

Local Governments and Climate Change

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Editors

Local Governments and Climate Change

Sustainable Energy Planning
and Implementation in Small
and Medium Sized Communities



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Province of Rovigo



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Foreword

Global warming is changing the world as we know it. Climate change can have catastrophic impacts in numerous cities across the world. It is time for us to react – quickly and effectively.

The European Community (EC) has been leading the fight against climate change, making it one of its top priorities. We have introduced the most ambitious targets of their kind, known as the “20/20/20 by 2020” initiative within the “Climate Action and Renewable Energy Package.” As a result, European Member States have taken on a commitment to curb their CO₂ emissions by at least 20% by 2020. These targets are indeed commendable; however, they are only the start if we are to avoid the consequences of global warming.

Whilst top level coordination from the European Institutions and Member State governments is vital, the role of mitigating and adapting to climate change at local level must not be forgotten. In fact, here cities, regions and their citizens play a significant a role. It is therefore vital they become directly involved in the climate change challenge. The European Commission therefore launched in 2008 a new initiative, the Covenant of Mayors, which brings together a network of European mayors in a voluntary effort to go beyond the European Union’s already ambitious targets.

Half of our greenhouse gas emissions (GHGs) are created in and by cities. 80% of the population live and work in cities, where up to 80% of energy is consumed. The relevance of addressing energy efficiency and renewable energy at the “local dimension” is therefore obvious. Mayors can often influence the running of their city and they can address the challenges we face in a coherent way, be it in the field of development of alternative energy or pollution control, energy management or a change of behaviour by public authorities and citizens. Cities are the privileged places where it is possible to find multicultural, cross-sectoral solutions and where the necessary balance between private and public interests may be found.

Tackling the climate crisis challenge demands a holistic, integrated and long-term approach, based on citizen participation. I am convinced that local governments must become the leading actors for implementing sustainable energy policies, and they must be supported in their effort.

I am therefore very pleased to present this ICLEI publication, especially given the European Commission’s recent initiative on the Covenant of Mayors launched

in January 2008. Since then over 80 cities have signed up to the Covenant, over 160 have expressed their interest to join. The enthusiastic response by Mayors across Europe has convinced me that we are undoubtedly on the right track.

Adris Piebalgs
Commissioner for Energy at the European Commission (EC)
Brussels, January 2009

Nowadays the commitment to climate change and renewable energies is still too often considered as a prerogative of national governments and international agencies, with the perception that mayors need to focus on defining proper environmental policies. Unfortunately, or maybe rather fortunately, the reality is different and every community can play a fundamental role in these areas before the ecosystem is destroyed.

In this debate, where the launch of the Rovigo Outreach in 2008 played a fundamental role, it is necessary to promote a comparison on innovative climate protection approaches. It is also the best time and an opportunity to define common strategies and outline roles of local authorities. The involvement of many Italian and other cities, as well as a wide range of environmental movements underlines the importance to define a shared policy models to protect environment.

This book introduces a wide range of experiences promoted by small and medium sized local authorities in the field of environmental and climate protection. It represents a valuable handbook for policy and decision makers.

Tiziana Virgili
President of Rovigo Province

It is a fact that the prevalent urban model in Europe, especially in Italy, is represented by small and medium sized towns: an urban model with fewer environmental stresses than those faced by larger metropolitan areas, but with a fundamental role in defining environmental policies.

The idea to promote a wider international agreement among small and medium sized local authorities came to me during the ICLEI Stockholm Conference in 2006 and also as an outcome of Rovigo Province's activities in the Aalborg Commitments. The main purpose of the Rovigo Conference, as one among a series of important events of the Climate Roadmap, was to discuss the role of smaller local authorities that are often at the very edge of operative climate debates.

I still remember the excitement when I heard that the proposal to organise the conference in Rovigo was accepted. It was a confirmation that our attention towards innovative environmental protection and energy policies, as well as our willingness – as a medium sized local authority – to contribute to the climate protection debate has been positively considered by the EC with support coming from the Intelligent Energy Europe programme to ensure high quality implementation and results.

I wish to extend my sincere thanks to ICLEI, the editors of this publication, and the expert team that elaborated the *Rovigo Outreach*. I hope this book could help local authorities to define a balance point between development and protection, to give a sense to our present as part of the world and humanity.

