CECILIA 2050
OPTIMAL EU CLIMATE POLICY

Choosing Efficient Combinations of Policy Instruments for Low-carbon development and Innovation to Achieve Europe's 2050 climate targets

EU Climate Policy Beyond 2020 – Options for a Low-Carbon Future

Report on the CECILIA2050 Final Conference

Brussels, 30 June 2015

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1 Introduction

On 30 June 2015, the CECILIA2050 consortium held its final high-level expert conference on EU climate policy beyond 2020 in Brussels. Nearly 60 participants from NGOs, academia, industry and government engaged in dialogue and debate on the present, past and future of the EU climate policy mix, with an emphasis on the long-term objective of decarbonisation.

In October 2014, the EU decided on its climate targets for 2030; thus, the impetus is now on the design and the efficient implementation of policy instruments to meet these goals. The path to a low-carbon economy calls for significant transformations—not only in the power and industry sectors but also in transport, buildings and agriculture—and therefore encompasses many facets of the EU economy. However, with the long-term goal of decarbonisation in mind, the EU must consider the implications of its immediate

Dr. Camilla Bausch, Director, Ecologic Institute, welcomes participants to the conference.

Participants of the CECILIA2050 final conference in Brussels, 30 June 2015

choices on the post-2030 options. How will EU climate policy progress past 2030? What actions must be put on the table now to ensure low-carbon transformations in the future? The CECILIA2050 project has been designed to tackle such questions and is charged with assessing the current EU climate instrument toolbox in order to identify pathways and options for future policy development. The final conference of the project served as a topical forum to connect current research with the policy-making process, facilitating discourse on the near and not-so-distant future of climate mitigation.

2 Keynote speech - "EU climate and energy policy for 2030 and beyond"

Damien Meadows, Advisor at DG CLIMA, delivered a keynote speech on the role of the ETS in EU climate policies. He highlighted that the ETS is an effective instrument for decarbonisation by simultaneously providing a price signal and directly funding innovation. Meadows sees the ETS as the main EU climate instrument in the time up to 2030 and underlined the improvements underway to increase its effectiveness. These include:

Damien Meadows (DG CLIMA) gives the keynote presentation.

- Annual 2.2% cap reduction from 2021 to deliver 43% cut below 2005 levels by 2030
- Continued free allocation to prevent carbon leakage
- Redistribution of auction revenue: 90% among all 28 Member States / 10% among lower income Member States
- Scaled up Innovation funding (400 million allowances)
- Modernisation fund + national action to modernise power generation

At the same time Meadows agreed that the ETS was not the panacea for all problems (e.g. split incentives or lack of trust) but needed to be complemented by other policies. He particularly stressed the importance of the CECILIA2050 project in this context.

For the time to 2030 and beyond, Meadows cautioned against only talking about the long-term decarbonisation until the end of the century, without also considering the short-term needs. Among these more short-term challenges he highlighted the following:

- Internalisation of external costs continuing (including progress on subsidies)

The venue: "Ateliers des Tanneurs"

- Expanding application of climate and energy policies geographically, and as a proportion of economies
- Further enhancing synergies for innovation and financing the transition
- Knowledge and experience-sharing

The subsequent discussion focussed on the role of the US and other states for moving forward the international climate negotiations, ways to better target funding, and the institutional possibilities of developing countries to build their own trading systems.

3 Key insights from CECILIA2050 – panel discussion

Benjamin Görlach, Head of Economics and Policy Assessment at Ecologic Institute, presented key insights from the CECILIA 2050 project. The project aimed at exploiting the full potential of economic instruments to contribute to achieving the EU's greenhouse gas emissions reduction objectives for 2050. The key insights on the current instrument mix are:

Benjamin Görlach, Ecologic Institute, spoke about the key insights from the CECILIA2050 research.

