driven, open innovation environments
B7.4	Support open innovation by encouraging and promoting low carbon activities in all sectors through deployment projects in user-driven, open innovation environments
C1	Implement a strategy to promote green connected cities
C1.1	Make the most effective use of ICT as a platform for the economic wellbeing of all citizens
C1.2	Make the most effective use of ICT as a platform for the social wellbeing of all citizens
C1.3	Make the most effective use of ICT as a platform for the environmental wellbeing of all citizens
C2.1	Deploy ICT to change the way our communities link to each other
C2.2	Deploy ICT to change the way our communities link to the environment
C3	Promote inclusive sustainability by recognising that action on climate change is required by all members of the community, including households and SMEs
C4	Ensure that ICT-enabled climate change initiatives will go hand in hand with work to promote social cohesion , given the large concentrations of socially excluded people in many cities
C5.1	Promote ICT innovation for climate change mitigation which maximises the benefits for local communities
C5.2	Promote ICT innovation for climate change mitigation which maximises the benefits for businesses
D1.1	Ensure that ICTs are more energy efficient by ... encouraging the use of low emission ICT equipment, including intelligent "thin client" facilities ,
D1.2	Ensure that ICTs are more energy efficient by ... encouraging the use of low emission ICT equipment, including smarter uses of laptops
D1.3	Ensure that ICTs are more energy efficient by ... encouraging the use of low emission ICT equipment, including more energy efficient servers
D2.1	Use renewable energy sources to power ICT
D2.2	Utilise energy emissions from ICT to heat buildings for example
D3.1	Ensure that city use of hosting and data centres is as green as possible by ... maximising renewable energy use to control ICT emissions and encourage green ICT
D3.2	Ensure that city use of hosting and data centres is as green as possible by ... sharing services with other users to control ICT emissions and encourage green ICT
D3.3	Ensure that city use of hosting and data centres is as green as possible through ... planning rules to control ICT emissions and encourage green ICT
D3.4	Ensure that city use of hosting and data centres is as green as possible, through ... compliance arrangements to control ICT emissions and encourage green ICT
D3.5	Ensure that city use of hosting and data centres is as green as possible through ... service level agreements to control ICT emissions and encourage green ICT

Commitment ID	Commitment text
D4	Implement a strategic commitment to improve the sustainability of the production, use and disposal of ICT equipment
D5.1	Ensure the measurability, transparency and visibility of emissions & energy data by developing common standards to collect, collate and analyse emission and energy data across the city administration
D5.2	Ensure the measurability, transparency and visibility of emissions & energy data by developing common standards to collect, collate and analyse emission and energy data across the city as a whole
D6	Ensure the compatibility of data on ICT impacts with the measurement of data on emissions, (including working in partnership with initiatives such as the Covenant of Mayors);
D7	Be innovative with the use of new tools to make data and their analysis as transparent and visible as possible , for example through “ecomaps”, the use of Geographical Info Systems (GIS) and the Urban Atlas initiative
D8.1	Ensure that ICT solutions facilitate energy-efficient, “smart” processes by improving the energy efficiency of buildings by applying common standards for new buildings
D8.2	Ensure that ICT solutions facilitate energy-efficient, “smart” processes by improving the energy efficiency of buildings by applying common standards for retro-fitting existing buildings
D9.1	Apply innovation in ICT systems and services for transport and urban mobility ... including smart public transport networks
D9.2	Apply innovation in ICT systems and services for transport and urban mobility ...including greater use of tele-conferencing
D9.3	Apply innovation in ICT systems and services for transport and urban mobility ... including more sustainable ways of working
D10.1	Develop “smart” energy grids to support greater use of renewable energy
D10.2	Develop “smart” energy grids to support greater use of micro-generation
D10.3	Develop “smart” energy grids to support greater use of more energy efficient lighting systems
D11.1	Collaborate with industry to support greener production
D11.2	Collaborate with industry to support greener logistics
D11.3	Collaborate with industry to support using green procurement
D12	Enable transformational approaches to ICT, which drive new values and behaviours
D12.1	Enable transformational approaches to ICT, which drive new values and behaviours ... by supporting the creation of broadband networks based on high-capacity optical fibre and advanced wireless and mobile solutions
D12.2	Enable transformational approaches to ICT, which drive new values and behaviours by supporting ... the creation of advanced wireless and mobile applications
D13	Develop or support innovative new services based on the highest speeds and capacities of these networks to transform the way that we run our cities
D13.1	Develop or support innovative new services based on the highest speeds and capacities of these networks to transform the way that we run our cities
D13.2	Develop or support innovative new services based on the highest speeds and capacities of these networks to transform the way that we work