Federico Saccardin
President of Rovigo Province
Rovigo, January 2009

Preface

This book is for everyone who lives, works, studies – and yes, who loves – cities and towns. Most of us live in urban areas, and enjoy the many comforts offered by urban living. We invite you to gain an insight into relevant developments for local governments from an energy and climate protection perspective.

Why are we looking at communities and climate change? And why are we in particular looking at smaller sized communities?

We are now standing at a cusp point. This is a time when decisions are being made that will shape our future, and that of the world. The cusp point is linked to two prominent facts, namely that the climate is changing and that global natural resources are dwindling. Humans are consuming global resources at an unprecedented tempo, and directly contributing to the acceleration of climate change through the way we generate energy and use resources. These are two key aspects which require a rethink – what has to change to influence the direction at this cusp point.

Humans must change their lifestyle in order to survive in a ‘whole’ environment and to enjoy a reasonable ‘quality of life’. This means taking on responsibility for our actions and our choices, as well as looking at the impact these have beyond today. Despite the obvious (and not so obvious) threats, there are also opportunities at this time, in this changing climate. We can approach this situation from a financial perspective, a technological perspective, and a solutions perspective. Yet what we need is a systems change, and a coherent sustainable and suitable response. We also need to consider the scale of the climate challenge, which has a huge dimension probably not yet fully understood by most people.

The focus of this publication is on how small and medium-sized communities have effectively responded to climate change, both in the areas of mitigation and adaptation. There is a particular concentration on the use of different approaches towards sustainable energy planning and implementation by the cases selected. These responses were the result of different (and often combined) motivations – some taking on their responsibility to protect the environment, others to specifically reduce greenhouse gas emissions (GHGs) and so mitigate their communities’ impact on climate change, some to improve urban air quality, others to improve the resilience of their communities, and most of them keen to make use of opportunities for sustainable local development.

This book, although not a conference proceedings per se, is one of the main outcomes of the European Rovigo Climate Conference 2008 that addressed “Climate protection and renewable energy: medium and small communities facing the challenge”.¹ The event was jointly organised by ICLEI – Local Governments for Sustainability and the Province of Rovigo, Italy, in April 2008, to highlight that effective climate protection action can, and is addressed by smaller cities and towns, sometimes also working in cooperation clusters. Some of the excellent examples presented in Rovigo are included in this publication, together with other good practice cases that illustrate the wide variety of approaches used. There are of course many other options available – and communities need to select those that will work for them.

We will share with you the reasoning and potential to change at a community level, giving you an insight into recent fascinating developments that are shaping the future of our communities. Local governments around the globe, and particularly in Europe, have taken on the role to lead and drive change in their communities. In addition to briefly looking at the history of community climate protection, in particular through ICLEI’s international Cities for Climate Protection™ (CCP) Campaign, important recent developments relevant to climate change mitigation and adaptation at a community level are also presented. These include the international Local Government Climate Roadmap – a process started in Bali in December 2007 at the United Nations Climate Conference to draw attention to the crucial role of local governments (LGs) in climate protection. The City Climate Catalogue is another global tool used to highlight the vital role communities are playing in climate protection, and to focus on collective achievements. This is part of an ongoing process that will culminate in calling for improved support and framework conditions from national governments and international actors, in the post-2012 phase. Other developments such as the European Covenant of Mayors play an important role at a regional level, and some of these developments are also presented.

Kindly note that some issues are not explicitly addressed, yet provide a context for this book. These include: the global population explosion, the migration of people towards urban centers, the exponential growth in resource consumption and consumerism, the uncertainty about future availability of resources, and anticipated aggression regarding resource ownership.

Although the above mentioned issues seem to be global problems these are also relevant to urban areas. Consider from an energy perspective: Is the energy infrastructure robust enough if there is a change in the population (e.g. incoming masses of seasonal tourists)? How can a local government effectively plan for inevitable fuel price rises, if it remains dependent on imported fossil fuels? Is it perhaps more financially sound, more efficient and safer to become independent from energy ‘imports’? What will the impact of climate change be on the community, the

¹ www.iclei-europe.org/rovigo2008

infrastructure, the local environment over the next 10, 20, 50 years? Is the local government planning for this? How can the local government plan for the increasing variability in climate and increasing violence of natural phenomena (precipitation, storms, droughts)? All of these questions should be considered in local strategies, urban planning, energy planning and other areas potentially impacted.

