

Carbon
Budgets
Committee

Third meeting

17th May 2021

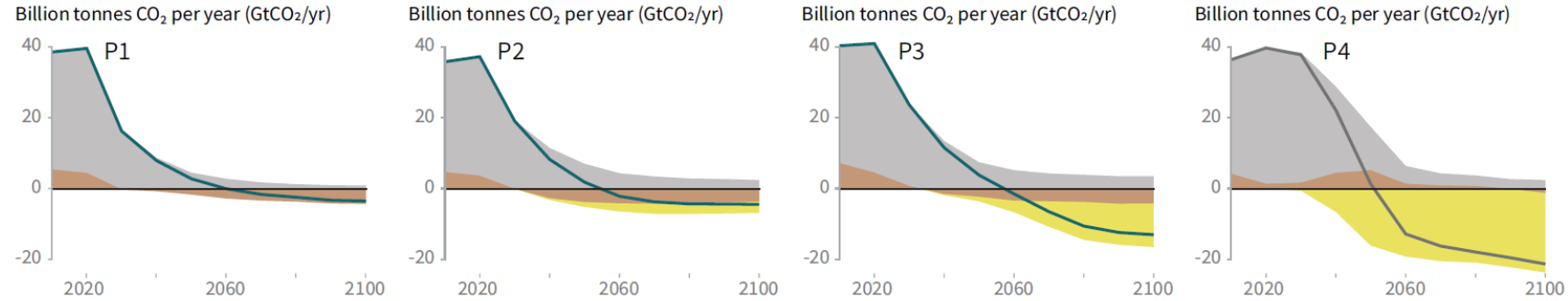
Criteria Shorthand	Issues for Clarification	Council Guidance
'National Climate Objective'	The extent to which the Committee or the Council can explore the 'environmentally sustainable', 'biodiversity rich', and 'climate resilient' criteria which might be understood to be primarily influenced by how carbon budgets are implemented rather than their level of ambition.	Council agreed to launch a small scale study in this area.
'51%'	The Council may wish to clarify on which basis the 51% is to be calculated. <ol style="list-style-type: none"> Is it on the basis of <u>GWP100</u> or GWP*? If on the basis of GWP100 is this on AR4 or AR5 values? Is LULUCF part of the 51% calculation and if so, how? Are international aviation and maritime emissions based in Ireland included in the 51% target? 	<ol style="list-style-type: none"> GWP100 AR5 LULUCF should be part of the 51% calculation, not decided how. International aviation and maritime not included in the 51%.
'EU'	The Council might seek clarification from the Department about progress made in setting a new target for Ireland under the EU Climate Law.	No new information to inform current deliberations.
'Paris Agreement'	<ol style="list-style-type: none"> Whether the references to sustainable development, equity and the eradication of poverty entail any additional analysis beyond the examination of the 'economy' and 'climate justice' criteria below. The extent to which negative emissions can play a role in the first three budget periods. 	<ol style="list-style-type: none"> Yes, the current approach is sufficient. This needs more exploration, in terms of LULUCF and the role of technologies.
'science'	How to reflect the distinct characteristics of methane in the Council's carbon budget proposals to government. See appendix.	According to legal advice, it is not possible to reflect the distinct characteristics of methane in the first two budget periods. However, the Council anticipates being able to offer advice in this regard accompanying the legislatively mandated carbon budget proposals.
'economy'	That the Council approves the small scale study.	The small scale study was agreed by Council, while the department has also offered resources to support another piece of work. A steering group of the Council will guide work in this area.
'climate justice'	That the Council approves the small scale study.	As above.

Scenarios

- Write up of the 4 scenarios so far
- Additional scenarios;
 - To reflect the ranges in the IPCC SR1.5 report
 - To explore the current ambition in the Climate Action Plan 2019
 - To explore the cost-optimal pathway to the 2050 goal with 2030 unconstrained
- All scenarios to be calculated in GWP100 AR5 values, excluding international aviation and maritime and including (where/how relevant) LULUCF.

Breakdown of contributions to global net CO₂ emissions in four illustrative model pathways

● Fossil fuel and industry ● AFOLU ● BECCS



P1: A scenario in which social, business and technological innovations result in lower energy demand up to 2050 while living standards rise, especially in the global South. A downsized energy system enables rapid decarbonization of energy supply. Afforestation is the only CDR option considered; neither fossil fuels with CCS nor BECCS are used.