- The current instrument mix is not very coherent but shows many overlaps, some gaps, and a number of cases where climate policy insttuments and other policies conflict.
- Carbon pricing tools work, but they are not exploiting their full potential.
- Markets have worked very effectively as a tool for climate policy, in particular in the field of renewable support policies
- There is plenty of diversity in European climate policies, but there are forces that increase pressure for harmonization, in particular greater market integration

- The effects of main climate policy instruments on GDP and employment have been neutral to mildly beneficial

The project found that in the short-term, EU climate policy should be improved by establishing a meaningful carbon price, tackling market distortions, stepping up funding for innovation, improving information instruments, making sound infrastructure choices and delivering a new electricity market design.

In terms of delivering an instrument mix to bring about these types of changes, some of the key insights from the CECILIA2050 project are:

- We cannot afford *not* to use market-based mechanisms and carbon pricing tools. Carbon prices have a crucial role to play in correcting incentives for consumption and investment decisions, and changing the trajectory of economic development towards a low-carbon economy.
- There is a lot carbon pricing can do - there is also a lot it cannot do. Carbon pricing is no panacea, and for carbon pricing to deliver its expected effects, the right framework conditions need to be in place. Creating these framework conditions – for instance through electricity market reform, and by removing regulatory barriers – should therefore be part of the policy mix.
- Combining policy instruments is inevitable - not a choice of one or vs. another. While in theory it might be conceivable to rely on a few, broad and encompassing instruments – such as a single, high carbon price – there is a high risk that this strategy would fail in practice, if policy instruments do not deliver as anticipated. A strategy of combining different instruments into a policy mix will be less efficient than a theoretically ideal solution, but less likely to fail.
- We will not get around picking winners – since many of the political choices necessary in the decarbonisaton process involve decisions about infrastructure, as well as significant time lags. The resulting path dependency means that it is hardly feasible to leave these choices entirely to the market.

Görlach's presentation was followed by a panel discussion with **Jason Anderson** (WWF), **Richard Baron** (OECD Round Table on Sustainable Development), **Gjalt Huppes** (Institute of Environmental Sciences,CML - University of Leiden).

Baron pointed to the fact that the regulatory framework outside climate policies was often not aligned with climate goals, especially as regards regulations on fossil fuels where tax systems were not using the existing opportunities. In the US, for example, the tonne of CO2 on petrol costs now 100 USD less than a year ago. He proposed that the CECILIA2050 project could better link to the current economic situation in the EU.

Anderson pointed out that the ETS was possibly too simple for reality: under a strict design winners and losers would become very obvious, which makes it difficult for politicians. He said that the NGO community was puzzled that politicians did not exploit the potentials of auctioning revenues, like California did. Regarding carbon leakage policies, he emphasised

First panel discussion (from left to right): Matthias Duwe, Moderator Ecologic Institute; Gjalt Huppes Institute of Environmental Sciences, University of Leiden (CML); Jason Anderson (WWF); Richard Baron, OECD Round Table on Sustainable Development; Benjamin Görlach, Ecologic Institute

that carbon leakage is highly variable across industries and depends on many factors. The more important question is therefore how to create a transformational incentive for industries operating in Europe, and how to assist them in the transformation.

Huppes underlined that research needed to explore how policies at EU and Member State level, ad across Member States, could be better reconciled.

The panellists agreed that current policies didn't suffice and that the problem was also partly a cultural one, since the discussion to this day is mostly one between Ministries for Environment, but not Ministries for Industry, Economics of Finance.

4 Breakout sessions – "Starting the transition now – 2020 policies for 2050"

4.1 Changes to the energy system

The first parallel group, moderated by **Bernd Meyer**, Institute for Economic Structures Research (GWL), focused on low-carbon transformations within the energy sector.