Nobody (as of yet) is using words such as ‘crisis’ or ‘emergency’ when looking at climate change and resource depletion. Yet this is essentially the status we have to face. Certainly it is a challenge to respond appropriately and promptly. It is time to take on our responsibilities. At community level, where the impacts of climate change are already visible and will continue to manifest, there is increasing recognition that action is required and there is a vast potential for local climate action – by every individual, by local leaders, by businesses and industry – in many different areas. Here local governments can literally move the world – with ICLEI’s motto ‘Local action moves the world’ a pointer to today’s realities.

Through this publication we wish to provide some ideas on how to reach a sustainable energy future, sharing examples from smaller communities that have started on the road of transition and have achieved measures of success. Our premise is that it is possible to reach and maintain a level of quality of life that all can enjoy, using resources in a sustainable manner and limiting our impact on the environment. We hope our leaders will use the current international post-Kyoto climate negotiations to provide clear direction and a support framework for action. Yet, we will in any case take up our own responsibility, even show them the way this can look at a local level.

We invite you to read on, gain ideas for your own community, and join us in this process of energy transition towards a sustainable future, aiming to stay beyond the climate change tipping point if this is still possible.

Maryke van Staden
Francesco Musco

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The event, jointly organised by ICLEI – Local Governments for Sustainability and the Province of Rovigo, Italy – which a participant in ICLEI’s European Cities for Climate Protection™ (CCP) Campaign – was held in April 2008. It highlighted that smaller communities, working alone or in clusters, can very effectively address climate protection, the roll-out of renewable energy and the implementation of energy efficiency. The editors, who were the conference programme coordinators, express their sincere appreciation and thanks to the speakers, participants, event supporters and endorsers, as well as the financial contributions from the Intelligent Energy Europe Programme of the European Commission Directorate-General Energy and Transport (DG TREN)¹ and the Veneto Region (Regione del Veneto²), for their support and input.

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¹http://ec.europa.eu/energy_transport/index_en.html

²www.regione.veneto.it

³www.fondazionecriparo.it

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Chapter 1

Introduction

Maryke van Staden and Francesco Musco

Abstract The reality of the human impact on climate change is now widely accepted, with the extent and potential catastrophic magnitude increasingly recognised by scientists and politicians, also by business people and citizens. Scientific climate observations, the development of scenarios on which planning and decisions can be based, studies on the economic impact of climate change, and monitoring actual impacts – at the macro (world) and micro level (community) – all point in a specific direction: humans must change towards sustainable energy solutions and change their lifestyle. As the urban population continues to grow, the centres of human life require a drastic rethink in terms of energy and the use of resources, also from a climate change mitigation and adaptation perspective. People are looking to their governments to respond appropriately. They are waiting for courageous leadership, guidance, motivation and direction – they need to know that a more coherent climate protection response is being developed. Expectations in this regard are particularly directed towards national government, but all other levels as well. Citizens are also looking towards their local governments, with the local impact of climate change requiring a local response, with plans for community based adaptation and local climate change mitigation. This publication addresses local governments and climate change, with a specific focus on smaller sized communities and renewable energy solutions.

Keywords Climate protection • climate change mitigation • climate change adaptation • energy • lifestyle • local climate action • local governments • population growth • sustainability

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1.1 Global Challenge, Global Trends

The most recent reports by the Intergovernmental Panel on Climate Change (IPCC), the Stern Review, and other reputable documents, provide concise summaries and detailed scientific information and arguments on the impacts of climate change and recommended responses. According to the most recent IPCC report, the Fourth Assessment Report of the IPCC released in 2007, climate change has accelerated and its visible impacts include temperature increases, more intense and frequent precipitation, more heat waves, more intense and longer droughts, to mention but a few observed developments. Scientific comprehension of the phenomena has significantly improved in recent years, and the IPCC concluded in 2007 that reaching a lower carbon dioxide (CO₂) emissions global scenario was still realistic.

Yet the timeframe for effective action is shrinking, and to stabilise emissions it is necessary to act categorically and effectively over the next 7 years, according to Dr. Rajendra K. Pachauri, chairman of the IPCC.¹ Should it not be possible to achieve substantial reductions in this timeframe we are likely to reach the tipping point of irreversible, spiralling and catastrophic climate change.

