POCACITO

european post-carbon cities of tomorrow

D2.3 REPORT ON GOOD NATIONAL AND EU PRACTICES

FINAL VERSION

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LIST OF ABBREVIATIONS

AER	Assembly of European Regions
C40	Cities Climate Leadership Group
CA	Climate Alliance
CCP	Cities for Climate Change Protection Program
CHP	Cogeneration Legal Framework Directive
COM	Covenant of Mayors
EEA	European Energy Award
EEG	Germany's Renewable Energy Law
ELENA	European Local Energy Assistance
EC	Energy Cities
ESE	Public Contract Regime with the Energy Service Companies
EIP SIC	European Innovation Partnership Smart Cities and Communities
EU	European Union
EPBD	EU Energy Performance of Buildings Directive
ICLEI	Local Governments for Sustainability
IEE	(EU) Intelligent Energy Europe
KLIMP	Climate Investment Programme
LIP	Local Investment Programmes
PCC	Post-Carbon Cities
NKI	Germany's national climate protection initiative
RFSC	Reference Framework for European Sustainable Cities
SEAP	Sustainable Energy Action Plan
SWH	Solar water heaters
TMNs	Transnational municipal networks

I EXECUTIVE SUMMARY

This report examines state and non-state initiatives on the national and EU levels that aid municipalities in addressing the challenges of urban sustainability. It is the third and last in a series of WP2 inventory reports in the POCACITO project, which aim to improve knowledge of urban sustainability practices in Europe. A qualitative and conceptual approach was adopted with the aim of developing preliminary understanding. Emblematic examples of practices are described to provide a glimpse of the diversity of practice to be found in Europe and relevant conceptual insights drawing on the academic literature are presented. Main findings include the importance of adopting a multi-level perspective; a gap in academic knowledge on practices originating from national and EU levels; the ongoing constraints found in cities; the need for further research on cities outside the high performing category; and a more general need to conduct detailed context-specific empirical research on the influence of practices in European cities.

In the first section, we provide a brief outline of the POCACITO project and the scope and methodology of this report. With reference to the academic literature, the second section presents the most important research findings on local–(trans)national interactions in EU multi-level climate governance. In particular, it reflects upon the relevance of internal vs. external dynamics in urban climate governance and presents three principal modes of urban climate governance in the EU: hierarchical, vertical and horizontal. The third and main part of the report is devoted to the discussion of EU and national practices. They are presented according to hierarchical, vertical or horizontal governance forms. Where available, we present evidence from the scientific literature on the issue. Although the review covers the fields of policy analysis, transition research and (urban) environmental and climate governance, there remains a lack of detailed discussion on the role of EU and national practices. The bulk of practice-related information has, then, been taken from more practice/policy oriented sources. The final section provides conclusions and reflects areas for future research.

II INTRODUCTION

II.I BACKGROUND

POCACITO facilitates the transition of EU cities to a forecasted sustainable or "post-carbon" economic model. The project focuses on towns, cities, megacities, metropolitan areas and urban clusters larger than 1 million people as well as small and medium-sized cities. To facilitate transitions to the post-carbon city (PCC) we need a more differentiated understanding of what is possible for cities in varying contexts of action and in differing stages of post-carbon transition. WP2 identifies and collects basic information and data on leading European cities and practices in the post-carbon city transition. The aim is that the inventory highlights good practices and more general features of post-carbon city transition in Europe. This document reports on D2.3 Good EU and National Practices Inventory. Although a stand-alone deliverable, it can be viewed primarily as an interim result and internal knowledge base for the project. It builds upon the work carried out in D2.1 Leading Cities Inventory, D2.2 Good City Practices Inventory and feeds into the D2.4 Typologies Paper, as well as providing background knowledge for the workshops in the case study cities and the project knowledge database (WP6).

II.II SCOPE OF THIS REPORT

II.II.I AIM OF THIS REPORT

According to the POCACITO Description of Work (DoW), D2.3 should identify and collect basic information on good national and EU practices, such as state and non-state governance arrangements that facilitate capacity building at the local level and the exchange of knowledge among cities, for example, subsidy programmes (e.g. the Dutch BANS/SLOK agreements), certification schemes (e.g. European Energy Award; Energiestädte Schweiz), the EU Covenant of Mayors and the EU Smart Cities Stakeholder Platform. Alongside the presentation of basic information on good EU and national practices, this inventory report aims to develop preliminary understanding on the ways in which national and EU practices (projects, memberships, etc.) appear to advance post-carbon transitions in European cities, from the most advanced cities to those embarking on transition.

Based on a review of the relevant academic literature on urban energy transitions, urban sustainability more generally, and the research conducted earlier in WP2, we assumed that practices in the following areas were particularly important: those related to financing actions, consulting and coordination as a knowledge resource and networking (peer-to-peer learning). From these assumptions, we developed the following research questions: *What role have EU/transnational/ national levels played in enabling urban transition processes through*:

- **legislation** (laws, directives, regulations, standards etc.)?
- **providing information** (consulting, knowledge platforms, collaborative platforms, training etc.)?

- **financial and economic arrangements?** (market-based instruments such as tariffs, subsidies, specific funds, fiscal arrangements)

In addressing these questions and identifying relevant practices, we draw on the scientific literature on urban energy transitions and urban sustainability more generally, as well as the material gathered in previous the deliverables on leading cities (D2.1) and good city practices (D2.2) to identify examples of effective action at the urban level. We also use suggestions from project partners on important national and EU practices in their countries.

It should be noted that there is a lack of systematic and scientific assessment of the city-level impact of transnational and national practices, particularly policies. The academic literature tends to focus more on the impacts of local endogenous actions on energy transitions and sustainability. Such impact analyses are labour-intensive and methodologically challenging, as the actual benefits of practices are often difficult to accurately define. Another factor is that local agency is commonly acknowledged as a key factor in the success of urban sustainability initiatives. For these reasons, such a comprehensive analysis of the impacts of practices is beyond the scope of this report.

II.II.II METHODOLOGY AND BASIS OF SELECTION

In line with the D2.2 Report on Leading City Practices, our methodology was qualitative and descriptive. We derived material from the scientific literature, particularly on multi-level interactions in local post-carbon / energy / sustainability transition processes. The literature review also provided some emblematic examples of good EU and national practices. Further sources of good EU and national practices were: D2.1 Report on Leading Cities, which indicated typical features of leading cities (national context, membership in transnational initiatives etc); D2.2 Report on Good City Practices, which provides some contextual information on EU and national practices in the featured city practice examples; WP2 expert survey, which offered contextual information on transition processes, their external drivers, and success factors; suggestions from POCACITO partners of good EU and national practices according to their expertise. This work was supplemented by internet research conducted by the authors.

Together, these sources provide insight into some of the key EU and national practices as well as preliminary conceptual thinking on the topic. They do not, however, offer the depth of empirical material necessary to make substantive claims about the effects of EU and national practices. Our claims are thus modest and indicative, based on illustrative examples produced through POCACITO research and reference to the academic literature.

III LITERATURE REVIEW: EU AND NATIONAL LEVELS AND URBAN ENERGY TRANSITIONS

III.I INTRODUCTION

Urban climate and environmental governance is shaped by multiple and overlapping processes, by a range of actors, organisations and scales. Research has made clear that support from higher levels of authority is crucial to the success of urban sustainability within and beyond the EU, even if it is not a barrier to action (Bulkeley and Betsill 2013, 143). According to Germanwatch's research on the three leading countries in climate change policy in Europe – Sweden, the UK and Germany – the simultaneous development of national and subnational approaches may improve the performance of overall national climate governance systems (Kern and Mol 2013, 7). The exact influence of national governments, the European Union and transitional initiatives on urban sustainability policies is, in most cases, unclear. Indeed there is an acknowledged gap in the literature on this topic as most research has focused on the role of local authorities (see Bulkeley 2010). While it is widely recognised that networks are fundamental to urban sustainability (e.g. Bulkeley and Betsill 2003), be they internal or external, local, regional, national or transnational, this review has not found substantive studies on the specific influence of particular transnational municipal networks (TMNs), such as the Covenant of Mayors.

In line with the overall aim of D2.3, the objective of this literature review is to develop basic understanding on the ways in which national and transnational levels can positively benefit urban post-carbon transitions and to identify emblematic good practices. In doing this, two other steps are also necessary. The first step is to locate national and EU practices within a broader understanding of how urban transitions occur, specifically noting the interplay between internal urban dynamics, such as leadership or learning, and external dynamics, such as regulatory frameworks or transnational flows of knowledge. The second step is to briefly identify the generic constraints that usually have to be overcome in urban transitions. Good practice from the national and transnational level should assist in overcoming these constraints. There is little empirical material on the topic of good practices (Bai et al. 2010, 313). While the "systematic, comprehensive analysis" (ibid.) required to address this deficit is beyond this report, D2.4, the typologies paper, will bring together conceptual and empirical material compiled during WP2 to shed light on the interactions between context, activities, and performance in post-carbon transition pathways.

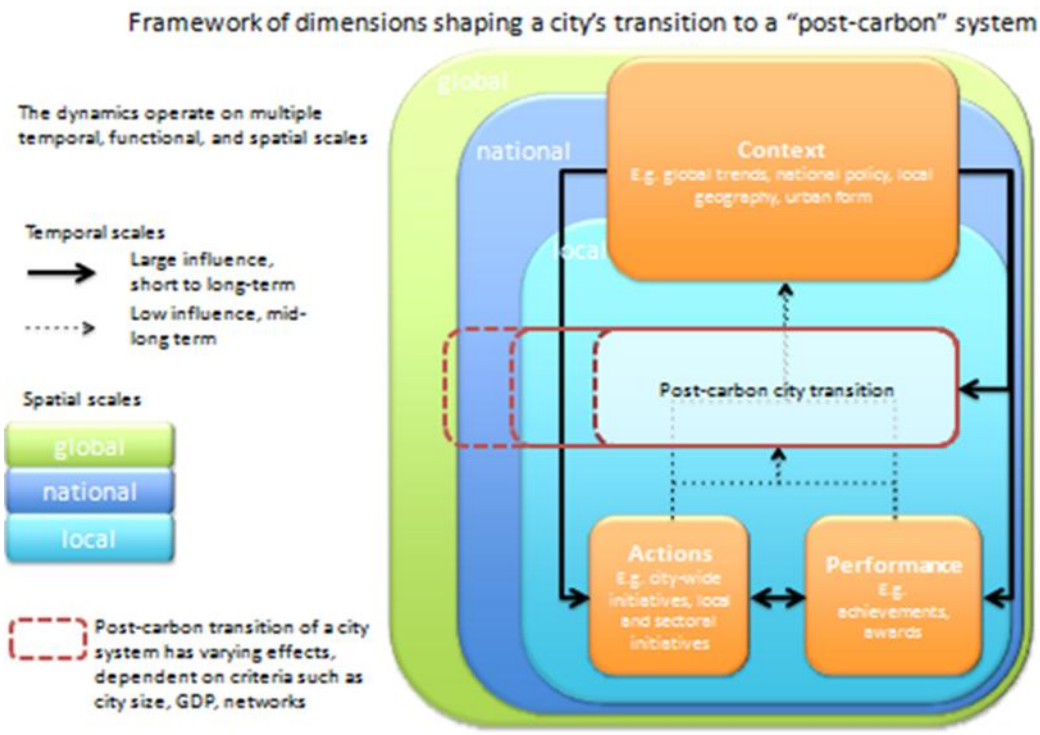
III.II INTERNAL AND EXTERNAL DYNAMICS IN URBAN ENERGY TRANSITIONS

Achieving urban post-carbon transitions requires dealing with a varying combination of constraints. The national political structure may be centralised and offer few opportunities for autonomous action; short-term needs and political objectives in cities (fuelled by electoral cycles) can work against undertaking the long-term, not necessarily vote-winning, commitment to deal with climate mitigation and adaptation; and many urban authorities lack the basic financial or institutional resources to

undertake long-term action. Many constraints are generic, even if the particular ways in which they are combined can vary from city to city. In a literature review and study of 38 cities' involvement in climate action worldwide, Martins and Ferriera (2011, 46) conclude that the following general categories of constraints on action at urban level are apparent: **resources and capacity, knowledge and information, institutions and governance**.