Paul Ekins, University College London (UCL), presented the principle challenges and issues for the energy sector. He posited that political, societal and historical differences between the EU Member States will inevitably alter the choices each nation makes regarding their respective energy policies. In addition, he noticed that striking a balance between diverse portfolios and going to scale and the importance of demand side policies will be imperative to a low-carbon economy. The presentation outlined a possible timeline for a 2050

Paul Ekins, University College London (UCL)

decarbonisation of the energy sector. The short term (present-2020) calls for *inter alia* institutional reform as well as a trajectory for the electrification of personal mobility and residential heating. In the medium term (2020-2030), the large-scale roll out of different supply technologies is required as well as a new grid design. Finally, in the long term (2030-2050) is characterised by the large-scale deployment of the chosen options, at which point there is limited scope for change without large costs.

Building off of Ekins' comments, **Paul Drummond**, University College London (UCL), placed this timeline for an energy sector transition in the context of econometric modelling done for the CECILIA2050 project. He also mentioned the power, transport and building sectors in more depth, detailing two policy directions for the short-term: 'incentive-based' and 'technology-specific.' Options for the power sector – the largest contributor to abatement – include grid expansion and increased financing for RES-E deployment. For transport, the harmonisation of fuel excise duties and expansion of CO_2 intensity regulations will be crucial. For the building sector, EU ETS must be expanded to cover heating fuels and efficiency obligations for existing buildings must be implemented.

Heleen de Coninck, Radbound University, presented research done under the CARISMA project on Innovation Systems and highlighted seven key prerequisites for transforming renewable energy from marginal to mainstream. Among these were: favourable government-industrial systems, a balanced circular economy, financing mechanisms for renewable technologies and the necessary infrastructure. She highlighted a public movement particularly important for its role in providing a political mandate.

Breakout session 1: Paul Drummond, University College London (UCL); Heleen de Coninck, Radbound University; and Bernd Meyer, Institute for Economic Structures Research (GWL)

In the subsequent discussion the topic of Carbon Capture and Storage (CCS) was addressed, namely its role in the future EU energy mix. Paul Ekins commented on the question of CCS, pointing out that the ETM-UCL model used for the CECILIA2050 modeling was unable to meet the mitigation conditions without the use of CCS, particularly in connection with biomass. The model, however, did not take demand-side changes into account. Heleen de Coninck noted that CCS technology has a role to play in the future, despite its low societal acceptance.

The discussion took a turn to focus on the crucial issue capacity markets, which according to **Richard Baron**, OECD, should be described as *long-term electricity markets*. Richard Baron also brought up that the role and functioning of these capacity mechanisms varies by Member state, pointing to Germany and France as primary examples. Regardless of how

these markets are conceptualized and employed, Paul Ekins expressed his fascination in the delayed response on the part of the energy industry and inability to foresee the importance of a capacity mechanism to handle increasing shares of renewables in the electricity mix.

4.2 Institutions and governance – fit for decarbonisation

The second breakout panel focused on decarbonisation matters related to institutions and governance.

Dr. Camilla Bausch, Ecologic Institute, presented research undertaken by the CECILIA2050 project on the role of law and institutions in regards to low-carbon regulatory approaches and political structures in Germany, Poland, UK as well as the EU as a whole. The research methodology combined a comprehensive literature review with interviews and in depth case studies. Additionally, the presentation touched on an associated assessment of decentralisation in the EU and rule setting as well as the various overlaps between climate and energy governance.

Breakout session 2: Matthias Duwe, Ecologic Institute and Gjalt Huppes Institute of Environmental Sciences, University of Leiden (CML), take part in discussion with conference participants.

Numerous key insights arose from the analysis. First, due to different historical contexts and preferences, the presentation pointed out that regulatory approaches differ significantly between Member States. While there is some convergence due to learning and centralisation under EU law, several top-down approaches have been challenged by EU Member States in court. Such cases have proven to be resource and time consuming, suggesting that even theoretically optimal solutions are not always practically implementable when discordant with a country's political circumstances and regulatory approach. The research also showed there to be no fixed correlation between the degree of centralisation and level of mitigation ambition and instead highlighted policy design to be the more decisive factor. Centralisation often occurs as an ongoing process and thus policy mixes are typically hybrid approaches, i.e., a combination of centralised and decentralised measures, national and regional/local policies. Moreover, in most cases decentralisation requires enhanced capacity and institution building, for instance, as in the case of the EU ETS registry.