Cities and towns – places where people tend to cluster and where the impact of climate change is already visible and expected to worsen – are where an urgent yet coherent response is needed to these challenges. Looking at the global population trends, according to the 2008 Revision of the official United Nations population estimates and projections, the world population is projected to reach seven billion in 2012, up from the current 6.8 billion today, and it will surpass nine billion people by 2050 (UN 2009). What is important to consider is that in 2008, for the first time, half the world's population lived in towns and cities, and by 2030, the urban population is expected to reach five billion (UNFPA 2007). Already today in Europe around 80% of the population lives in cities, and 80% of the greenhouse gas (GHG) emissions in Europe come from the energy sector (EEA 2008).² Considering that urban settlements are increasing steadily, with cities continuing to sprawl, causing land use stresses and social inequities, climate change will certainly add another dimension to the existing array of challenges facing urban areas. This will be exacerbated by expected mass migration from areas that become unliveable.

These trends clearly show that the community level is, out of necessity, ideally suited to address both climate change mitigation and adaptation. However, addressing these challenges also need to be considered from a holistic perspective, with sustainability

¹Dr. Pachauri was a keynote speaker at the international conference on 'Climate change as a security threat – strategies for policy-makers, science and business' held in Freiburg im Breisgau, Germany, in November 2008, organised by the Federal Foreign Office of Germany. Further information available on: http://www.freiburg-konferenz.de/home_en.htm and <http://rkipachauri.org/speech.php>

²Energy-related greenhouse gas (GHG) emissions remain dominant, accounting for 80% of the total emissions, with the largest emitting sector being electricity and heat production, followed by transport.

at the core to ensure that the results do not have a negative impact over the long term, leaving other problems for our descendants. In the ‘State of the World Population 2007 – Unleashing the Potential of Urban Growth’ (UNFPA 2007) the need for long-term sustainability is highlighted when considering the growth trend: “Cities also embody the environmental damage done by modern civilization; yet experts and policymakers increasingly recognize the potential value of cities to long-term sustainability. If cities create environmental problems, they also contain the solutions.” This is certainly the case from a climate protection and sustainable energy perspective.

1.2 Courageous Leadership Is Needed

The international focus on climate change is increasingly concentrating the attention of all levels of government on the need to respond to climate change and to deal with the causes within the short timeframe available. The international climate negotiations and in particular the outcomes (and what is not addressed here) that are made during the 15th Conference of the Parties (COP15) in Copenhagen in December 2009 are drawing the interest of people from around the world. Certainly courageous leadership is needed at this level, and putting aside certain restrictive diplomatic and political approaches that have gone hand-in-hand with previous negotiations. This is a test for the global leaders of today.

The challenge humanity faces today from the climate change perspective is twofold:

- We need to radically change the way we live, use resources much more effectively and with minimal to no waste, and drastically mitigate our impact on climate change through a variety of actions. We know what these are and how we should do this.
- Secondly we need to adapt to inevitable climate change. Adaptation is a more complex issue, and requires on the one hand the recognition that non-adapting is not an option, but also that this requires a coherent cross-sectoral, cross-disciplinary, cross-community approach – far beyond just taking a political decision to respond. Responses are needed that address climate change, not only as an environmental challenge, but as a socio-economic, political, environmental and security challenge.

Today the mitigation element is still largely missing, while adaptation is lagging behind even more. This delay is dangerous and action is urgently needed right away. We know what actions can be taken from a mitigation perspective. We know the technology currently available is effective, and will improve in the coming years. Yet only limited action is being taken and there remains a perception that the technology is not yet adequate. Why is this the case? Some reasons will be briefly explored in this publication, especially those relevant to the community level. The main focus is however on sending a message that we need to break away from this passive ‘not-my-problem’ approach, with a call on everyone to engage, and in particular with ideas to inspire community leaders to become active in local climate action.

The first step in both climate change mitigation and adaptation is largely a political one. Political leaders need to engage, and recognise that this is a priority for their community. Political leaders need to take courageous action, and look beyond their own political elected timeframe (in democracies this is usually about 3–5 years) when planning and taking decisions. Those choices they make that impact on the community, the environment and the world. We need choices that last beyond a political lifetime. Ideally the aim should be for certain topics to be above party politics – human survival and climate protection should definitely be on the list.

With climate change, the urban growth trend, the corresponding increased demand for energy and other services, and (unrestricted) consumption of resources – issues of grave concern – citizens should look to both their national and local leadership for solutions. These are certainly aspects that ought to be motivating factors for clear-thinking community leaders when reassessing their approach to policy, structures and realising urgent and effective actions. After all, the ‘community’ should aim at the *commune bonum* – Latin for ‘the common good’.