Constraints are not always endogenous to a city, even if they are always locally observable. A lack of financial revenue at the urban level may result in part from the national context in which cities are embedded, e.g., the wider national taxation frameworks in the UK, which result in a concentration of tax revenue in the central government. Hence, understanding the constraints and opportunities for post-carbon transitions, and how national and transnational practices might assist in overcoming them, must be based on an assessment of the interplay between internal and external dynamics. As we outlined in D2.1 Leading Cities Inventory, there is a complex array of factors shaping a city's transition, stretching from macro to micro level and encompassing a multitude of activities across governmental and societal realms.

Figure 1: WP2 conceptual model



Source: D2.1 Leading Cities Inventory Report

Understanding transitions to post-carbon cities requires an analysis of the relationships between urban contexts themselves, internal dynamics, such as the actions undertaken and the overall performance of cities in moving to a post-carbon system, and the external dynamics from the national to transnational, e.g., EU-agreed and binding emission reduction goals (40% below the 1990 level by 2030). There are, of course, interplays between these internal and external processes. National

policies have to be implemented at the city level; membership in transnational municipal networks brings increasing access to knowledge resources. In our model, we consider these interactive processes to constitute the contexts which shape transitions. As Figure 1 illustrates, **context** is the local, national and global factors which constrain and enable actions, and ultimately performance. These shape the **actions** cities undertake, the concrete steps taken by cities in pursuit of the post-carbon transition. **Performance** is the measured (e.g. emissions reduction) or observed (e.g. awards) outcomes of such actions.

Transnational and national practices are thus important to the context of urban transitions (and hence the actions carried out and overall performance achieved), but their "success" otherwise cannot in all cases be explained in isolation from factors internal to cities (e.g. strong civil society interest in sustainability as witnessed in campaign groups). The academic literature and our own research show that strong leadership and good practice at national and/ or transnational levels is not sufficient on its own to achieve local transitions, and may not work in every context. This point will be emphasised later in the discussion of the practices themselves, particularly those related to policies and directives, where such a wide range of factors can shape their success across urban contexts.

Hence, the absence of EU and national interventions by no means precludes achieving improved environmental performance – some authors have even argued that its absence is encouraging innovation in cities (Anguelovski and Carmin, 2011). Certainly, the development of municipal voluntarism (e.g. Transition Towns) and "strategic urbanism" (climate change as a strategic issue for urban actors) (Bulkeley and Betsill 2013, 150) are not directly linkable to specific national and transnational practices, though they are clearly shaped by them. Ultimately, endogenous dynamics, and most commonly, the interplay between dynamics endogenous and exogenous to cities, are most crucial in explaining transitions. Anguelovski and Carmin (2011, 1) have stressed that internal factors tend to be of most significance to urban transitions. This is supported, at least in relation to cities in USA, by Pitt (2010, 851) who identifies mainly internal dynamics as most important to change, especially the "influence of neighbouring jurisdictions, the presence of staff members assigned to energy or climate planning, and the level of community environmental activism".

There is thus no template by which these transitions can be planned from national and transnational levels. Good practices should be seen as limited by varying contextual factors, especially wealth, while identifying and implementing them is "very much an 'art' rather than a 'science', which involves significant trial and error, which in turn requires the need for commitment and constant effort of learning" (Bulkeley and Betsill 2013, 143). Ultimately, though there are patterns in urban transitions across cities, especially related to economic development and the historical development of sustainability, non-linearity and individual patterns continue due to specific combinations of local, national and transnational dynamics. Change, long-term transition, is also, as Meadowcroft (2009) has emphasised, a fundamentally political process – local as well as transnational/ national, conflict-laden and unpredictable.

In summary, it can be argued that explanations of transitions depend on an assessment of internal and external dynamics/ factors: (i) internal factors (within the local government, but also in the wider urban community) and (ii) external factors, in particular via knowledge transfer between and among cities at national and international scales (Kern and Beveridge Forthcoming/ 2015). Different combinations of external and internal factors result in cities taking different sustainability pathways.

For this reason, it could be "valuable to discern the particular drivers and mechanisms that contribute towards shifting evolutionary trajectories towards more sustainable ends" (Bai et al. 2010, 313). While this is one of the goals of D2.4, the typologies paper, the rest of this literature review begins addressing the more specific roles of EU and National practices in transitions.

III.III ROLES OF NATIONAL AND TRANSNATIONAL LEVELS

Despite the contingency surrounding them, national and transnational interventions are integral to the overall multi-level interactions (Bulkeley and Betsill 2005) through which urban energy transitions occur (Bulkeley and Betsill 2013). Within the European context, the transnational level has a special importance given the ever stronger role played by the EU in climate and environment policy, the general Europeanisation apparent at all levels of political systems and the notion of subsidiarity within this (Kern and Bulkeley 2009). When thinking about the specific types of national and transnational intervention possible, Kern has identified three forms of urban climate governance in multi-level systems, such as the U.S. and the EU: *hierarchical governance, vertical governance, horizontal governance* (Kern, 2013):

(1) Hierarchical governance: multi-level climate governance implies that EU and national programmes are ultimately implemented at state and local levels, i.e. top-down governance. In Europe, the EU and Europeanisation are particularly important in this respect. Europeanisation can be defined as the implementation of EU legislation and its impacts at the local level (Kern 2013), e.g. EU regulations and legal instruments. EU regulation shapes virtually all local or regional policy, this is one of the main means (e.g. liberalisation of energy markets) through which urban transitions are shaped, though it is mainly indirectly via national legislation. The EU's influence is most direct in terms of the Structural Funds programme (Kern 2013). EU climate policy centred on 'big' directives, all of which are important at the urban level, e.g. the Energy Efficiency Directive, the Renewables Directive, and the Biofuels Directive. Importantly, however, is that in the majority of countries there are no direct links between national GHG reduction goals, based on EU climate protection programmes and international agreements, and the implementation of these goals at regional and local level (Kern 2013).

National governments may also adopt such a "governing by regulation" (Bulkeley and Kern 2006) approach. In Norway, the national government requests the development of local climate plans (Corfee-Morlot 2009, 51)). The UK is a centralised state and one that had a period of high activity, at least in 1990s-2010: very hierarchical interventions (governing by regulation) were seen to have transformed the country's environmental performance into that of an EU leader (see Kern and Mol 2013 page 4). Generally, 'softer' approaches focused on "enabling" and "provision" are used (Bulkeley and Kern 2006) – see vertical governance.

(2) Vertical governance: this more collaborative governance form combines top-down with bottom-up approaches in hybrid forms of more networked governance. In terms of more top-down measures, both the EU and especially national governments have tried "governing through enabling" (Bulkeley and Kern 2006), to motivate and facilitate actions within cities, e.g. establishing guidelines for local

authorities and the dissemination of information on best-practice cases (Kern and Alber 2008, 182). So-called "governing by provision" goes beyond the transfer of information and knowledge for capacity building and offers additional services for local authorities. These might include positive incentives in the form of funding programmes for local projects in the area of climate policy (Kern and Alber 2008, 182) or market-based instruments such as tariffs, subsidies, specific funds or fiscal arrangements. These interventions have been complemented and shaped by more bottom-up governance measures – cities have tried to alter the effects of hierarchical governance through establishing direct links with EU/federal institutions (through organisations such as ICLEI).

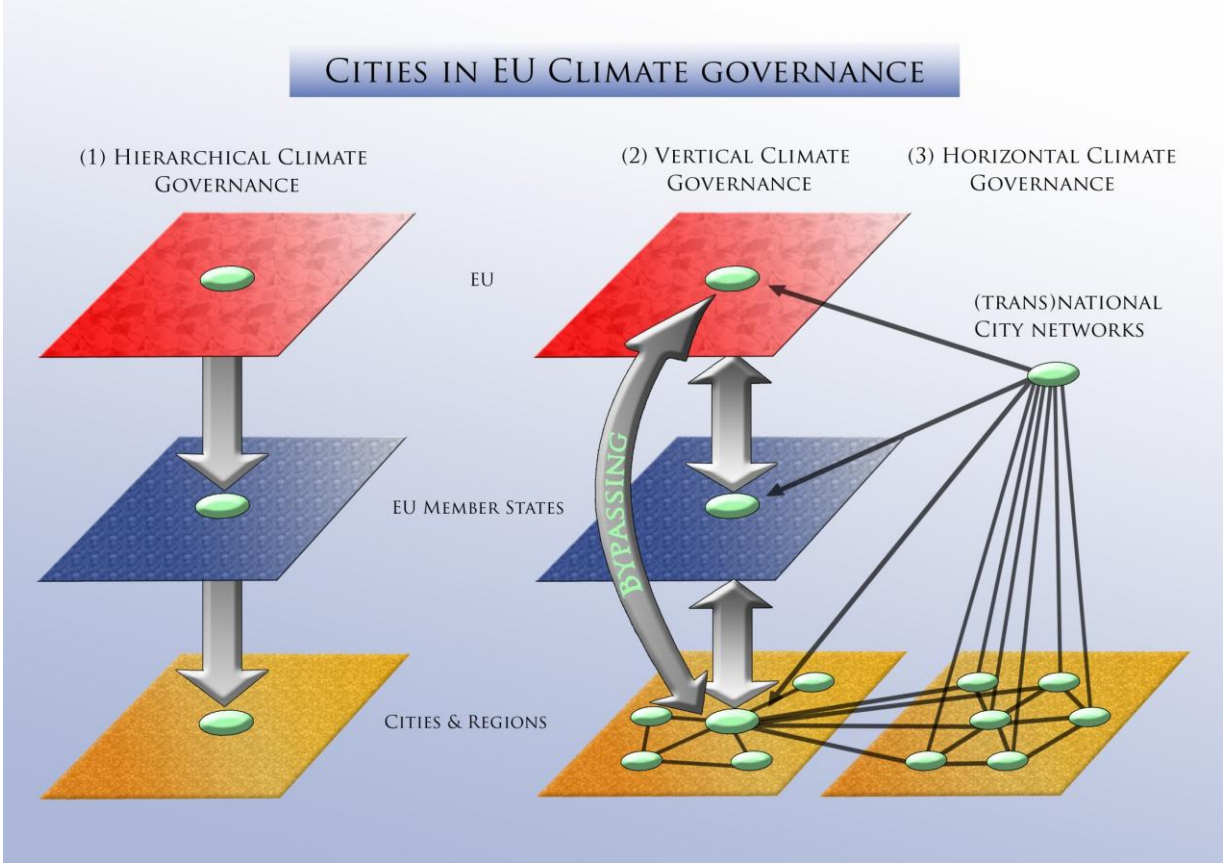
Many of the leading cities have adopted measures in advance of and of a more ambitious nature than national level – and as such, they influence national and even EU policy e.g. London, Rotterdam, Munich, and Stockholm (Kern 2013, 11). A good example is that of the Solar Ordinance in Spain. This was firstly created by Barcelona in 2000 and adopted later as a national regulation for the whole country[1]. Such examples are evidence of more collaborative approach to governance whereby leading cities play a role in setting national and EU agenda, though the development of pioneering practices (Kern and Mol 2013, 7).