The presentation concluded by offering recommendations for the development of low-carbon institutions and governance. Certain features must be protected and/or established, such as structures that are *risk resilient* against mitigation-averse political landscapes, freedoms and incentives for frontrunners. Also, a high degree of flexibility should be built into the regulatory framework, giving actors the ability to react (e.g. ancillary investments for

offshore meshed grid). Additionally, a learning system with comprehensive monitoring and review mechanisms must be upheld. Such a system for the sharing of best practices and successful policy approaches should utilize Member States as policy "laboratories" for testing innovative and novel strategies. In closing the presentation posited that increased centralisation, in particular on the EU level pertaining to GHG, RE and EE targets, is vital for future electricity grid planning, investment security and credibility at the international level. Decarbonisation and low-carbon governance should be of utmost importance and ideally prioritized over other policy goals but a change in primary law to achieve this end is not required.

4.3 Public acceptance and political feasibility of a low-carbon Europe

The third parallel group addressed public acceptance and political feasibility of low-carbon policies in Europe.

Stefania Munaretto, IVM, presented the outcome of the research under the CECILIA2050 project on the political feasibility of low-carbon policy instruments, using online surveys, focus group discussions, semi-structured in-depth interviews and policy simulations. The research highlights that political feasibility is not only influenced by groups' preferences, power dynamics or institutional arrangements, but also by contextual political and economic factors. She specifically underlined the role of knowledge and impact assessments as a crucial factor – one reason why the Commission was found to have a major influence in shaping EU climate policy. Munaretto explained that a policy simulation on the EU ETS and the future EU climate policy instrument revealed that different interest groups favoured different instruments. Factors which positively influenced the political feasibility of the EU ETS vis a vis other instruments were the following: It is easier to agree on policies whose distributional effects are hidden because they are likely to be less contested; taxation is perceived politically unfeasible; regulation is too administratively and organizationally complex to adopt and implement.

Stefania Munaretto, IVM

Mikolaj Czajkowski, WOEE, presented insights from the CECILIA2050 project on public acceptance of climate policies. The insights stem from two discrete choice experiments in the Czech Republic, on (1) how much and when to reduce emissions and (2) how to reduce emissions. The experiments showed that respondents prefer policies that promote

renewables over policies that target energy efficiency, and incentive-based policies over policies that impose pricing. Taxes become more acceptable when they are re-frames as "charges". Burden sharing based on an excess of GHG emissions is accepted the most, per capita sharing is the least accepted.

Breakout session 3

Milan Scasny, CUNI, presented the results from a conjoint choice experiment which revealed that in Italy people were willing to pay €130 per ton of CO2 emissions avoided while in the Czech Republic it was only €56. The experiment also showed that people in both countries preferred policies for renewables over policies for energy efficiency, policies that yield larger CO2 reductions and policies that cost less.

5 The role of economic instruments for the EU – panel discussion

The final panel, moderated by Matthias Duwe, Ecologic Institute, discussed the role of the EU ETS in the 2050 climate policy mix. Wendel Trio, Climate Action Network Europe, stressed that the first and most important question to answer when thinking about the future policy mix was where the EU wanted to land in 2050.

Final panel discussion (from right to left): Tobias Brenner, German Environment Ministry (BMUB); Marco Mensink, Confederation of European Paper Industries (CEPI); Wendel Trio, Climate Action Network Europe; Anil Markandya, Basque Center for Climate Change (BC3)

Marco Mensink, Confederation of European Paper Industries (CEPI), was convinced that the EU ETS would not play a role anymore in 2050. In 2050, governments will need to have decided which industries could continue to produce in Europe and which not – this was not a decision to be resolved through markets. In contrast, Tobias Brenner, German Environment Ministry (BMUB) and Anil Markandya, Basque Center for Climate Change (BC3),

believed that the EU ETS would still form an important part of the instrument mix in 2050. But both also agreed that complementary instruments were required to address other economic sectors and to trigger technological development.