1.3 Main Purpose of This Book

The main purpose of this publication is to focus on climate protection and energy from the sustainability perspective, considering the roles of local government, and showing how small and medium-sized communities have responded effectively to current challenges. It further provides an insight into current issues impacting on local governments.

This book is aimed at political decision-makers at all levels, but in particular local leaders and people who work with or in the local level of government, including municipal administrators and staff – from the administration head to the person managing the budget, from energy/transport/waste managers to partners of municipalities. It is also a useful reference for scholars, graduates and post-graduate students learning about environmental planning, urban development, sustainable energy and relevant policies.

1.3.1 Why Focus on Local Governments?

The role of local government³ (also referred to a local authority, municipality, council, administration, etc.) – as the level of government closest to citizens, is critical in the context of climate protection and the transition to sustainable energy.

³A governing institution which has authority over a subnational territorially defined area. This territory refers to below federal substate or state provincial levels, i.e. the lowest level of government. Local government’s authority springs from its elected basis. This there is considerable variation in its behaviour and mandate between and within countries (ICLEI and <http://www.answers.com/topic/local-government>).

Local governments are usually (country specific) responsible for defining and implementing local policy, developing and maintaining structures that provide services and handle administration, providing a range of services to local inhabitants (this again differs from country to country but can include policing, health services, education, social services, energy-, transport-, water- and sanitation services). Further to this they often own or manage infrastructure such as buildings, roads, electricity grids, etc. In all of these cases local governments can thus shape and guide local action of inhabitants, businesses and their own activities. And they can motivate and lead a change of direction. These are three areas where local climate action is possible and with vast potential for achieving success.

At the local level there is a tendency that either the political leadership of one or a few individuals is the driving force for action, or else ad hoc activities take place – the latter often through brief externally funded projects (not seen as a negativism but the impact tends to be short term). Only in the smallest number of cases around the globe, when considering how many local governments there are, has a comprehensive and regularly updated Climate Action Plan been compiled, a regular GHG inventory been conducted, a review of local renewable energy resources been performed, and/or a community climate vulnerability and opportunity assessment been conducted. These actions and processes need to be in place to coherently address climate change mitigation and adaptation at the community level.

1.3.2 Why Focus on Small and Medium-Sized Communities?

The majority of communities around the globe are small to medium sized, while the mega-cities tend to dominate the news. Smaller local governments tend to remain outside the debates on climate change and energy consumption, with a larger focus on their actual mandate, i.e. local issues. Energy is often a centralised issue as is climate protection – thus not falling in the mandate of the smaller city. On the other hand ‘international politics’ tends to be more in the interest and domain of metropolitan areas and larger cities with growing, multi-cultural populations, leading to a more sophisticated political role in national and international politics. Also smaller communities have more limited capacity, i.e. staff and finances, to engage in external political discussions or international processes. This also means that there may be a more limited awareness of the potential local impact of climate change. Typically this debate tends to be more vociferously discussed in closed scientific circles rather than in the areas where the actual impact is expected. This is a trend that has to change as citizens will be looking towards their local leaders for guidance, planning and support.

Yet smaller communities have greater flexibility to be ‘revolutionary’, to test cutting-edge technologies and new approaches. This tends to be the case when there is recognition on the need to change, where there is courageous leadership, and where the community can be interested in new ideas. As such there is a wide variety of good practices implemented in smaller towns and cities. These experiences: developing new policies and strategies, applying new technologies and materials,

devising interesting approaches to community involvement and financing, to name but a few, are worthwhile sharing and in particular worthwhile analysing to determine lessons learnt and replication possibilities. These experiences can inspire, give new ideas, and motivate all communities that face similar challenges – whether large or small. In fact, quite often larger cities learn from smaller communities, and replicate elements they identify as tested and proven to be effective.

The Rovigo Outreach⁴ – a main result of the Rovigo 2008 Climate Conference – feeds into the international Local Government Climate Roadmap (see Chapter 2). It encourages small and medium-sized communities to engage in climate and sustainable energy actions, despite tremendous (perceived and real) obstacles. The Rovigo Outreach also calls on higher level governments – be they supra-regional, national/federal, state or provincial – to improve framework conditions and actively support local governments with their climate and energy activities. Furthermore it calls on larger and more experienced cities to support and lead regional clusters, guiding their smaller counter-parts through this process, sharing their own expertise and also learning from them. Brainstorming and motivation are required to move forward swiftly.