Specifically, national and EU levels can play an important role in developing these more collaborative vertical governance programmes through offering funding. Here, the EU often directly engages with the local and urban level in climate and energy policy (by-passing national levels), e.g. EU's Intelligent Energy Europe (IEE) programme, which seeks to bridge the gap between EU policies and their implementation at the subnational level (Kern and Mol 2013, 7-8).

(3) Horizontal governance: cities have developed various tools to facilitate knowledge transfer among themselves. Although national, European and international institutions play merely a facilitative role here, their actions remain essential (e.g. via funding opportunities available to cities or through their memberships in networks). Transnational networks are crucial actors here e.g. Covenant of Mayors, Energy Cities, ICLEI and Climate Alliance. Crucially, in a context of policy globalisation, external networks between cities are increasingly international, particularly for those cities seen to be key players in sustainability and/ or the global economy, the Cities Climate Leadership Group (C40) being the prime example in climate governance. Such networks, along with their regional and even local variants, have become crucial mediums through which cities learn, acquire knowledge and technological resources, and ultimately make policy. In fact, it is not only the increasing diffusion and transfer of policy between cities that is noteworthy, but the pace at which it now travels, what Peck and Theodore (2001) have called "fast policy transfer".

[1] http://www.estif.org/policies/solar_ordinances/

Figure 2: Cities in EU Climate Governance



Source: Kristine Kern (2013)

IV GOOD NATIONAL AND EU PRACTICE

This chapter serves to further explore the interactions between national and EU level on the one hand, and the municipal level on the other, in the context of concrete practices. It draws on a range of sources: (1) primarily the scientific, but also the policy, literature on urban sustainability, which showed emblematic examples of good practices as well as analytical reflection on their scope, success and transferability; (2) the project's D2.1 Report on Leading Cities, in which partners asked experts to nominate leading EU cities and explain their choices in relation to implemented practices; (3) the project's D2.2 Report on Good City Practices, in which partners added some contextual information on EU and national practices in the featured city practice examples; (4) further nominations of good EU and National practices provided by project partners based on their own and neighbouring country experience.

The types of governance identified in the literature review serve as a means to discuss types of practices by their function. Each section lists selected practices that were identified as relevant in the research process. Beyond listing good practices and their (presumed) positive impact, the aim of this section is to present empirical evidence and, where this is missing, develop basic hypotheses on how national and transnational initiatives can play an enabling role in spurring local agency that results in increased post-carbon performance.

The following table lists criteria to distinguish different types of practice in the EU's multi-level climate governance system. Please note that the table lists features of ideal-type examples. In practice, the categories are not as clear-cut, as hybrid versions are also apparent. For example, platforms established by the EU Commission (vertical governance) may also feature strong elements of horizontal exchange, or national-level awards are being set up jointly by state and non-state organisations (vertical and horizontal governance forms).

Table 1: Modes of governance and EU and national practice

MODE OF GOVERNANCE	HIERARCHICAL	VERTICAL	HORIZONTAL
Governance by...	"by regulation"	"by provision" "by enabling"	"by learning" "by facilitation"
Key agents	Legislators: EU commission, National governments / parliaments	Administrators: EU and national implementation agencies	Policy Entrepreneurs: transnational municipal networks (TMN), regional/national municipal associations, civil society organisations
Assumed Impact	EU policies are translated into national laws and regulations, which are enforced on the local level.	EU/national guidelines and support programmes are used by local actors, lessons learnt are taken up by national and EU policies.	Transnational actors facilitate "fast policy transfer" amongst municipal members through horizontal exchanges.
Typical instruments (overlap in practice)	directives laws regulations limits standards product bans	white papers visions, principles guidelines dedicated funds pilot projects knowledge provision consultancy training awards	awards rankings? benchmarking certification lobbying networking showcasing tools
Key motivational factors for cities to implement / join initiative	avoid negative sanctions when failing to meet policy requirements	access funds, policy guidance and knowledge official and public recognition as 'pioneer' strengthen local alliance for change shape policies on national/EU level	access knowledge to appropriate solutions competition: "race to the top" recognition for accomplishments sharing knowledge

Source: Authors' own work drawing on Kern (2013)

In the following three sections, representative practices found for the hierarchical, vertical and horizontal governance modes are presented in an attempt to extract their basic mode of operation and interaction with the municipal level. Each section first discusses the transnational level and then the national level.

IV.I HIERARCHICAL GOVERNANCE

This section gives an overview of some of the most important regulatory approaches in the field of energy and climate change. It discusses how their enactment generally improves the opportunity structure of local governments in their moves towards sustainability. Where possible, reference is made to research findings and examples from our own work.

IV.I.I EUROPEAN UNION

In recent years, the European Union has been pursuing an ambitious energy and climate protection policy. A comprehensive set of directives and decisions directly sets national goals for climate protection and addresses policies in areas such as energy generation, energy efficiency, industrial standards, pollution limits and environmental protection. EU policies have a strong effect on national policies. In France, official sources have claimed in 1992 that 54% of new legislation originated from Brussels (Conseil d'Etat 1993, quoted by Cavoli 2011: 1). EU Environmental policy has a particular impact on national regulation and policies. In the UK, findings suggest that 57% of statutory instruments emanating from the EU are implemented by the Department for the Environment, Food and Rural Affairs (DEFRA) (Miller 2010, quoted by Cavoli 2011).

EU policies also strongly affect the local level. However, the extent to which a municipal government is able to shape and adapt the implementation of EU regulations to fit their local context and strategy, varies greatly and depends on at least three factors: i) the stipulations of the EU policy itself, ii) how it is translated into national policy and, iii) last but not least, on the level of autonomy granted to municipalities in the country in question. This shows how difficult it is to trace, let alone to generalise the impact of European policies at the local level.

While, to our knowledge, there is no meta-study on this issue, research exists that attempts to understand the EU's policy impact on the local level in specific areas. Clemence Cavoli (2011) conducted a study to understand how EU policies shape local transport policy in France, Spain and the UK. In her paper, she concludes that the Directive 2008/50/EC is likely to have a direct and indirect impact on many policy areas, especially urban transport. The study also illustrates that this piece of binding legislation was translated into national law at different speeds and in different ways in the three countries, e.g. as stand-alone regulation on air quality (UK, Spain) and as a short decree integrated into the environmental code (France). Two case studies on Cardiff (UK) and Toulouse (France) reveal further differences in the local transposition of the new air quality policies. In Cardiff, air quality management is more advanced in terms of personnel and coordination with other government agencies. As a consequence of air quality considerations, a busy inner-city street has been turned into a pedestrian zone and local public transport reinforced. The effects of the air quality policy in Toulouse on public transport are less obvious to date, partly due to split responsibilities between departments, the city administration and the Greater Toulouse metropolitan administration. However, stakeholders from both cities emphasised their impact. According to them, without the EU Air Quality Directive no concrete steps would have been taken to improve air quality in cities. In fact, prior to the EU law, no country had a legal requirement to measure or improve air quality (cf. Cavoli 2011).

The latter example shows the intricacies of assessing the influence of EU policies on local administrative units. There is no simple algorithm according to which this question can be answered objectively. Instead, qualitative process tracing methods with a heavy reliance on expert opinions are required to understand what (kind of) regulation has spurred sustainability action at the local level. In the following table, we present a list of EU policies that have been assessed by the involved POCACITO project partners as having a positive effect on municipal sustainability action. The list also includes a few more practices highlighted in the reviewed literature. For the reasons stated above, we did not make the effort of bringing the list into an order of perceived importance or effectiveness.

Table 2: Selected EU Policies on Energy and Climate Change

POLICY	DESCRIPTION	LINK
"Effort Sharing Decision" (Decision 406/2009/EC)	Agreed National targets of EU member states to reduce GHG emissions and energy consumption, and increase energy efficiency by 2020.	http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2009.140.01.0136.01.ENG
"Renewable Energy Directive" (Directive 2009/28/EC):	This Directive establishes a common framework for the production and promotion of energy from renewable sources, in order to limit greenhouse gas emissions and to promote cleaner transport. The goals are 20% of primary energy consumption from renewables by 2020 , including biofuel percentage of 10%Moreover, it requires all Member States to establish national action plans which set the share of energy from renewable sources consumed in transport, as well as in the production of electricity and heating for 2020.	http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32010L0031
Energy Efficiency Directive (2012/27/EU)	This Directive establishes a common framework of measures for the promotion of energy efficiency within the EU in order to ensure the achievement of 2020 headline targets on energy efficiency and to pave the way for further energy efficiency improvements.	http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1399375464230&uri=CELEX:32012L0027
Energy Performance Buildings Directive (2010/31/EU)	The revised EU Energy Performance of Buildings Directive 2010/31/EU (EPBD) is the main legislative instrument to reduce the energy consumption of buildings, through the application of minimum energy performance requirements for new and existing buildings, the certification of building energy performance and requiring the regular inspection of boilers and air conditioning systems in buildings. Moreover, the Directive requires Member States to ensure that by 2021 all new buildings are 'nearly zero-energy buildings'.	http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1399375464230&uri=CELEX:32012L0027
Reducing CO_2 emissions from vehicles	For cars, manufacturers are obliged to ensure that their new car fleet does not emit more than an average of 130 g of CO_2 per kilometre (g CO_2/Km) by 2015 and 95 g by 2021. This compares with an average of almost 160 g in 2007 and 132.2 g in 2012. For vans the mandatory target is 175 g CO_2/Km by 2017 and 147 g by 2020.	http://ec.europa.eu/clima/policies/transport/vehicles/index_en.htm

Source: Survey among project partners.

Given the lack of a systematic assessment of EU policy impact at city level, we can offer only make an informed speculation as to the exact roles EU legislation can play in enabling and enhancing the

capacities of municipal government actors to implement sustainability strategies and achieve related goals. We might assume that EU legislation can sometimes increase performance, even when no municipal actions are required/possible (e.g. CO_2 emission limits for vehicles, E10 regulation). EU legislation may also be exploited by local governments (e.g. taxes or tariffs).

In terms of hierarchical implementation (e.g. regulation on air quality management), legislation is downloaded to the local level through national and regional levels. More cooperative vertical forms of governance have also had an impact, e.g. the trickle down of national RE/EE targets agreed on at the EU level (effort sharing) to local level.

IV.I.II NATIONAL POLICIES

While the EU level has gained influence in the policy domains of environment, energy and climate change, national governments and legislators still have the strongest power to shape policies in these fields. National 'law-and-order' policies have the largest potential to shape the behaviour of citizens, companies and local administrative units (cf. Jänicke et al. 1999: 99ff). Looked at this way, we can expect national-level policies and policy performance in the areas of environment, energy and climate change to have a strong influence on city-level policy performance, simply due to the fact that some 70% of Europeans live in cities. Without city-level performance, no urbanised European country could perform well; without related capacities at the local level, high performance would be difficult. This is why national policies cannot be left out of this report, even though a comprehensive assessment clearly goes beyond its scope.

