Foreword

For nearly two decades, culminating in the European Council Conclusions of March 2007, when the 20-20-20 targets were agreed, the European Union (EU) was rightly considered to be a frontrunner and a role model of sustainable energy policies and particularly of renewable energy sources (RES) development and deployment. But only a few years after the enabling legislation of the 20-20-20 package entered into force, the meeting of the European Council on 23 October 2014 was widely described as a turning point. The EU has at least renounced its position as a leader in global RES development, if not changed from frontrunner to laggard. But it is also true that the Council Conclusions will not stop development of RES in Europe: that is no longer possible, due to immense learning curves and cost decreases in the last few years, and due to the significant contributions of RES to economic growth and to the security of energy supply in Europe. But implementing the 2030 targets will, however, significantly slow down RES development in Europe, while the rest of the world is at the point of starting and accelerating growth of RES, as well as ambitious enabling policies and frameworks. Word is out that Europe might risk losing a flourishing and future-oriented industry. How could this dramatic change happen after only seven years?

It all started – or rather it became obvious – back in the early 1990s. After years of research and development (R&D) programmes, a tipping point seemed to be approaching in the mid-1990s. The European Commission’s Green Paper of 1996, the White Paper of 1997, the Campaign for Take-Off starting in 1999, the renewables electricity directive of 2001, the energy performance of buildings directive of 2002 and the biofuels directive of 2003 were major milestones of a focused development of policies for RES. In 1997, EU targets for RES were set for the first time. They were only indicative and not legally binding for the member states. But member states were obliged to set their own national targets, in line with the overall level of ambition of the EU. Despite the voluntary character of the targets the discussions around new technologies were controversial and some claimed they were too expensive and could never provide a relevant contribution to Europe’s energy
supply and to greenhouse gas (GHG) reduction. These arguments had some impact, particularly because climate change and resulting needs for GHG reduction were considered to be the main drivers for RES. Their economic and job creation potential as well as their crucial role for security of energy supply were not yet in the focus of the European agenda.

Discussions about the future of climate and energy policies in Europe continued. With the two directives for electricity and for biofuels in place, it was obvious that the heating and cooling sector was the missing link. Half of the EU’s energy is consumed in this sector, but no relevant policies were in place to introduce RES in the building sector. A new consensus evolved that a heating and cooling directive was needed. A share of 25 per cent RES by 2020 soon emerged as a reasonable target, uniting a majority of the European Parliament and the European RES sector. A wide consensus had developed that enabling policies should be further developed and adapted so that growth of RES could be truly efficient all over Europe. The good reasons for RES had become overwhelming.

RES development was not easy to compare between the different EU member states. Whereas in Germany, due to the very effective and efficient Feed-In Tariffs (FITs), most of the investment in RES was done by private individuals, small and medium-sized companies and farmers, in other countries, for example Spain, the incumbent utilities themselves invested heavily in RES. Consequently, the share of small and decentralized RES is much smaller there than it is in Germany and in Denmark, Austria and some others. Yet other countries, such as the United Kingdom (UK), actually limited the deployment of RES by means of policies from which only large players could benefit and which resulted in much higher costs than FITs. Administrative barriers and the ‘not in my back yard’ (NIMBY) syndrome added to the unsatisfactory picture.

When 2010 was approaching, it became evident that the degree of target compliance was very different in the different member states. Therefore another lesson evolved from the deficits of the 2010 legislation. It was widely agreed that binding targets together with clear policies and regular monitoring would be more effective than just indicative ones. Although publicly blaming and shaming did have some impact resulting in policy improvements, the lack of penalization was broadly seen as a major obstacle, together with the continued existence of administrative barriers and the absence of a level playing field for RES in distorted energy markets. This is why the introduction of binding national targets for the share of RES in 2020 was high on the RES sector’s agenda. In parallel, there was a discussion about whether or not a RES target for the
EU (of 20 per cent in 2020) should be broken down into sectoral targets for electricity, heating and cooling and for transport.

Driven by the positive attitude towards RES all over Europe, in March 2007 the European Council eventually agreed – in the wider context of a climate and energy package – on a binding European 2020 target of at least 20 per cent RES in gross final energy consumption, underpinned by differentiated binding national targets for each member state and a minimum share of at least 10 per cent RES in the transport sector of every member state and the EU as a whole. The agreement was celebrated as a landmark decision for RES development. Enacted in the renewable energy directive (RED) of 2009, which for the first time comprises all three sectors – electricity, heating and cooling, and transport – the trajectory and the policy choices for the EU and for each member state were clearly set. The evaluation of the 27 National Renewable Energy Action Plans (NREAPs), submitted in 2010, indicated that the 20 per cent target may even be exceeded in 2020.

The 2020 climate and energy package included the settlement of a long-discussed question: will the support mechanisms for RES in the EU be harmonized or will it be up to the member states to design their own frameworks, including the right to limit support to domestic production? The consensus between the European Parliament and European Council was explicitly entered into the RED: member states are responsible for reaching their national targets. Therefore they must have the right to design and restrict their national support mechanisms. They may, however, on a voluntary basis cooperate with neighbours and with third countries in order to achieve their targets more effectively or at lower costs. Although it is always useful to learn from good practice elsewhere, this agreement was necessary due to various degrees of market transparency and accessibility in the different member states. Despite the fact that the final provisions of the RED explicitly hold that the member states’ right to define their national support schemes must not be affected by any revision of the directive up to 2020, it is not really surprising that this consensus has been disputed from the very beginning: by those who never wanted it, and by those who realized later that effective national support schemes tend to bring in new market players and thus facilitate effective competition with incumbent utilities and their assets.