1.3.3 Publication Structure

The publication has been divided into two parts, with Part I addressing the context local governments need to consider, from the science of climate change, energy security issues, an international economics framework and the strategic role of planning policies towards a sustainable development. Part II contains a number of case studies that show the broad range of approaches used, including strategies and policies and various actions in different fields. The selected cases focus on European examples, many of whom were shared during the European Rovigo Climate Conference 2008.

Following the introductory *Chapter 1*, the rest of the publication is split into two parts:

1.4 Part I: A Focus on Climate, Energy and Local Governments

Part I consists of Chapters 2–5, focusing on a range of aspects and developments that impact on, or can support, local governments in their local climate and energy action.

⁴ www.iclei.org/rovigo2008

Chapter 2: Motivation for Local Action starts with an overview of climate change mitigation and adaptation, and the relevance to communities. Linked to this and sharing economic arguments, is a paper on the impetus generated by the Stern Report in defining the economic framework of climate change. Finances and energy play an important role in energy security, with many issues highlighted as relevant, in particular paying attention to reducing dependence on imported fossil fuels and looking after community interests from a variety of angles that also either directly or indirectly support sustainable energy, climate protection and sustainable development. Energy security, reflecting on sufficient energy, affordable energy and having power to shape the energy future at the local level, is a new concept for many local leaders to consider, whether we are rational in taking decisions, is a legitimate question posed from the energy efficiency perspective. Finally, this chapter explores the link between climate protection policies, urban sustainability and involving citizens through the Local Agenda 21 (LA21) process – aspects that are highly relevant to local governments today.

In *Chapter 3: Strategic Framework Supporting Local Action*, a number of key developments are highlighted that are relevant to local governments in their climate work. The international Local Government Climate Roadmap is providing impetus and visibility to the role of local governments in climate change mitigation and adaptation, in particular in the current post-2012 climate negotiation process. The development of the Covenant of Mayors in Europe is shared as an interesting initiative developed from the interest of cities in a coherent framework, linked to and building on the work of many local government networks in Europe. Finally a number of tools are briefly shared, including the City Climate Catalogue, which is a collection of climate mitigation targets of communities around the globe. This will be used by the City of Copenhagen, host city of the 2009 Conference of the Parties (COP), and other actors to present a substantial argument of local climate action and calling for greater support in the post-2012 climate agreement. As a practical framework for action, ICLEI's Cities for Climate Protection™ (CCP) Campaign is presented, with its logical methodology supported by the first international Local Government Greenhouse Gas Emissions Analysis Protocol developed as a tool for all local governments around the globe to move towards a standardised approach towards conducting emissions inventories.

Chapter 4: Local Action – Planning and Implementation shows how local climate and energy action means bringing together strategy and policy, the implementation of technology and measures, and considering how to engage the community, looking at people and changing lifestyle. All three these areas require action, with a coherent concept linking them to achieve effective results. The papers presented focus on some essential issues, including the need for urban renewal – a particular challenge in European cities, where new land is at a premium and old building stock requires urgent energy efficient refurbishment. Moving from energy efficiency to renewable energy – the European Renewable Energy Roadmap is a particular highlight, showing that the European renewable energy industry could deliver much more than 20% by 2020. The wide range RE potentials should also be explored by local governments, considering local RE resources, identifying

added benefits when switching to RE such as job creation and energy security. Communities need a vision – ideally a vision of becoming fossil fuel free (with examples of these in Chapter 6). As a practical conclusion to this chapter, the ethical perspective in financing sustainable energy and environmentally friendly solutions, is presented as a successful model. Considering the financial crises and aspects that contributed to this, the financial sector can certainly benefit from including ethical considerations in their financing schemes and support the faster roll-out of urgently needed sustainable energy solutions.

Chapter 5 focuses on a few *Framework Conditions and Support Mechanisms* that highlight the importance of decisions taken at the national/federal level of government that impact on local climate and energy action. Much has happened in this area over recent years, not all developments positive. Considering the urgency for effective climate protection and the huge potential for developing or improving enabling framework conditions at the national/federal level (also other levels of government), decisions are needed that support and encourage many different actors to engage in climate protection and the transition to a sustainable energy future. The positive impact of the German Renewable Energy Act is one example that highlights the impact of a fair remuneration tariff when implementing a feed-in law, providing security for investors and even making it attractive for the average citizen to invest. A critical look at the relationship between climate change, economics and the perspectives of local governments under the former US administration is shared. The third example focuses on the new national reporting requirements on local climate action for local authorities in the United Kingdom.