National political systems and policy frameworks can predetermine the extent to which municipalities are able to shape their development and implement a locally driven strategic approach:

- constitutional levels of autonomy/decentralisation, particularly fiscal arrangements
- ownership structure of state enterprises, e.g. energy and transport utilities
- multi-level planning systems, particularly environmental planning law and practice

Within a certain margin, however, local agency is possible and can overcome the constraints imposed by national frameworks. A good example would be the civil society network, Transition Towns, which has helped many UK towns and cities, such as Totnes, implement locally driven sustainability strategies despite their low level of local autonomy within the highly centralised UK political system. Almada (Portugal) has been able to boost its public transport infrastructure within a period of ten years – despite all transport utilities being owned by the national level.

ENERGY AND CLIMATE POLICY

There have been a number of attempts to compare national policy frameworks and achievements in the fields of energy and climate change. Four recent examples are given here, including three qualitative assessments and one global ranking.

Table 3: International comparative assessments of national climate policies

	SOURCE	LINK
1	Velten et al. (2014): **Assessment of climate change policies in the context of the European Semester**: Horizontal Fiche: Environmental Taxation, Energy Efficiency and Renewable Energies – a cross-country analysis. Comparative assessment of 28 EU member states (2014).	http://www.ecologic.eu/11022
2	**Germanwatch's "Climate Change Performance Index"**: Global ranking of climate policies of 58 strongest emitting countries	https://germanwatch.org/en/ccpi
3	**RES-LEGAL** Comparative assessment of legislation on renewable energy in Europe	www.res-legal.eu
4	**Energy Efficiency Watch** Assessment of Energy Efficiency policies of EU member states	http://www.energy-efficiency-watch.org

Source: Authors' own work

A comprehensive review of the listed material may serve to identify "best practices" among national policy frameworks. A comparative evaluation of national policies related to the fields of urban planning, energy production and consumption, and building energy efficiency may allow approximating in which countries cities are equipped to perform well. By setting standards, limits and procedures, national policies determine what capacities *must* be in place for effective policy enforcement. Such an analysis, however, is based on many assumptions and will not necessarily help us better understand *how* national policies impact the capacities of local administrative units to develop and implement sustainability strategies on their own. A peculiarity of many national policies is that their impact is often more sectoral than local.

For instance, Germany's Renewable Energy Law (EEG) has been appraised as an effective policy instrument to increase renewable energy production. Providing a feed-in tariff as an economic incentive to install and feed in electricity from renewable sources, its implementation relies on private actors (households, enterprises) more than on municipal government actors. Thus, studies on the EEG rather evaluate its impacts on the development of different renewable energy branches (Fraunhofer ISI et al. 2010) or macro-economic impacts (IfNE 2007), than consider municipal sustainability initiatives.

Kern (2013) draws our attention to a different example. In the United Kingdom, state – local relations remain highly centralised. At a national level, the UK has vowed to reduce GHG emissions by 20% (1990-2020) and launched many effective climate change policies. These goals and policies are directly transposed to the local level. Since 2008, local authorities must report on CO_2 emissions reductions and adaptation policies as part of a set of 198 national performance indicators for local authorities. Another example of a national government mandating local authorities to implement climate strategies is France (Hakelberg 2011: 74). This hierarchical mode of climate governance is, however, rather an exception to the rule among Annex 1 countries and thus of EU countries more broadly (cf. Kern 2013: 3-4). Thus, to understand the local implications of individual policies in more

decentralised systems, more dynamic multi-level approaches are preferable, and a deeper understanding of state-local interactions is necessary.

As in the previous section, the following table contains a selection of policies that were highlighted by POCACITO project partners as conducive to city-level sustainability strategies.

Table 4: Examples of national legislation and regulation

	DESCRIPTION	LINK
Example :	**Standards for Sustainable / Smart Cities**	
	British Standards Institute (BSI): Guide to establishing strategies for smart cities and communities	http://shop.bsigroup.com/upload/Smart_cities/BSI-PAS-181-executive-summary-UK-EN.pdf
	DKE German Commission for Electrical, Electronic& Information Technologies of DIN and VDE: German Standardisation Roadmap Smart City	http://www.dke.de/de/std/AAL/Documents/EN_Roadmap Smart City.pdf
Example :	**Portugal**	
	National framework for Buildings Energy Certification System	https://dre.pt/application/dir/pdf1s/2013/08/15900/0498805005.pdf
	Cogeneration Legal Framework (CHP Directive)	http://www.apren.pt/fotos/editor2/destaques/dl_23_2010.pdf
	Public Contract Regime with the Energy Service Companies (ESE)	http://www.adene.pt/sites/default/files/0120901216.pdf

Source: Survey among project partners; examples provided by INTELI and CEPS

IV.II VERTICAL GOVERNANCE

Cities play a more active role here, their position shifting “from policy takers to policy makers”, as Kern (2013) puts it. In vertical governance, cities develop their own initiatives and try to influence national and even global climate governance. To this end, many city networks devoted to the cause of climate change have come into being, push their agenda independently and, in some cases, even bypass their national governments to become active in the EU arena (Kaiser 2005, quoted in Kern 2013).

Viewed from the national government or EU perspective, the challenge is to coordinate policies at different levels, which need to fit with the existing multi-level framework and diverse subnational competency frameworks. Empirical evidence from leading countries suggests that the simultaneous development of national and subnational approaches enhance the performance of national climate governance systems (Kern 2013: 7). In the following, we will discuss exemplary elements of multi-layered vertical governance processes and their interplay.

IV.II.I EU / TRANSNATIONAL LEVEL

Vertical governance at the transnational, particularly the EU, level is characterised by changes on three levels:

I. Cities and city associations have positioned themselves as political actors at the international level;

II. EU programmes allow for direct interaction with subnational level;

III. EU initiatives were launched that facilitate horizontal exchanges as well as policy dialogue.

Firstly, the activities of globally leading cities (such as New York, London, Tokyo) and Transnational Municipal Networks (TMNs), among them C40, Energy Cities, and ICLEI, have contributed to a new position of cities in the multi-level climate governance system. The cross-organisational initiatives "World Mayors and Local Governments Climate Protection Agreement" and the "Local Government Climate Roadmap" reinforced this new municipal self-esteem, as they were brought to the international climate change conference table in Bali (COP13 2007) and later COP events (Kern 2013).

Secondly, an important part of the vertical governance mode is that EU programmes use funding to interact directly with the local level. In contrast to EU regional policy funds, many EU climate programmes do not require the involvement of the national level. They contribute to the achievement of EU energy and climate policy goals and involve a wide network of local and regional authorities, businesses, and universities. In the period 2007-2013, EU funding in the areas of renewable energies, energy efficiency and energy management was approximately EUR 9 billion (Kern 2013). Regression analysis shows that a city's participation in climate related projects financed by the EU significantly increases the likelihood of adopting a local climate strategy (Hakelberg 2011:74).

Examples of influential EU programmes that were nominated by POCACITO partners include:

- Intelligent Energy Europe: seeks to bridge the gap between EU policies and their implementation at subnational level. IEE, among others, supports the establishment of local energy agencies.
- CIVITAS funding programme and the ELENA financial instrument implemented by the European Investment Bank.
- ManageEnergy and the Sustainable Energy Europe Campaign.

Many more projects of limited duration were mentioned both as an "EU good practice" and supportive factors in the context of the city-level research carried out in this work package:

- Maribor (Slovenia) relied on more than 7 EU-funded projects in the development of its local energy strategy.
- Bologna (Italy) used funds from the Life+ programme to develop and set up its EcoBudget approach to municipal finance.

- Güssing (Austria) – access to EU structural funds was a major incentive to launch a comprehensive approach to a local energy transition. Ultimately, EU funding played a crucial role in Güssing's pioneering "100% renewable" approach based on local wood resources.

Thirdly, and perhaps most importantly, EU institutions are themselves facilitating horizontal exchanges among cities. They include horizontal governance mechanisms (which are described in more detail in the next section), but go beyond this in that they include vertical exchanges of cities with EU actors and *provision*- and *enabling*-type governance instruments, such as guidelines, training and funding opportunities.

The prime example here is the **Covenant of Mayors** (CoM), launched by the EU Commission in January 2008. The initiative brings together the mayors of Europe's pioneering cities with the aim to improve urban energy efficiency and promote cleaner energy production. It includes a formal commitment by the cities to reduce their CO_2 emissions by more than 20% by 2020. The scheme is based on a voluntary agreement, but goes beyond the mere facilitation of local initiatives because it also includes a funding scheme. IEE funds the Covenant of Mayors office. Covenant signatories and any other city can get technical assistance for energy efficiency projects via the EIB ELENA facility. Local authorities have to prepare a baseline emissions directory, present a sustainable energy action plan, and provide regular implementation reports, while the European Commission sets up a "benchmark for excellence" mechanism. Benchmarks of excellence are initiatives and programmes that represent a worldwide model of successful implementation of sustainable energy development concepts in urban settings.

The Smart Cities Initiative (www.eu-smartcities.eu) follows a similar approach including horizontal exchanges and vertical policy dialogue – both bottom-up and top-down. A web-based platform is combined with regular conferences and working groups, through which individual participants can discuss their experiences thus potentially also influencing the Smart Cities Stakeholder Platform's policy recommendations.

Overall, EU projects have considerably helped cities in urban sustainability transitions, e.g. by providing additional knowledge resources and supporting collaboration. Cities have also, however, played a significant role in altering modes of interaction with the EU level. The EU has responded with increasing "contact surface" for cities via EU institutions and programmes, even directly encouraging the political influence of cities at national/EU level. The greatest impact has been achieved through the CoM, the broadest European initiative. As a voluntary initiative, there is no "enforcement / compliance" but a binding commitment by local governments to elaborate and implement SEAP and additional incentives to act upon their commitments.

Table 5: Selected EU initiatives supporting the implementation of city-level climate strategies

TITLE	DESCRIPTION	LINK
Covenant of Mayors	**Sustainable Energy Action Plans (SEAP)** Under the SEAP programme, local governments commit to a CO_2 reduction target based on a GHG emissions inventory, and to designing and implementing a local action plan. By February 2015, some 4,400 SEAPs had been submitted by local governments.	http://www.covenantofmayors.eu
	Mayors Adapt Cities signing up to the initiative commit to developing a comprehensive local adaptation strategy or integrating adaptation to climate change into relevant existing plans. Mayors Adapt provides a platform for greater engagement and networking by cities, and raises public awareness about adaptation and the measures needed.	http://mayors-adapt.eu
The Smart Cities and Communities Initiative	**The Smart Cities Stakeholder Platform** is the collaborative, networking and knowledge sharing tool of the SCC Initiative. Its two main goals are: • Policy input and analysis: get stakeholder input into how national and EU policies and programmes can best support smart cities; • Smart City Projects: help cities become "smart" through both helping cities learn from each other and by generating privately and publicly funded projects. City stakeholders can contribute to policy recommendations through their participation in working groups and conferences.	http://eu-smartcities.eu/
	European Innovation Partnership Smart Cities and Communities (EIP SCC) Launched in 2012; aims at developing scalable and transferable solutions to contribute to the EU's 20/20/20 climate targets. EIP SCC supports existing and future EU initiatives in the field of environment and climate policies through establishing partnerships between industry and cities. Promotes synergetic energy, transport and ICT projects (365 million Euros in 2013)	http://ec.europa.eu/eip/smartcities/
	Smart City Expo World Congress	http://www.smartcityexpo.com/en/congress
Reference Framework for European Sustainable Cities (RFSC)	Online toolkit for European local authorities working towards integrated sustainable development. Once registered, municipal stakeholders can use a strategy assessment and development tool and access good practice examples from other cities.	http://rfsc.eu/
European Local Energy Assistance (ELENA)	ELENA technical assistance facility mobilises funds for investments in sustainable energy at local level. It is managed by EIB and funded through the Intelligent Energy Europe programme. ELENA covers up to 90% of TA for preparing large investments, which may be eligible for EIB funding.	www.eib.org/elena
CIVITAS	CIVITAS is designed as a programme that allows cities to learn from each other in the area of transport. The CIVITAS Forum Network brings together involved cities; CIVITAS has helped introduce transport-related demonstration projects in over 60 European metropolitan areas. EU-funded investment of more than EUR 200 million.	http://www.civitas.eu/

TITLE	DESCRIPTION	LINK
URBACT	Programme with the aim of horizontal learning and knowledge-sharing among cities. Each URBACT project is dedicated to one individual urban issue. The programme comprises 500 cities in 29 countries.	http://urbact.eu

Source: This is a shortlist of initiatives that were nominated by POCACITO project partners; supplementary information gathered from the relevant websites and the ESDN 2014 report: *Mapping Urban Sustainable Development in Europe and Beyond*.

