



Climate Change Advisory Council Meeting –Carbon Budgets Working Group

Meeting 10

APPROVED MINUTES

Date: 18th January 2024

Start time: 13:30

Venue: EPA officers, Clonskeagh and Video Conference Meeting

Present: In person: Brian Ó Galachóir, Stephen Treacy, Kian Mintz-Woo, James Murphy, Hannah Daly. On MS Teams: Yvonne Buckley, Emma Lynch, Jim Scheer, Kevin Hanrahan, Trevor Donnellan, David Styles, Jeanne Moore, Kelly de Bruin

Apologies: Niall McInerney

Observers: In person: John Fitzgerald. Online: Jillian Mahon, Gemma O'Reilly, Kirsty Everett

Secretariat: In person: George Hussey, Gina Kelly, Meabh Gallagher, Kieran Craven; Phillip O'Brien, Claire Camilleri. Online: Katherine Dooley

External presenters: Christophe McGlade, Joe Wheatley

1. Opening of meeting

1.1. Adoption of Agenda

The agenda was adopted by the Carbon Budgets Working Group (CBWG).

1.2. Minutes for the Carbon Budgets Working Group Meeting

The minutes from the previous meeting were accepted by the CBWG.

1.3 Actions

Action 10 was closed

Action 11 proposed for closure

2. IEA Net Zero Roadmap

Cristophe McGlade, Head of Energy Supply at the International Energy Agency gave an update on the IEA Net Zero Roadmap. This included the positive impact of clean energy growth, the importance of existing tools to reduce emissions, and the need for an inclusive and equitable transition. The continued need to increase the pace of change to achieve net zero by 2050 was outlined.

Discussions included modelling Carbon Capture and Storage, global electricity demand growth, government leadership, methane, hydrogen and fossil fuel prices. The importance of grid connections, financing mechanisms and cost of capital in facilitating renewables was raised. Upcoming reports from the IEA on the affordability of the energy transition were noted. Kirsty Everett and Gemma O'Reilly left the meeting.

3. Analysis of warming impact of selected core scenarios (1st iteration)

Joe Wheatly from UCD presented on analysis of the warming impact of selected scenarios from TIM and GOBLIN outputs from the first iteration of carbon budget modelling. The use of simple climate models was outlined including assumptions, methodology, outputs and planned future work. Ireland's marginal warming contribution was presented, with variability due to variations in climate sensitivities.

Discussions included marginal and non-marginal warming, interaction of models with CMIP, excluded emissions, the impact of aerosols and the non-linear forcing of selected GHG emissions. The relative basis of the warming contribution with the rest of the world was outlined along with sensitivity of warming impacts to the historical GHG emission database, and the difference between climate neutrality and Paris Agreement temperature limits. The importance of communicating results to a broad audience was raised.

4. Additional testing of scenario results

Emma Lynch from SEAI presented on additional testing of TIM energy system outputs from the 1st iteration of the modelling results using the NEMF. This was conducted to test feasibility of model outputs regarding timing and capacity and provide recommendations for any adjustments for the next model iteration. An overview of the NEMF inputs, outputs and assumptions was made.

Observations made focussed on electricity sector, including recommendations on fuel use, electricity capacity, projection uncertainties and mitigations. Observations and recommendations were also made for residential, transport and other energy sectors. Next

steps were outlined including incorporation of additional constraints in the next iteration of modelling for carbon budgets, and upcoming projections releases in 2024.

In the discussion that followed, an appreciation of the review of the TIM output data was expressed with the importance and appreciation for refining models noted. The necessity to look holistically at negative emissions was raised.

5. Update on economic and macroeconomic analysis

John Fitzgerald presented on requirements for consideration in the upcoming economic and macroeconomic analysis of the modelling for this carbon budget programme. The important assumptions and outputs that will be required from the TIM model and agricultural sector were outlined. Assumptions that must be made will include those on employment levels, impact for public finances and implications of international climate action. International economic and macroeconomic action will also impact Ireland.

Discussions included quantifying renewable investments, and updates to the I3E model with availability of data. Costs of climate action as investments was raised along with those for reducing emissions in agriculture.

6. Carbon Budgets Work Plan

The schedule was outlined for proposed topics for consideration. Updates have included a follow-on discussion on methane and climate neutrality for March, with a presentation on a decarbonised electricity system study by SEAI in April. Other topics yet to be scheduled include focussed topics on aviation and maritime emissions, air pollution interactions and synergies, and economic assessment of climate change in Ireland along with follow-on discussions for biodiversity and Carbon Dioxide Removal related to carbon budgets.

A suggestion was made from the group to consider the inclusion of planetary boundaries as a topic to consider.

Action: The Secretariat will follow up on planetary boundary thematic topic for the next meeting

The workplan was shared with the meeting, with milestones outlined for March (inputs, parameters and assumptions for 2nd iteration of modelling), May (2nd iteration results) and June (analysis of warming impact, additional testing of scenario results and macroeconomic and economic modelling results from 1st and 2nd iteration results).

It was noted the results for May is dependent on the agreed inputs in March. The Council will be meeting in February and inputs to carbon budget modelling will be discussed at this meeting. It was requested if the council can provide guidance on the starting position in 2030, along with objective for 2040 before commencement of the 2nd iteration of modelling.

Action: Secretariat to revert with guidance from the Council with regards to the 2nd iteration of modelling and analysis following the February CCAC meeting

7. Next Steps and Agenda for next meeting

The Secretariat provided a briefing to council on core modelling results in January and this was noted as being useful. Another briefing is planned on the warming impact for February. It is proposed to invite the modelling teams to the final 30min of this meeting.

The February meeting will include a presentation on quantitative approaches to carbon budgeting for Parties to the Paris Agreement by Malte Meinshausen from the University of Melbourne, Paul Deane from UCC will present on energy and power systems modelling, and thematic discussion on ESAB scientific advice for the determination of an EU-wide 2040 climate target and GHG budget for 2030-2050. This meeting will be scheduled 30 min longer than normal to facilitate the greater number of invited speakers.

In March the meeting will include thematic discussion of the follow on discussion on methane and climate neutrality, with potential for additional external invited speakers.

8. AOB

Council will continue to be updated on the work of the CBWG and thanks was give to everyone for their assistance.

Presenters and participants were thanked for their continued contributions. Next meeting will be on the 29th Feb.

9. CB WG Actions Log

Action Number	Date Raised	Description	Owner	Due	Status
11	15/12/23	Modelling groups to provide projected GHG emission data for temperature analysis	CBWG core modelling groups	Dec 2023	Proposed to Close Modelling groups provided data by 18/12/23 and shared with Joe Wheatly for temperature impact analysis
12	18/01/24	Secretariat to follow up on planetary boundaries as thematic topic	Secretariat	Mar 2024	Open
13	18/01/24	Secretariat to provide guidance from the Council with regards to the 2 nd iteration of modelling and analysis following the February CCAC meeting	Secretariat	Feb 2024	Open