Foreword to Special Edition of Papers from Intelligent Energy Europe (IEE) project DIA-CORE – Policy dialogue on the assessment and convergence of RES policies in EU member states.

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This Special Edition is an excellent introduction to the issues around costs, prices and values of RES policies in Europe, and what that means for energy policies in an age where we are trying to decarbonise energy systems, whilst at the same time trying to keep them secure and affordable.

The global energy system is changing rapidly at the moment because of the development of new energy technologies across all sectors (whether they be to do with supply, or demand, or system operation), and this is having major distributional effects on different actors. Some of those actors are ‘winners’ and some are ‘losers’. Policy-makers are having to develop policies to meet their various energy policy goals – and those policies suit some actors but will also be resisted by others. In this situation, diligent policy-makers want to know they are making decisions based on a thorough analysis of costs, and the information provided in the Specific Edition is exactly what is needed by them.

Anyone working in the energy policy world, is familiar with the plethora of reports about the relative costs of energy – whether they be focused on renewables, nuclear power and so on or a comparative study of technologies. Most studies show wide variations in their cost outcomes and it can be difficult for those who do not spend all their time studying ‘costs’ to know which studies to trust, or why it is that the variations occur. This Special Edition does a great job in clarifying this confusing area. Moreover, each paper is written in a very easy to understand style and provides a thorough literature review so that any interested reader – not just experts and academics - can bring themselves ‘up to speed’ rapidly on these widely discussed areas – which, sadly, are often blighted by poor studies.

The rest of the world is taking note of the RES policies in Europe, and some countries in Europe in particular (for example, Germany, Denmark and Spain). The Special Edition is fulfilling a very useful function in providing detailed assessments of the costs, benefits and impacts of RES policy both from the broad perspective of the EU region but also from the evidence of Germany, Denmark and Spain.

Detailed studies of the costs and benefits of RES – whether for the EU or for specific countries (in this case Germany) - is a vital, underpinning requirement for good policy making. The first paper Resch et al, clearly and simply goes through the constituents of the costs and benefits of RE to the EU. The third paper, Breitschopf et al does the same for Germany. This means that someone who wants to understand what issues are important when trying to work out the costs and benefits of renewables – whether to the national economy or its distributional effects - can use these papers to understand what issues have to be taken account of when working out that assessment. It is not just that these papers are useful in themselves – which they are - but that they also enable the reader to assess the merits of other academic papers or reports of RES costs in newspapers and elsewhere.

The Special Issue gives them the tools to understand what factors need to be addressed when assessing the costs and benefits of a policy – but also the complexities of it.

Assessments of future costs to countries or customers of RES depends on the variables used within models. The second paper, Boie et al, sets out a 2-way argument for a composite indicator (CI) – which takes account of both economic and non-economic factors. The argument is that a CI is a better predictor of future RES implementation and therefore a better means to assess costs. However, the CI de facto also illuminates the importance of particular policies measures for RES implementation, and shows that the existence of different measures has a direct impact on implementation. The description of the economic and non-economic factors [such as complexity and administrative processes, grid connection procedures, spatial planning issues] clearly represent the areas that policy makers should be working on if they wish to implement RES.

The Special Edition illuminates another aspect of this when it shows how important policy design is to the final cost of renewables. This is not only that one policy design has a marked differential impact on the final cost of RES, but that deployment of RES will differ markedly as well. The fourth paper, Angelopoulos et al, explains the key constituents within policy which effect the final cost of RES. It shows that policy design is the most important aspect of investment risk, but the paper also shows what areas policy makers need to focus on if they want to deploy renewables. It, very usefully, makes clear that good policy design itself is more important than sudden policy change. In other words, maintaining a poor policy is not better than changing to a good policy.

Finally, the Special Edition explains so how increasing penetration of RES has an impact on market values and merit order effects. The fifth paper, Welisch et al, shows that the downward effect of RES on electricity spot prices is unambiguous and that market values are largely influenced by the share of RES in overall electricity generation and the respective time of day. This means that gradually the issues effecting Germany, Denmark and Spain – as shown in the paper – will spread to other countries. What this says to me is that policy makers need to ensure that timely, and appropriate, alterations to market design are implemented. Energy is embarking on a new era and this Special Edition does a very good job in opening up the cost-based issues of that transformation. This Special Edition deserves to be widely read. All readers – whatever their depth of knowledge of energy – will learn from this thorough, honest and timely set of analyses.