IV.II.II NATIONAL LEVEL

All EU countries must transpose their commitments to the subnational level. The UK is the only member state that has chosen to mandate local governments to reach climate change related targets, while other member states with more cooperative state-local relations have chosen different tools. Kern (2010: 6-8) notes two differing climate governance frameworks that have proven successful. In the Netherlands, intergovernmental relations in climate policy are based on a climate covenant ('Klimaatcovenant'), a multi-level arrangement involving local, provincial and national entities. To receive funding, local authorities have to present a comprehensive climate action plan. The level of funding – with the sole purpose of implementing the action plan – depends on population size; related investments have to be borne by municipalities themselves or other sources. In the first five years, more than 250 municipal action plans were developed with state subsidies in the range of EUR 36 million.

The German federal government mainly acts as a facilitator of local climate action. Although an ambitious GHG emission reduction strategy dates back to 1990, its role has long been limited to collecting information and disseminating knowledge on best-practice cases, aiming at building capacities at the local level. From 1997, the German government has been providing comprehensive guidelines on municipal climate protection including general aspects of climate protection, steps to elaborate a local action plan, detailed sectoral recommendations, and best practice examples from dozens of cities and towns. Only recently, a small national subsidy programme and a service agency ('Servicestelle kommunaler Klimaschutz') were set up as part of the national climate protection initiative (NKI). Some federal states, such as North Rhine-Westphalia, maintain a more comprehensive support package for municipal climate action.

In sum, higher regional and local government autonomy seems to result in more national governments choosing collaborative and facilitative roles, thereby strengthening vertical and horizontal forms of climate governance. While in the former model that is based more on direct *provision*, it is possible to trace policy effects (adoption and implementation of subsidised action), though there is a huge attribution gap when trying to understand the effectiveness of the latter "non-point" *enabling* approach.

Some of the examples from previous work done in this work package of the POCACITO project illustrate positive impacts of both kinds (and hybrid forms) of national-level support in a more collaborative state-local framework:

- Hannover (Germany) used funding from the NKI to develop a "master plan 100% climate protection". A case study comparing Hannover and Offenbach, however, implies a much smaller effect of this kind of support in Hannover, already a frontrunner city in climate action, than in Offenbach, which was enabled to "make a qualitative leap in the elaboration of its climate strategy thanks to financial support from the {national government}" (Hakelberg 2011: 74).

- Grenoble (France) was encouraged to develop and implement its local climate protection strategy "facteur 4" from the National Government's endorsement of "factor four", the principle to divide GHG emissions by four within a period of 40 years. The concept emerged from a science-based publication of the Club of Rome in 1990.

- Litoměřice (Czech Republic) presents a case of creatively using national subsidies despite administrative burdens. A state subsidy for the replacement of coal-fired water boilers with solar water heaters (SWH) turned out to be ineffective due to its complicated application procedure. Litoměřice's municipal government developed a much simpler local procedure for citizens while still using the national subsidy. This resulted in a steep increase of SWHs in the town. Eventually, the national subsidy was discontinued and completely replaced by municipal funds.

- Malmö has, in a short space of time, become a leading city in urban sustainability. Although this can be traced to internal processes, particularly the leading role played by the municipality in a context of economic crisis (1990s), it should be stressed that the focus on environmental projects can be directly related to, and was often financially enabled by, Swedish government environmental programmes. This national framework expanded the range of possibilities available to the Malmö municipal government, breaking the financial constraints a city in economic decline faces, making a new sustainable pathway, first, conceivable and, then, accelerating the pace of transition.

- In 1998 (-2002), the Swedish Government started funding Local Investment Programmes (LIP) to promote ecological sustainability at the municipal level. This programme was followed by the Climate Investment Programme (KLIMP) (2003-2008). According to the Swedish Environmental Protection Agency, over 10 years (1998-2008) these programmes funded 72 projects in Malmö, contributing significantly to the second (1998-2002) and third Environmental Programmes (2003-2008) in the city, at a cost of 1200 million Swedish Krona (over 132 million Euros at present rates). These included the landmark re-development of Västra Hamnen (Western harbour) as the first European Housing Exhibition, Bo01-City of Tomorrow.

These examples show that funding, guidelines, and knowledge provision as well as collaborative governance arrangements can help cities develop and implement local sustainable energy action plans. They also illustrate that such inputs are not simply "delivered", but strong local commitment and agency is needed to utilise initiatives from the national level in a way that leads to the anticipated results.

While this anecdotal evidence of national initiatives helping local authorities to implement action is encouraging, it adds little systematic understanding to the question of what national governments

can do to enhance capacities at the local level, especially in "laggard" cities. To shed light on this issue, future research could be carried out from two fronts:

- Tracing the adoption and implementation of local climate strategies in the framework of national advisory/subsidy programs, where they exist;
- Where there is no national programme, conduct surveys on cities who recently adopted local climate strategies assessing why they were motivated to do so and whether information provided through national channels played a key role in this.

To understand what could be done to make more cities commit to climate protection goals, particular emphasis should be given to cities and towns with no previous track record of strategic environmental/sustainability action prior to the climate action plan. Additionally, a group of "non-movers" should be included to understand what holds cities back from implementing a local climate agenda.

IV.II.III AWARDS AT THE EU LEVEL

Awards constitute a specific channel of support and incentive to local governments. The prize money is probably the smallest incentive they offer, considering the millions and evens billions of Euros of investment that are necessary for a local energy transition. Winning an international or national award for sustainable development does, however, bring recognition of government (and/or wider society) effort. Some awards are coupled with wider initiatives and the engagement in a community of practice, as in the case of the European Mobility Week. For internationally 'frontrunner' cities, awards can be viewed as trophies in their competition with other champions. For lesser known cities, the application for an award can be a stepping stone into a transformative effort, and winning an important award puts the city on the 'sustainability map'. It would be very interesting to understand better how awards have influenced action at the municipal level; to our knowledge, this has yet to be addressed in research on local sustainability. The following is a list of examples from the EU:

- Hanover (Germany) won the European Capital of Biodiversity in 2011.
- Grenoble (France) won the European Renewable Energy Championship for Biomass 3 times (2010-2012).
- Litoměřice (Czech Republic) is a member and was the 2010 winner of the European RES Champions League.
- Almada (Portugal) participated in the European Mobility Week for ten consecutive years, and won the EMW Award in 2011.
- Hamburg (Germany) won the European Green Capital Award in 2011.
- Merida (Spain) won the International Award for Best Practices on sustainable local development for combating social exclusion in disadvantaged neighbourhoods of La Paz-San Lazaro (BEST).

- Växjö (Sweden) was given the "Sustainable Energy for Europe Campaign" Award in 2007 for exemplary strategies and performance.

Table 6: Selected EU-level awards recognising urban sustainability efforts

TITLE	DESCRIPTION	LINK
European Green Capital Award	Launched in 2006 by the European Commission, the Green Capital Award is given to cities with a consistent record of achieving high environmental standards and can act as a role model to inspire other cities.	http://ec.europa.eu/environment/europeangreencapital/index_en.htm
European Mobility Week	The European Mobility Week campaign started in 2002 and aims to disseminate sustainable mobility alternatives to citizens, and to explain the challenges that cities and towns are facing in order to induce behavioural change and make progress towards creating a more sustainable transport strategy for Europe.	www.mobilityweek.eu
ManagEnergy Local Energy Action Award	The LEAA annually rewards outstanding energy actions by public authorities at local and regional level.	http://www.managenergy.net/casestudies_actionaward.html
Sustainable Energy Europe Awards	The SEEA are complementary to the ManagEnergy Award. They reward outstanding energy efficiency, renewable energy and transport projects. Stakeholders from the public and private sector are eligible.	http://www.managenergy.net/news/articles/383
European Energy Service Award	The European Energy Service Award honours outstanding efforts and achievements in the field of energy services in Europe. The prestigious award has been awarded regularly since 2006. The prize is given to projects, businesses and multipliers who have made an outstanding contribution to the European energy service market.	http://eesi2020.eu/news-events/eesa/

Source: Shortlist of awards nominated by POCACITO project partners.

IV.III HORIZONTAL GOVERNANCE

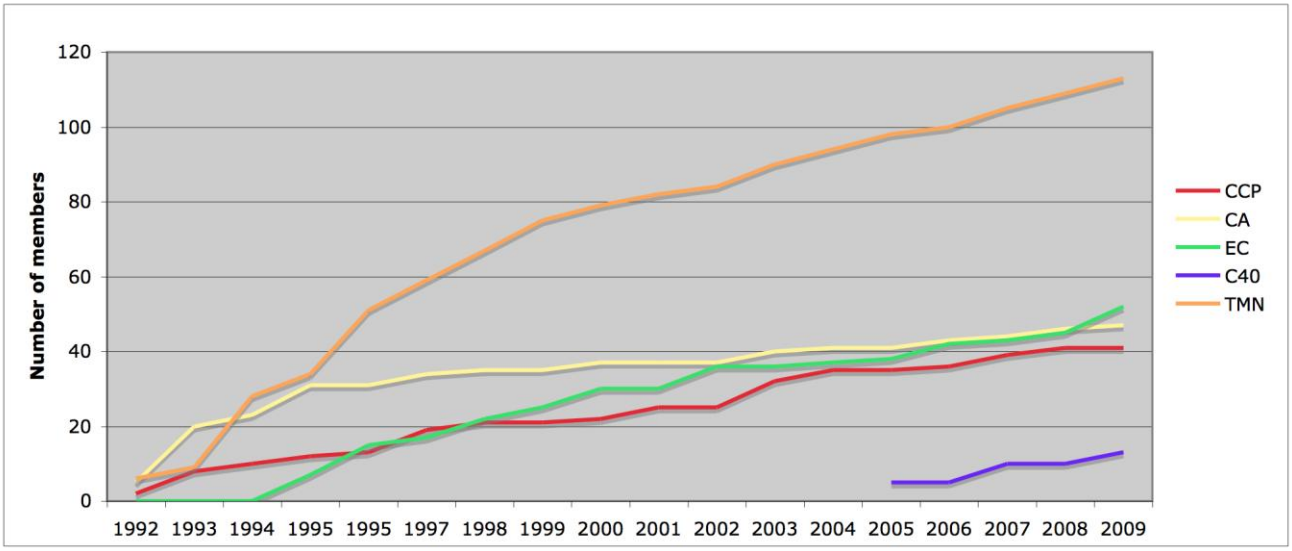
The previous sections have already noted the rising importance of the horizontal mode of multi-level climate governance. This is most commonly viewed in connection with the rise of transnational municipal networks, as explained in the last section. Here, the focus of interaction is not the networks' role as a policy-influencer, but in their primary function as facilitators of best practice transfer. Along with a discussion of the most dominant players in this arena, this section will also highlight examples from the vast array of horizontal initiatives at national and sub-national level as well as civil society initiatives.