Also Wendel Trio, Climate Action Network Europe, criticised that non-ETS sectors received only little political attention. Governments' ambition on renewable energy support was going down, he said, but most discussion focussed on the ETS reform. Trio said it was increasingly important to think more broadly about climate policy tools, including how governments could encourage low-carbon lifestyles.

6 Annex A: Conference programme

"EU Climate Policy Beyond 2020 – Options for a Low-Carbon Future"

Insights from the CECILIA2050 research project

Agenda – June 30, 2015

09:00 **Registration**

09:30 **Welcome**

Dr. Camilla Bausch, Director, Ecologic Institute (project lead organisation)

09:45 **High-level keynote: "EU climate and energy policy for 2030 and beyond"**

Damien Meadows, Advisor, DG CLIMA, Directorate B "European and International Carbon Markets"

Followed by a question and answer session

10:30 **Coffee break**

11:00 **"Key insights from CECILIA2050: recommendations for current and future EU climate policy"**

Benjamin Görlach, Head of Economics and Policy Assessment, Ecologic Institute

Followed by panel discussion with policy experts in response

- Jason Anderson, WWF
- Richard Baron, OECD Round Table on Sustainable Development
- Gjalt Huppes, Institute of Environmental Sciences (CML), University of Leiden

Moderator: Matthias Duwe, Head of Climate, Ecologic Institute

13:00 **Lunch break**

14:00 **PARALLEL GROUPS: "Starting the transition now – 2020 policies for 2050"**

Group 1: Changes to the energy system

Paul Ekins, UCL Institute for Sustainable Resources; Paul Drummond, UCL Institute for Sustainable Resources; Heleen de Coninck, Radbound University

Group 2: Institutions and governance - fit for decarbonisation

Camilla Bausch, Ecologic Institute; Mikael Skou Andersen, Aarhus University; Tomas Wyns, IES

Group 3: Public acceptance and political feasibility of a low-carbon Europe

Milan Scasny, CUNI; Mikolaj Czajkowski, WOEE; Stefania Munaretto, IVM

15:30 **Coffee break**

16:00 **Unlocking long-term mitigation options: the role of economic instruments for the EU**

Panel Discussion

- Tobias Brenner, German Environment Ministry (BMUB)
- Wendel Trio, Climate Action Network Europe
- Anil Markandya, Basque Center for Climate Change (BC3)

- Marco Mensink, Confederation of European Paper Industries (CEPI)

Moderator: Matthias Duwe, Head of Climate, Ecologic Institute

17:30 Wrap-up and conclusions followed by a reception

7 Annex B: List of registered participants

	Last Name	First Name	Organisation
1	Achampong	Leia	WWF European Policy Office
2	Andersen	Mikael Skou	Aarhus University
3	Anderson	Jason	WWF
4	Baka	Joanna	European Academy for Taxes, Ecoconomics & Law
5	Baron	Richard	OECD Roundtable on Sustainable Development
6	Bausch	Camilla	Ecologic Institute
7	Brenner	Tobias	Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety, Germany
8	Brent	William	mrcleantech.com
9	Chakma	Debashish	Kapo Seba Sangha KSS
10	Cook	Rosalind	E3G (Third Generation Environmentalism)
11	Czajkowski	Mikolaj	University of Warsaw, Warsaw Ecological Economics Center
12	de Clara	Stefano	International Emissions Trading Association
13	de Coninck	Heleen	Radboud University
14	de Jong	Femke	Carbon Market Watch
15	de Vries	Obe	
16	Donat	Lena	Ecologic Institute
17	Drummond	Paul	University College London, Institute for Sustainable Resources
18	Dubowik	Anna	Change Partnership
19	Duijnhouwer	Frans	Ministry of Infrastructure and the Environment, The Netherlands
20	Duwe	Matthias	Ecologic Institute
21	Ekins	Paul	University College London, Institute for Sustainable Resources
22	Enchill	Mary Jane	HATOF Foundation
23	Enzmann	Johannes	European Commission
24	Evans	Nick	Ecologic Institute
25	Fogarassy	Csaba	Szent Istvan University Climate Change Economics Research Centre
26	Fransolet	Aurore	Center for Studies on Sustainable Development (IGEAT), Université libre de Bruxelles
27	Fujiwara	Noriko	Centre for European Policy Studies
28	Genard	Quentin	E3G (Third Generation Environmentalism)