Commitment ID	Commitment text
D13.3	Develop or support innovative new services based on the highest speeds and capacities of these networks to transform the way that we live
D13.4	Develop or support innovative new services based on the highest speeds and capacities of these networks to transform the way that we play
D14	Enable the “restructuring” of the way we organise economic processes so that the use of materials and energy can be reduced while enhancing the quality and quantity of jobs
D14.1	Enable the “restructuring” of the way we organise economic processes so that the use of materials and energy can be reduced while enhancing the quality of jobs
D14.2	Enable the “restructuring” of the way we organise economic processes so that the use of materials and energy can be reduced while enhancing the quantity of jobs
D15	Develop opportunities for innovation in eGovernment to transform public services, for example through mobile channels
D15.1	Develop opportunities for innovation in eGovernment to transform public services, for example through enhanced mobile channels
D15.2	Develop opportunities for innovation in eGovernment to transform public services, for example through enhanced strategic planning
D15.3	Develop opportunities for innovation in eGovernment to transform public services, for example through virtual policy modelling
D15.4	Develop opportunities for innovation in eGovernment to transform public services, for example through enhanced scenario planning
D15.5	Develop opportunities for innovation in eGovernment to transform public services, for example through enhanced simulations
D15.6	Develop opportunities for innovation in eGovernment to transform public services, for example through enhanced visualisations
D16	Transform citizen engagement through eParticipation, greater co-production by citizens of content and services, consequently better opportunities for improved skills, employment, inclusion, well-being and quality of life.
D16.2	Transform citizen engagement .. through eParticipation
D16.3	Transform citizen engagement ... through greater co-production by citizens of content and services
D16.4	Transform citizen engagement ... through consequently better opportunities for improved skills, employment, inclusion, well-being and quality of life.
D17	Provide a commitment to open innovation platforms and methodologies through the further development of the Living Labs network across Europe, including creating new city-based Living Labs and developing new open innovation initiatives for low carbon solutions.
D17.1	Provide a commitment to open innovation platforms and methodologies through the further development of the Living Labs network across Europe
D17.2	Provide a commitment to open innovation platforms and methodologies through the further development of the Living Labs network across Europe, including new city-based Living Labs

Commitment ID	Commitment text
D17.3	Provide a commitment to open innovation platforms and methodologies through the further development of the Living Labs network across Europe, including new open innovation initiatives of low carbon solutions
E1	Work with Green Digital Charter signatories on ICT & Energy Efficiency
E2	Deploy five large-scale ICT pilots per city addressing the above areas within 5 years
E3	Decrease ICT direct carbon footprint per city by 30% within 10 years
F1.1	Make use of the vast expertise within the EUROCITIES network
F1.2	Make use of the EU funded project NiCE (Networking intelligent Cities for Energy Efficiency) to coordinate efforts
F2	Develop an implementation roadmap on Green Digital Charter commitments
F3	Build benchmarks of good practice
F4	Seek external sources of funding to support ambitions

5.3 Annex C - Explaining the Action tool catalogue

The list of Green Digital Charter reporting indicators is provided in a separate file:

NiCE_D2.7_ActionTools_1.0_AnnexC.xls