Since the RED entered into force in 2010, a lot has happened. RES continue to grow in many member states and even more so worldwide. Growth rates of wind and solar photovoltaic (PV) installations in China, for example, have been outpacing European development for the last few years. Onshore wind has experienced smooth but regular cost decreases over the last decade and is more than cost-competitive with new
conventional power plants today. Solar PV prices and costs have decreased at unprecedented rates since the coincidental occurrence of the global financial and economic crisis, and massive overcapacities for panel production have slashed costs below grid parity in an increasing number of countries around the world. In recent years, PV, particularly decentralized rooftop installation, has grown much faster than expected and has been outpacing wind power for a few years in several markets, including Germany. The massive growth of PV in recent years and continued growth of wind power over more than a decade has led the energy system towards another tipping point: the need for system change not only in the power grids, but increasingly integrating heating and cooling and transport for mutual balancing. In parallel, energy markets need to be redesigned in order to provide the necessary signals for deployment of variable wind and solar power and of flexibility services including storage, power-to-gas, power-to-heat, grid extension, demand shift and various other requirements of a modern, RES-based sustainable and secure energy system.

On this background, the European Council of October 2014 had planned to take the necessary decisions to pave the way for a safe and sustainable energy supply in Europe until and beyond 2030. In the preparation phase of the Council Conclusions, particularly those stakeholders or member states which are closely linked to the incumbent fossil and nuclear energy system have asked for low levels of ambition, no 2030 targets at all, or for only a GHG reduction target. Allegedly, the GHG-only target would be the most effective way to deliver on GHG reduction by leaving the energy mix – including fossil and nuclear – to the member states. Although this was obviously an attempt to undermine effective growth of RES, the Council Conclusions followed this path. As a result, the Conclusions were not ambitious enough by far to meet the challenges of a sustainable energy system based on RES and in line with the needs of climate protection and safe and affordable energy supply, particularly after the Paris Agreement.

The target level of the 2030 climate and energy framework is disappointing. Forty per cent GHG reduction by 2030 compared to 1990 is not a really meaningful contribution to the target of limiting global warming to a maximum of 2°C compared to pre-industrial times; and even less can it be considered sufficient when it comes to implementing a 1.5°C target, as the Paris Agreement is calling for. The 27 per cent targets for RES and for energy efficiency are hardly more than business as usual. Twenty-seven per cent RES by 2030 would translate into reducing the average annual growth rate of renewables to 1.1 per cent from 2020 to 2030 (after more than 6 per cent from 2010 to 2020). Renouncing from
binding national targets after 2020 is weakening the implementation of the 2020 targets.

The European Council – though dressed up by ambitious language – has surrendered to the opponents of climate protection. Meaningful reforms of the Emissions Trading System (ETS), which might have provided a small chance to deliver a carbon price that would make investment in fossil fuels unprofitable, were postponed to far beyond 2020. And it was agreed that member states can decide to largely remove their support of RES as long as others fill the gap to deliver the 27 per cent in 2030. This is particularly problematic, because it allows member states to return to coal use or to try building new nuclear power plants, until they eventually find out that it is unaffordable or unsafe enough or both; even more so, since the European Commission has decided to allow state aid for nuclear power in the UK. All this will reduce investment in RES and energy efficiency and thus prevent timely and effective decarbonization of the energy sector. This is why it is extremely important to assure that the post-2020 framework for energy and climate policies in the EU starts with achieving the 2020 targets instead of weakening or reducing them in the upcoming new legislative packages.

Since the October 2014 Council Conclusions, some movement has taken place. The Energy Union Strategy has been further developed, trying to encompass all EU energy policies under this umbrella. And political pressure to change support schemes for renewable electricity from FITs to tendering systems as the new normal has significantly increased. Ignoring negative experiences around the world (cost increases and regulatory uncertainty), the European Commission is trying to enforce tendering and certificates, where FITs and premiums have been very successful. Unfortunately, member states – including Germany – seem to be supporting this U-turn in support policies. A positive aspect of the Energy Union strategy is the objective of tackling the energy market design and transforming it for the benefit of variable RES and a wide range of decentralized RES producers and consumers (prosumers). Successfully agreeing on a market design which favours flexibility, and penalizes inflexibility and carbon emissions, could have a strong positive impact on further progress of the transition towards an RES-based energy system.

This book contains key information for understanding the development of the EU’s renewable energy policy, which was – until the 2014 Conclusions of the European Council – among the most ambitious frameworks worldwide for facilitating the transition towards a sustainable energy system. The authors provide key national case studies for understanding how member states, based on their own policy priorities, have
shaped the EU framework and the present debates. The book addresses policy development in key member states, with case studies from all major sides of the present debates: long-standing and very recent EU members, northern and southern countries, traditional and new front-runners of RES, notorious nuclear supporters and also coal-addicted countries. The book also tackles interaction between domestic and European levels and the resulting dynamics of policy diffusion across Europe. Finally, an analysis of the external dimension of the EU renewable energy policy is also included.

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