IV.III.I EU / TRANSNATIONAL LEVEL

In the 1990s, a number of TMNs were formed in the area of climate change. In Europe, three such networks were founded in the early 1990s: the Climate Alliance, the Cities for Climate Protection Campaign (an ICLEI initiative), and Energy Cities. Other international networks followed, such as C40

and the European Energy Award (eea), after 2000. These networks share structural and functional similarities, with almost identical goals: “they seek voluntary commitment from municipalities for the reduction of GHG emissions; they try to enhance local capacities for addressing climate change; they represent the interests of their constituents {…} and foster exchange of experience and transfer of knowledge among their member cities. {…} Climate change networks have developed forms of internal and external governance in order to operate efficiently within a multi-level governance context.” (Kern 2013: 6).

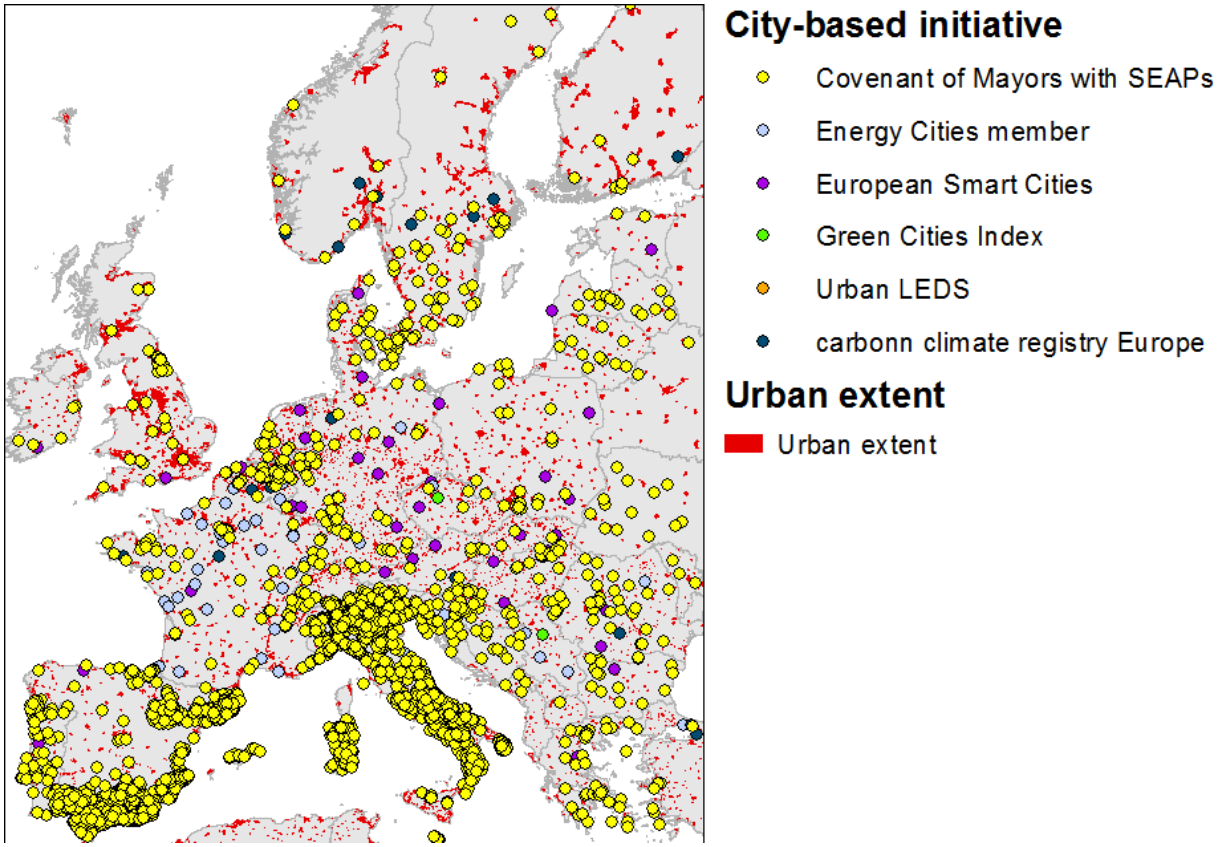
Figure 3: Development of TMN Membership 1992 -2009



Source: Hakelberg (2011: 48)

The best-known – and arguably most influential – TMNs in Europe are active on the international level and have their core constituency in EU member states. Some (e.g. eea) only become active where a national chapter is maintained. Municipalities in German-speaking countries present the majority of eea members. As the map below shows, even in the Covenant of Mayors, although theoretically offering the same opportunities to any municipality in Europe, the bulk of members come from two countries: Spain and Italy. Country coverage of both initiatives, however, has been increasing in the last few years (cf. eea and CoM websites).

Figure 4: Dispersion of city membership in important TMNs on climate action



Source: Pocacito D2.1 Leading Cities Inventory Report

A study by Hakelberg (2011) analyses the role TMNs play in the diffusion of local climate strategies. The statistical analysis, which looks at Climate Alliance, Energy Cities and Cities for Climate Protection Campaign initiatives, and case studies (Hanover and Offenburg, Germany), lead to the following conclusions:

- TMNs have significantly accelerated the diffusion of local climate strategies in Europe between 1992 and 2009. TMN membership increases the likelihood of a city adopting a local climate strategy by up to 17 times.
- It is concluded that *diffusion via learning* offers the most consistent explanation for the impact of TMN membership on the adoption of local climate strategies. TMNs accelerate learning processes by increasing the availability of information, by multiplying contacts among members, and by enhancing their capacities to act on local level.
- In contrast, TMNs were not found to accelerate diffusion processes *via imitation*. The assumption that a critical mass of network members (30%) adopting strategies would affect the likelihood of other network members' adoption was not confirmed. On the contrary, additional years of membership decrease rather than increase the likelihood of a network member adopting a local climate strategy.

- In terms of the diffusion mechanism *via competition*, i.e. cities compete for a positive reputation, it is suggested (though not statistically inferred) that TMNs have the potential to push pioneer cities towards sustained innovations by setting up contests and schemes of recognition.

These results are consistent with the findings from the expert survey on leading 'post-carbon' cities carried out in this WP, i.e. cities providing good examples of a low-carbon transition. The vast majority of these cities are members of one or several TMNs[2]. While TMN membership is mentioned as a positive contextual factor, it is difficult to construct evidence for concrete TMN influence from the examples nominated by experts and featured examples from the "Report on Good City Practices" (Deliverable D2.2). This can be interpreted as consistent with the hypothesis of a "non-point" diffusion of good practices: committed cities access knowledge that helps them solve their problems, and adapt the knowledge about good practices of other cities to fit their local needs. In this model, the causal link between TMN membership and city action remains concealed. More in-depth research, however, has the potential to reveal causal linkages between horizontal networks and city-level action.

Viewed as a horizontal cooperation mechanism, the CoM represents the transnational initiative followed most frequently and mentioned as a positive contextual factor (a city committing to reduction targets) among many leading cities identified through the POCACITO expert survey. Tracing specific tools and initiatives of TMNs could also shed light on how TMNs spur action on at city level. ICLEI's EcoBudget initiative has enabled Växjö (Sweden) and Bologna (Italy) to combine monetary and environmental assets in their municipal accounting system.

Both the TMNs and their members use knowledge platforms and horizontal collaboration projects extensively to showcase their successes and to set inspirational examples for other cities. A case in point is the IMAGINE Initiative led by Energy Cities, which combines the showcasing of achievements with the elaboration of a low energy city vision (http://www.imaginelowenergycities.eu). The motivational effect of putting membership in transnational initiatives of a city on display is conceivably not only directed towards the international epistemic community, but also part of hard local politics. TMN membership and related commitments can also serve local change agents as an argument to push for continuous transformation efforts against traditional forces in local politics; and once a "green" path has been entered, it will be part of the electoral agenda of political parties. Even if they are not members of a TMN, the publication of information on city performance can be a powerful tool to raise the perception that something has to be done, also in settings where low performance meets adverse contextual conditions and little sense of urgency to act among local decision-makers. Appropriate tools that combine a benchmarking with an active planning approach can motivate actors to embrace change and work to achieve it. Another practical example from the work of Energy Cities is the DISPLAY Campaign, which has successfully promoted the local implementation of the EU Building Energy Efficiency Performance Directive for ten years. Ukrainian municipalities starting with the worst possible GHG emission and energy efficiency ratings have also agreed to participate (Shirru-Nowicka et al. 2011).

[2] While the Leading Cities list had a selection bias to only include active members of TMNs, the expert survey did not.

Thus, the motivational effect of benchmarking is not limited to competition among frontrunner cities. While rankings (such as the Siemens' Green City Index) and some awards are restricted to the 'elite' of European cities, the thresholds of many other certification and award schemes are lower, and 'late-movers' can gain recognition through them. One of the most influential certification schemes in the field, the European Energy Award (eea) does not focus on the absolute energy performance of cities, but whether cities implement the policies and plans they themselves have set. This makes it possible for any municipality to be a top performer – if it is able to keep up with its own programmes.

The table below lists non-state horizontal networks at international level that have been nominated by POCACITO project partners as good practices.

Table 7: Selected transnational municipal networks on climate action and their initiatives

INITIATIVE	DESCRIPTION	LINK
ICLEI	**Procura+** supports public authorities in implementing sustainable public procurement, promotes their achievements, and fosters exchange on good practice from public procurers and experts internationally.-	http://www.procuraplus.org/
	Local government climate roadmap	http://www.iclei.org/climate-roadmap/home.html
Energy Cities	**Display Campaign** Energy Cities- Display® The Display Campaign is the first and most widespread European Campaign to encourage municipalities to publicly display environmental performances of their municipal buildings.	http://www.energy-cities.eu
RES Champions League	CLER - The RES Champions League is a network of national RES leagues, which aims at creating a positive renewable energy competition between European local authorities and communities and their programmes.	http://www.res-league.eu
European Energy Award	The European Energy Award® supports municipalities willing to contribute to sustainable energy policy and urban development through the rational use of energy and increased use of renewable energies. There are more than 1,200 municipalities participating today.	http://www.european-energy-award.org
Climate Alliance	The Climate Alliance is one of the largest European initiatives for local climate action.	http://www.climatealliance.org/
Go 100% Renewable Energy	Go 100% is a global community that shares the vision of supplying electricity, heating, and transportation energy needs with 100% sustainable renewable sources	http://www.go100percent.org
EUROCITIES	EUROCITIES is the association of European cities and towns with more than 250,000 inhabitants.	http://www.eurocities.eu
Assembly of European Regions (AER)	AER is the largest independent network of regional authorities in wider Europe.	http://www.aer.eu
City Protocol Society	The City Protocol Society leverages knowledge and experience in cities worldwide to accelerate sustainable transformation. Its mission is to promote, guide, and	http://cityprotocol.org/index.html

INITIATIVE	DESCRIPTION	LINK
	accelerate the responsible transformation of cities for the benefit of all urban communities throughout the world.	

