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Project Additional Comments

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Insights Task 5

(slide on Moodle)

What does net-zero target for CH really mean?

Context

Following the IPCC special report about the impacts of global warming of 1.5°C, the Swiss Federal Council decided in August 2019 that Switzerland should aim for net-zero greenhouse gas emissions by 2050. This net-zero target is also the subject of the Climate and Innovation Act, which was approved by the electorate in the referendum of June 18, 2023, with 59.1 percent voting in favor. The net-zero target is thus enshrined in law. From 2050 Switzerland aims to emit no more greenhouse gases into the atmosphere than can be captured and stored in natural and technological sinks ('net-zero target'). In parallel, because of the Fukushima nuclear accident in 2011, the federal authorities decided to gradually phase out nuclear power plants, which represented up to 40% of the total electricity production and 10% of the total energy use.

The following challenge arises : how can Switzerland achieve carbon neutrality while ensuring its security of supply?

Does your model consider negative emissions ?

Carbon neutrality at what scope ?
Only domestic emissions?

Tableau 1: Évolution des émissions de gaz à effet de serre dans la variante de base du scénario ZÉRO
Selon les délimitations de l'inventaire des émissions de gaz à effet de serre, en millions de tonnes d'équivalent CO_2

Scénario		1990	2000	2018	2025	2030	2035	2040	2045	2050
ZÉRO base	Énergie (à combustion; 1A)	41.5	41.9	35.0	30.5	25.3	20.2	15.2	9.9	4.2
	Conversion d'énergie (1A1)	2.5	3.2	3.4	3.2	3.2	3.2	3.1	3.1	2.6
	Industrie (1A2)	6.6	6.0	4.8	4.6	4.0	3.2	2.4	1.7	1.2
	Transport (1A3)	14.7	16.0	14.9	13.3	11.3	8.9	6.3	3.2	0.0
	Services (1A4a & 1A5)	5.1	5.1	3.6	2.4	1.6	1.2	0.8	0.6	0.2
	Ménages (1A4b)	11.8	10.8	7.7	6.3	4.6	3.3	2.2	1.2	0.1
	Agriculture (énergie, 1A4C)	0.8	0.8	0.6	0.6	0.5	0.5	0.3	0.2	0.0
	Émissions d'évaporation (1B)	0.4	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.0
	Processus industriels et solvants (2)	4.3	3.9	4.5	3.4	3.0	2.7	2.6	2.5	2.4
	Agriculture (3)	6.8	6.2	6.0	5.7	5.5	5.3	5.0	4.8	4.6
	Déchets (5)	1.1	0.8	0.7	0.6	0.6	0.6	0.5	0.5	0.5
	Autres (6)	<0.1	<0.1	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total (Suisse)	**54.2**	**53.3**	**46.4**	**40.5**	**34.6**	**28.9**	**23.5**	**17.8**	**11.8**
	NET à l'étranger					0.0	0.0	0.0	−1.2	−4.7
	CCS/NET en Suisse					0.0	−0.4	−1.7	−4.8	−7.0
	production de clinker					0.0	0.0	−0.2	−1.8	−2.4
	Industrie chimique et pharmaceutique					0.0	0.0	−0.1	−0.2	−0.5
	Usines d'incinération des ordures ménagères					0.0	−0.4	−1.1	−2.3	−3.6
	Installations de biomasse					0.0	0.0	−0.3	−0.4	−0.4
	Autres					0.0	0.0	0.0	−0.1	−0.1
	Total (Suisse, y c. CCS/NET)	**54.2**	**53.3**	**46.4**	**40.5**	**34.6**	**28.5**	**21.8**	**11.9**	**0.0**
PEA	**Total (Suisse)**	**54.2**	**53.3**	**46.4**	**43.5**	**40.3**	**37.7**	**35.6**	**33.5**	**31.7**

Some useful resources:

1. Perspectives énergétiques 2050+
2. Long-term climate strategy