P2: A scenario with a broad focus on sustainability including energy intensity, human development, economic convergence and international cooperation, as well as shifts towards sustainable and healthy consumption patterns, low-carbon technology innovation, and well-managed land systems with limited societal acceptability for BECCS.

P3: A middle-of-the-road scenario in which societal as well as technological development follows historical patterns. Emissions reductions are mainly achieved by changing the way in which energy and products are produced, and to a lesser degree by reductions in demand.

P4: A resource- and energy-intensive scenario in which economic growth and globalization lead to widespread adoption of greenhouse-gas-intensive lifestyles, including high demand for transportation fuels and livestock products. Emissions reductions are mainly achieved through technological means, making strong use of CDR through the deployment of BECCS.

Global indicators	P1	P2	P3	P4	Interquartile range
<i>Pathway classification</i>	No or limited overshoot	No or limited overshoot	No or limited overshoot	Higher overshoot	No or limited overshoot
<i>CO₂ emission change in 2030 (% rel to 2010)</i>	-58	-47	-41	4	(-58,-40)
↳ <i>in 2050 (% rel to 2010)</i>	-93	-95	-91	-97	(-107,-94)
<i>Final energy demand** in 2030 (% rel to 2010)</i>	-15	-5	17	39	(-12,7)
↳ <i>in 2050 (% rel to 2010)</i>	-32	2	21	44	(-11,22)
<i>Renewable share in electricity in 2030 (%)</i>	60	58	48	25	(47,65)
↳ <i>in 2050 (%)</i>	77	81	63	70	(69,86)
<i>Land area of bioenergy crops in 2050 (million km²)</i>	0.2	0.9	2.8	7.2	(1.5,3.2)
<i>Agricultural CH₄ emissions in 2030 (% rel to 2010)</i>	-24	-48	1	14	(-30,-11)
↳ <i>in 2050 (% rel to 2010)</i>	-33	-69	-23	2	(-47,-24)
<i>Agricultural N₂O emissions in 2030 (% rel to 2010)</i>	5	-26	15	3	(-21,3)
↳ <i>in 2050 (% rel to 2010)</i>	6	-26	0	39	(-26,1)

CH₄ range
 2030: -11% to -30%
 2050: -24% to -47%

N₂O range:
 2030: +3% to -21%
 2050: +1 to -26%

Including LULUCF 61-33% Scenario

- 51% GWP100 by 2030
- Linear progression to zero from 2031 to 2050
- Additional removals to offset residual CH₄ and N₂O

Rate of GHG Emissions
GWP100 (2021-2050)

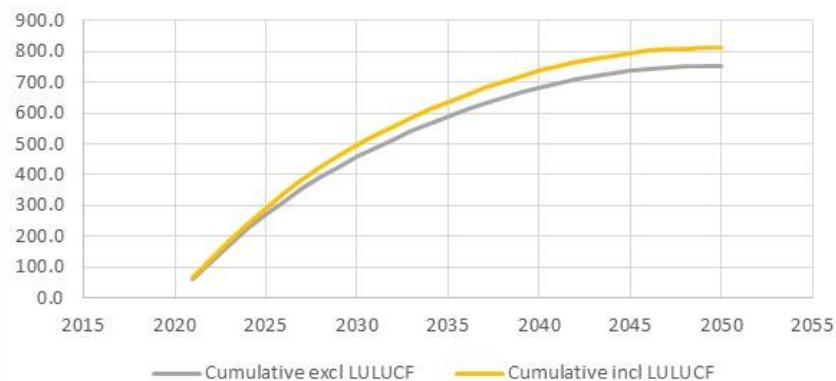


	GWP100 excl LULUCF	GWP100 incl LULUCF	GWP* excl LULUCF	GWP* incl LULUCF
2021-2025	271	292	197	214
2026-2030	188	203	98	109
2031-2035	131	142	20	26
2021-2030	459	495	295	323
2021-2035	590	637	315	348
2021-2050	752	812	134	170

Rate of GHG Emissions
GWP* (2021-2050)



Cumulative GHG Emissions
GWP100 (2021-2050)



Cumulative GHG Emissions
GWP* (2021-2050)