1.5 Part II: Local Climate Action Case Studies

The cases shared Chapter 6 deal with the implementation of initiatives, policies and instruments by local governments or in communities. These include several examples shared during the Rovigo Climate Conference, but also interesting cases where other levels of government, different organisations or the business sector play a role in motivating or driving change in communities. Replicable factors are highlighted, and, in many cases, the reader will be presented with a diverse range of actions are implemented with different motivations – with the message that all communities can engage, need to consider their own situation, and respond in their own unique manner.

The case studies are loosely grouped according to a thematic perspective, although there is obviously an overlap and the approach is not strictly categorised:

- *Policy and comprehensive strategic approach*, focussing on the role of councils to promote and implement innovative policies for climate protection. The examples show that there is a focus beyond short term political aims, and show different approaches used in the exemplary communities of Växjö (Sweden), Güssing (Austria), Tilburg (The Netherlands), Almada (Portugal) and Woking (UK).

- *Technology and measures*, introduces the management and implementation of technical solutions by local governments from a sustainable energy and resource scarcity perspective – from photovoltaics to heating/cooling of buildings and proper waste management. The cases presented include Gelsenkirchen (Germany), Varvarin (Serbia), Freiburg im Breisgau (Germany), Heerlen (The Netherlands) and the Province of Rovigo (Italy).
- *People and lifestyle* remain central to success in energy and climate action. Examples illustrate different approaches used in communicating with people, policy options that were implemented, and how the responsibility of citizens plays a fundamental role in local initiatives, especially in a number of small, advanced communities, namely Malmö (Sweden), San Sebastián (Spain), Casalecchio di Reno (Italy), Viernheim (Germany), Stockholm (Sweden), and the Veneto Region (Italy).

The range of cases presented in this book represents a selection of initiatives by local governments that can be regarded as a ‘third industrial revolution’, or perhaps a ‘revolution of necessity’, opening a new era of substantial change in the relationship between the global and the local level. Certainly over the last few years communities have gained in prominence in the global climate dimension, yet their value and important role has not yet been formally recognised.

The book concludes with a glossary of the main used terms and abbreviations used, with an index of names and subjects, as well as annexes of relevant documents.

Maryke van Staden holds degrees in Political Science (1989) and International Politics (1991) from the University of Pretoria, South Africa. Currently she is the Coordinator of the Climate & Air Team of the European Secretariat of ICLEI – Local Governments for Sustainability, an association which works with local governments on issues across the spectrum of community sustainability. The Team addresses climate change mitigation and adaptation, as well as improving air quality. In addition to daily project work Maryke also coordinates ICLEI’s European Cities for Climate Protection™ (CCP) Campaign (www.iclei-europe.org/ccp), working with more than 170 cities, towns, counties and provinces in 19 countries across Europe, the Middle East and the former Newly Independent States (NIS). In the field of adaptation she works with a multi-disciplinary team, helping to ensure that this complex theme is recognised as important and adopted by local governments across the spectrum of community structures, systems and services, from a climate perspective.

Prior to working at ICLEI, Maryke led the Scientific Projects Unit of the International Solar Energy Society (ISES) (www.ises.org), the global association for solar energy – a scientific organisation that supports the transfer of solar energy science into implementation. From the ISES international headquarters in Freiburg, Germany, she worked on international renewable energy projects addressing policy, education, business and sustainable development. She also acted as Global Liaison for the ISES network of 52 National Sections and four Regional Offices. Before turning to sustainable energy Maryke did a 9 year stint working for the South African

government where she headed an analysis division focusing on national security policy. Currently Maryke is a board member of ISES e.V.; a Committee Member of the United Nations Economic Commission for Europe (UNECE) Committee on Sustainable Energy; a REN21 Network Member, and contributes advice and input to thematic publications such as the UN guide to climate neutrality – *Kick the Habit*, published by the United Nations Environment Programme (UNEP). Today, with more than 10 years working experience in the field sustainable energy and climate protection, she remains particularly interested in community energy security, sustainable development and climate resilience.

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