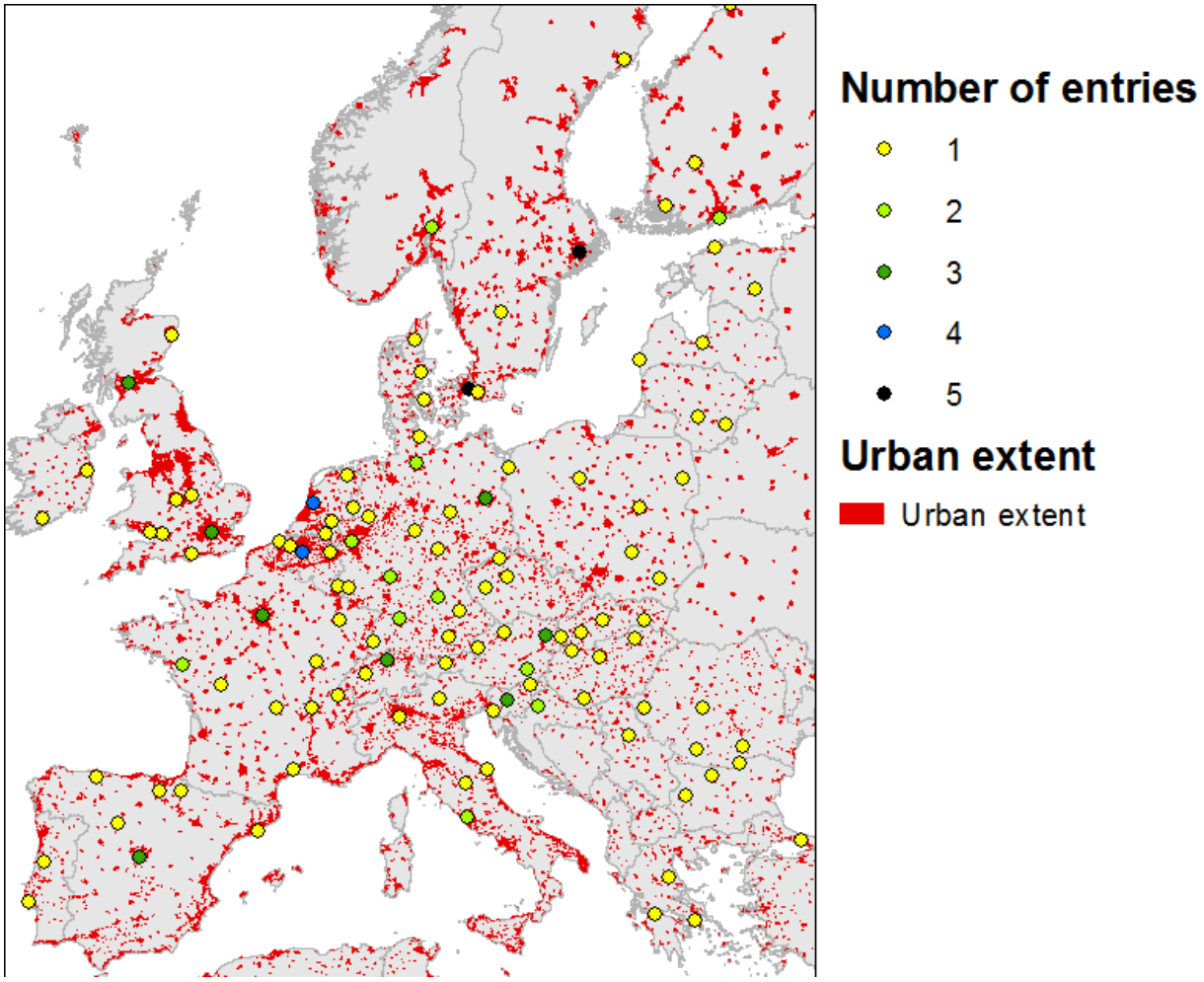
Source: Shortlist of nominations from POCACITO partner survey.

A look at the number and membership growth of European TMNs illustrates the relevance of horizontal governance in city-level climate governance. A few mechanisms have been shown through which TMNs can help and influence municipal actors in their local climate action. Diffusion of climate policy through TMNs, however, also comes with the following structural problems, identified by Kern (2013: 10):

- Participation in climate networks and adherence to their goals is strictly voluntary, hence there is no guarantee that best practices are ultimately taken up by the cities that perform less well.
- Diffusion is not always a self-sustaining process, even when models and capacities exist. Non-adoption can be a rational strategy in terms of avoiding conflict with local vested interests.
- Transfer of best practices is highly context-specific.

In summary, even in countries internationally recognised as pioneers, there is a split between frontrunners and subnational authorities that lag behind. This can be explained in terms of path dependency: cities with a proven record in environment and sustainability tend to become pioneers in climate change as well. Traditional policy tools, e.g. subsidies, cannot solve the problem of divergence. If frontrunners now receive funding, support, and are ranked highly in benchmarks, the discrepancies could further increase and programme-type policies could be feeding trends in this direction.

Figure 5: Spatial Distribution of 5 City Sustainability Ranking Initiatives



Flourishing pioneer cities receive all the attention, while "the rest of the pack" is left behind? The dominance of leading cities in transnational platforms such as C40, CoM, ICLEI might exacerbate the gap to average and 'laggard' cities. The figure illustrates results from 5 leading cities rankings. Selected rankings: European Smart Cities, Siemens Green City Index, European Green Capital Award, Mercer City Infrastructure, Ranking, Soot Free Cities. 161 city entries, 117 cities. Source: D2.1 Leading Cities Inventory Report?

IV.III.II NATIONAL/REGIONAL LEVEL

Most of the mechanisms of transnational network influence on local climate action outlined in the previous sub-section are also valid for platforms at the national level. Here, however, the functions are not only provided by newly founded initiatives, but often also by established municipal associations with a broad mandate covering a number of issues. The following lists provided by POCACITO partners serve to illustrate the range of initiatives contributing to horizontal climate governance in three EU countries.

Table 8: National Networks dedicated to local climate action

COUNTRY	NATIONAL NETWORK	LINK
Bulgaria	**EcoEnergy** Municipal energy efficiency network, gathering the efforts of the Bulgarian municipalities for achieving better energy efficiency and finding solutions for important national tasks; creating conditions for diminishing the burden of energy costs on municipal budgets and use of the money for other activities of high priority; serving the end users in the municipalities to decrease their expenses and raise the public support.	http://www.ecoenergy-bg.net/en
Czech Republic	**Healthy cities of the Czech Republic** HCCZ is the only association of Czech municipalities that stipulates in its statutes that it will work towards sustainable development. The Association's mission is to connect municipalities and professional organisations in the Czech Republic to cooperate on health, quality of life and sustainability. HCCZ has 119 members, representing some 57% of the national population.	http://healthycities.cz/
Czech Republic	**TIMUR – team initiative for local sustainable development** The aim of the partnership is the mutual cooperation of NGO TIMUR and the municipality level on monitoring and assessment of sustainable development indicators.	http://www.timur.cz/mesta/obce-a-mesta.html
Czech Republic	**Association of municipal energy managers**	http://www.energy-cities.eu/Four-Czech-cities-set-up-a
Italy	**Kyotoclub** NGO formed by business companies, associations, local authorities and governments engaged in reaching the greenhouse gases reduction targets set by Kyoto Protocol. It promotes awareness-raising initiatives, information and training to foster energy efficiency, renewable energy sources and sustainable mobility. Kyoto Club puts forward energy-related policy proposals towards public decision-makers.	http://www.kyotoclub.org
Italy	**Smartcityitalia.net** Online platform showcasing initiatives related to energy efficiency and smart cities. Its purpose is to inspire and provide information to citizens and public authorities.	www.SmarttcityItalia.net
Italy	**Coordinamento Nazionale Agende 21 Italiane** Association of local and regional authorities inspired by the UN Local Agenda 21 process aiming at promoting policies for sustainable development.	http://www.a21italy.it
Poland	**PNEC – Polish Network Energy Cities** Association of Polish local authorities, mainly municipalities, but also municipal companies and associations, working since 1994 on local sustainable energy policies and climate protection, promoting energy efficiency and renewable energy use, co-operating with local authorities in Poland.	http://www.pnec.org.pl/en/
Portugal	**RENER Living Lab – Portuguese Smart Cities Network** RENER - Portuguese Smart Cities Network is integrated by 43 municipalities corresponding to 50% of the national population. It aims to act as a living lab for the experimentation and testing of smart urban solutions in real-life context. The main objectives of the network are to promote the sharing of information and best practices, and to develop joint projects in the area of urban innovation.	http://rener.pt/

COUNTRY	NATIONAL NETWORK	LINK
Portugal	**Portuguese Renewable Energy Association (APREN)** A non-profit association founded with the mission of coordinating, representing and defending the common interest of its members and the exploitation of the national renewable resources for electricity generation. APREN is in constant contact with the government, line ministries and their agencies, and runs a profitable dialogue with key national stakeholders linked to the production of renewable electricity and civil society representatives. It is strongly involved in European projects and partnerships with European associations that enable the monitoring of European energy policies.	http://www.apren.pt/
	Portuguese Energy Association It is a non-profit and non-governmental public service institution acting in the areas of energy and environment, with the mission to contribute to the development of actions that reinforce the contribution of the energy sector to the economic development and improvement of the living standards in Portugal. It is also responsible for the representation of Portugal in the World Energy Council (WEC), the promotion of projects on energy and environment at the national level, and the encouragement of the general debate among the players of the national energy market.	http://www.apenergia.pt/content/1/9/quem-somos
Romania	**OER - Orase Energy Roamnia** Network of Romanian municipalities, working in the field of energy efficiency in urban public services	http://oer.ro
South-East Europe	**NALAS** Network of associations of local authorities of South East Europe, focusing on local finances, urban planning, waste management, institutional development and energy efficiency.	http://www.nalas.eu
Slovakia	**CITENERGO** Interest association of cities and municipalities for sustainable energy efficiency	http://www.unia-miest.eu/EN/vismo/dokumenty2.asp?id_org=600188&id=1047
Sweden	**Klimat Kommunerna Sweden** Network of Swedish local authorities working on climate issues at local level.	http://www.klimatkommunerna.se/
The Netherlands	**Klimaat Verbond Nederland** Network of municipalities, regions and water utilities, working in the fields of energy savings, renewables, energy transition and climate adaptation, with a strong focus multi-level governance.	http://www.klimaatverbond.nl/

Source: practices shortlisted by POCACITO project partners

A typical feature of national municipal networks devoted to climate change is a stronger integration of state and non-state initiatives than Europe-wide networks[3], so that hybrid forms of governance occur. This is also true for national-level awards, a selection of which is presented in the following list.

[3] Some of these national networks are collective members of Europe-wide networks e.g. EcoEnergy, OER, NALAS, PNEC, KlimaatVerbond Netherlands, KlimaatKommunerna Sweden, Healthy Cities Czech Republic, CITENERGO Slovakia are all Energy Cities' members.

Table 9: Selected national awards for local governments

COUNTRY	AWARD	LINK
Czech Republic	**The Best Mayor Award** Of the Union of Towns and Municipalities of the Czech Republic	http://www.smocr.cz/cz/nase-akce/nejlepsi-starosta-2010-2014/default.aspx
Germany	**German Sustainability Award for Municipalities** Is awarded annually to cities and towns that find unique ways to uphold the principles of a sustainable society with limited resources. The award is endorsed by the German Federal Government, municipal and business associations, NGOs and research institutions.	http://www.nachhaltigkeitspreis.de/sonstige/english-summary
Portugal	**Green Project Awards** (GPA) is an international project whose main goal is to distinguish good practices brought by projects that promote the sustainable development. Currently at the 7th edition in Portugal, it was also launched in Brazil and Cabo Verde Island. GPA is organised by GCI (Portuguese independent consultant), APA (Portuguese Environmental Agency) and Quercus (National Association for Nature Conservation) in partnership with local governments, among other partners.	http://gpa.pt/
Portugal	**Energy Efficiency Awards** This award was launched in 2010 and it distinguishes the most energy efficient companies in Portugal.	http://www.portal-eficienciaenergetica.com.pt/regulamento.html

Source: Nominations from survey among POCACITO project partners.