29	Glastra	Kathrin	Heinrich Böll Foundation
30	Görlach	Benjamin	Ecologic Institute
31	Hanninen	Sari	General Secretariat of the EU Council
32	Horvath	Peter	European Commission
33	Huppes	Gjalt	Leiden University, Institute of Environmental Sciences (CML)
34	Kisielewicz	Jerome	ICF International
35	Kleinenkuhnen	Lea	Climate Alliance
36	Kollmuss	Anja	CAN Europe
37	Kordowski	Klaus	Stiftung Mercator
38	Kuik	Onno	Institute for Environmental Studies, VU University Amsterdam
39	Kumar	Sanjeev	Change Partnership
40	La Motta	Sergio	Italian National Agency for New Technologies, Energy and Sustainable Economic Development
41	Laissy	Kathleen	European Bureau for Conservation & Development
42	Lemmens	Pieter-Willem	Flemish Environment Department
43	Lietaer	Samuel	Climate Express
44	Malandrinos	Konstantinos	European Aluminium
45	Markandya	Anil	BC3
46	Mazzanti	Massimiliano	University of Ferrara
47	Meadows	Damien	European Commission, DG CLIMA
48	Meeus	Koen	Federal Climate Change Administration, Belgium
49	Mensink	Marco	Confederation of European Paper Industries
50	Meyer	Bernd	GWS
51	Munaretto	Stefania	Institute for Environmental Studies, VU University Amsterdam
52	Olesen	Gunnar Boye	International Network for Sustainable Energy - Europe
53	Ostwald	Robert	Ecologic Institute
54	Ozor	Nicholas	African Technology Policy Studies Network
55	Petroula	Dora	CAN Europe
56	Pirlet	André	TORMANS Engineering
57	Roekens	Willem	ADS Insight
58	Sanchez	Almudena	GMV
59	Ščasný	Milan	Charles University Prague, Environmental Center
60	Schwarz	Margarete	Representation of Saxony Anhalt, Germany
61	Stollmeyer	Alice	@StollmeyerEU
62	Tekin	Aslihan	CAN-International
63	Trio	Wendel	CAN Europe
64	Valčić	Gordana	Permanent Representation of Croatia to the EU

65	van Steenberghe	Vincent	Belgian Federal Ministry Environment, Climate Change section
66	Venkata Nagavarma	Alluri	P.G.Courses & Research Center, D.N.R.College (Andhra University)
67	Wittoeck	Peter	Federal Government of Belgium, FPS Health, Food chain Safety and Environment
68	Wyns	Tomas	Institute for European Studies - VUB Brussels
69	Yuan	Cassie Jiayi	Ecologic Institute

8 Annex C: Twitter history

The twitter history of the CECILIA2050 Final Conference can be found by entering the hashtag, #C2050BXL, online at: https://twitter.com/search-home.

9 Annex D: PowerPoint presentations

All PowerPoint presentations from the CECILIA2050 Final Conference are available for download on the CECILIA2050 website at: http://cecilia2050.eu/events/253.