V CONCLUSIONS

This report has discussed the roles EU and national initiatives can play in enhancing city-level capacities to implement climate and energy related strategies. From the outset, the report was planned as a contribution to better understanding interactions between the local, national and transnational level, more than an attempt to evaluate individual practices themselves.

While tracing the exact influence of practices remains beyond this report and is generally elusive in scientific research, the vast array of practices apparent should be understood not in isolation from each other but in terms of the multi-level governance system in which they circulate. Hence, when talking of good EU and national practice, they can only be understood as such in terms of the local actions which they have shaped, whether this was through regulation, enabling or provision. Certainly, this report has identified examples which are indicative of good EU and national practice, with provision of funding an obvious, but not conclusive, example of how transitions can be encouraged, e.g. in Litoměřice national funding was an ambivalent factor.

Throughout the report, a consistent finding is that EU and national initiatives can create conducive frameworks. Ultimately, these can motivate cities to adopt local climate strategies or, through funding and advisory support, provide effective support in their implementation. However, a top-down enforcement of local climate action remains the exception, and even in the UK's centralised approach, local agency plays an important role in the successful implementation of climate policies. This can be concluded from research findings in academic papers and is consistent with the illustrative research conducted in the course of this work package.

Horizontal initiatives are effective, and increasingly apparent in Europe. However, compliance is never guaranteed and questions remain as to how less advanced cities can be encouraged to become active members. Indeed, there is still a sense that many networks tend to be most effective for those cities which are already relatively advanced. Multi-level policy support should, then, pay attention to and prioritise participation, adoption and capacity building among disadvantaged or inactive municipalities. EU, national, and subnational governments might play a role here. In fact, they are already acting as facilitators of horizontal approaches and complementary soft vertical measures (e.g. incentives or subsidies) could help with addressing the domination of frontrunner cities. It is clear that constraints are often context-specific, related to a particular combination of capacity deficits (e.g. lack of finances, social capital, political disagreement), and hence cannot necessarily be 'solved' from the outside. However, certain local factors tend to be integral to effective sustainability, e.g. high levels of institutional capacity and civil society activity and awareness of sustainability issues (Evans et al. 2007). Enabling these dimensions at the urban level should be a concern of EU, transnational and national practice.

Hence, it is not possible to argue that one form of governance, be that hierarchical, vertical or horizontal, is simply more effective than others. Rather, many good practices can be seen as hybrid forms of governance. A case in point is Energy Cities' Display© Campaign which has developed an educational/public relations tool to implement the EU Directive on Building Energy Performance, or the Covenant of Mayors incentivising compliance with voluntarily set targets by threatening non-compliers with ejection from the prestigious initiative.

There is still much work to be done on this topic, given the deficiencies apparent in the literature and limitations of the study carried out here. Further research is needed that goes beyond anecdotal or single-case study evidence that EU/national initiatives are effective and identifies *how* different kinds of initiatives impact the opportunity structure (Martins and Ferriera 2011, 39), chiefly the capacities of municipal actors to implement post-carbon strategies in different local settings. Particularly, how can EU and national levels help and motivate municipalities adopt sustainable practices when they cannot do it themselves?

This is particularly important as recent research has suggested that despite the growing number of interventions and initiatives in cities that address climate change their effectiveness has been rather limited (Bulkeley and Broto 2013: 361). Indeed, achieving better results may require a more fundamental change in approach, one which seeks to encourage locally embedded "climate change experimentation": "purposive interventions in which there is a more or less explicit attempt to innovate, learn or gain experience" (ibid 3). Of course, this raises further questions as to the roles national and transnational actors should play in facilitating experiments. National and EU levels are only one set of context factors potentially affecting local action; others cannot be altered so readily, e.g. wealth, geography, population size, density and demographic structure.

Ultimately, systematic research is still required to address the key open questions in this report – and the wider literature: "what contributes to the success of a 'good' practice? Are there commonalities and emerging patterns across cases? What are the factors and mechanisms that shape these patterns? What are sound analytical approaches for identifying them?" (Bai et al. 2010: 313). Future research should address this area by considering how external dynamics and drivers shape local transitions (and the internal dynamics upon which they rest) and how policymakers and practitioners operating at the national and transnational levels can help develop capacity to act at the local urban level. The point is not that EU and national practices can or should aim to control urban transitions – however, vital external dynamics and internal local dynamics have been the basis of most successful urban sustainability thus far (Stead 2012) and for reasons of legitimacy as well as effectiveness, it is important that they remain so. Instead, it is argued that 'good' EU, transnational, and national practice is to aim to create an enabling context, conducive to locally embedded action. In very simple terms, this can be understood as increasing opportunity structures and minimising constraints.

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VII ANNEX 1: CITY CASES

Collection of known cases: influence of EU / National initiatives with city sustainability initiatives

CITY PRACTICE	INFO SOURCE	NATIONAL-LEVEL INTERACTIONS	EU-LEVEL INTERACTIONS
Hannover, Germany Climate Protection	1, 2	Masterplan '100% climate protection' for city and region of Hannover supported by German **National Climate Protection Initiative**	Hannover won the title of **European Capital of Biodiversity** in 2011
Grenoble, France "factor four"– vision for local climate protection	2	In 2003, the French Government adopted **"factor four"** to divide GHG emissions by 4 by 2050, Grenoble applied this concept locally Grenoble won national awards: "**ribbons of sustainable development**" (2009, 2011-13), **Eco District Label** for Zone d'Amenagement Concerté (ZAC).	Grenoble won the **European Renewable Energy Championship** for Biomass 3 times (2010-2012)
Maribor, Slovenia Implementing Agency EnergaP	1, 2	Not yet explored.	Maribor's EnergaP is involved in at least 7 **EU projects**, which have supported in its sustainable mobility, building energy efficiency, renewable energy deployment etc.
Bologna, Italy Implementing ecoBudget	2	Not yet explored.	ecoBudget was originally developed by **ICLEI**. Bologna started introducing/developing it locally it with support from **EU Funds (LIFE+)** before it was established with a local implementation team in 2002.
Martigny, Switzerland M&E of energy performance	2	Not yet explored.	eea Gold certified (**European Energy Award**)
Litoměřice, Czech Republic Strategy for local energy autonomy	1, 2	**National subsidy program** for replacement of coal-fired boilers was used and topped up in an administratively more simple local subsidy program.	Litoměřice is a member and was the 2010 winner of the **European RES Champions League**.
Brussels, Belgium Energy efficient refurbishment of buildings **link**	2	**Regional concentration** with associations, enterprises, architects, initiatives (horizontal, voluntaristic approach) was key to Brussels' success in its rapid refurbishment ratio and pioneering of the introduction of passive house standard for new buildings. Also featured financial incentives and capacity building	…

CITY PRACTICE	INFO SOURCE	NATIONAL-LEVEL INTERACTIONS	EU-LEVEL INTERACTIONS
Almada, Portugal Sustainable Mobility	1, 2	Despite all of Almada's transport utilities (tram, buses, light rail, boat) being national concessionaries, Almada was able to shape infrastructure and services → **collaborative approach?**	Almada participated in the **European Mobility Week** for ten consecutive years, and won the EMW Award in 2011.
Barcelona, Spain Waste recycling	1, 2	Not yet explored.	Not yet fully explored. (Barcelona's candidacy for the 1992 Olympic Games triggered a whole-hearted transformational approach)
Bristol, UK sustainable land use	1, 2	Not yet explored.	Not yet explored.
Kalundborg, Denmark Eco Industrial District	1, 2	**Partnerships with „key national and international actors"**, among which is DONG, Denmark's largest energy provider	
Heidelberg, Germany Passive House District ‚Bahnstadt'	1, 2	Not yet explored.	Not yet explored.
Malmö, Sweden Ecological District ‚Ekostaden'	1, 2	Massive national-level funding program	
Güssing, Austria Local energy transformation based on local wood resources	1	Not yet explored.	Recent EU accession and perspective of receiving **EU regional/structural funds** triggered Güssing's willingness to reform. Much of the energy infrastructure and research capacities were financed by EU
Vienna	1	Different city strategies, plans and laws since the 80ies are of high importance, also some national ones	EU climate policy, participation in linked EU projects and city networks worldwide city ranking, innovation in relation to energy and climate strategies is positive
Neuruppin	1	Supported by National **„Stadtumbau Ost"** Programme (Urban Transformation East)	
Berlin	1	Not yet explored.	Berlin's neighbourhood management "Quartiersmanagement" are co-funded by the Berlin Senate, the European Social Fund and European Regional Development Fund

CITY PRACTICE	INFO SOURCE	NATIONAL-LEVEL INTERACTIONS	EU-LEVEL INTERACTIONS
Bottrop	1	Regional public-private initiative **"Initiativkreis Ruhr" (IKR)** organised competition for „Ruhr InnovationCity" which Bottrop won,.IKR's members support Bottrop's low-carbon development strategy.	
Dortmund	1		Won **Deutscher Nachhaltigkeitspreis** in 2014
Pirmasens	1		Nominated for **Deutscher Nachhaltigkeitspreis** 2014 (3rd)
Hamburg	1	(Hosted the international Building Fair (**IBA**) in 2007-13)	Won the **European Green Capital Award** in 2011;
Merida, ES	1	RD 1890/2008 about energy efficiency of outdoor lighting installations "2000ESCO" PLAN (Plan 2000 ESE) : promotion of energy services Spanish Strategy for saving and energy efficiency Integrated Strategy for promoting the electric vehicle	URBAN Plan Covenant of Mayors Meshartility International Award for Best Practices on sustainable local development: Combating social exclusion in disadvantaged neighborhoods of La Paz-San Lazaro (BEST) BUMP European Project for boosting urban mobility plans

CITY PRACTICE	INFO SOURCE	NATIONAL-LEVEL INTERACTIONS	EU-LEVEL INTERACTIONS
Växjö, SE	1	Close collaboration with national environmental NGO in developing its environmental strategies ossil-fuel free Växjö" strategy was developed in the mid-1990s in a three-year collaboration between the city and the Swedish Society for Nature Conservation (SSNC, Sweden's largest Environmental NGO).	Award: The City of Växjö was in February 2007 given the award within the ”Sustainable Energy for Europe Campaign”, a campaign initiated by the European Commission. “Fossil Fuel Free Växjö is an overall community programme that takes an integrated and cooperative approach to achieving its objectives. It involves a wide array of activities aimed at generating more energy and heat from renewable energy sources and technology, improving energy efficiency in all areas and achieving sustainable patterns of mobility. Växjö is an example to be followed. With its long standing political commitment to making its community fossil free it is demonstrating to all of us that its efforts are paying off and it is already half way to achieving its objective.”
Zürich, CH	1	**Conflicts with higher levels of government** in process of enacting 2,000 Watts Society policies Close collaboration with other cities and with **research institutions** (ETH Zürich...) in concept development	

Information Sources: 1) expert survey (D2.1), 2) featured examples in D2.2 report