

The use of existing projections for developing Albania's INDC

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The concept

Concept:

- To use existing modelling to develop an INDC for Albania

Modelling work done so far

- NC3 UNDP/USAID
- PRIMES
- SLED (electricity and buildings)
- LOCSEE (transport)
- PROMITHEAS4
- SEE-SEP

Assessment of the models

Criteria for evaluating models:

- Modelling methodology
- Base year data
- Scenarios and trend assumptions

	Modelling method			
Name of project	Technological explicitness	Microeconomic realism	Macroeco-mic feedbacks	Cost information
NC3 and USAID	Yes, not all sectors	No	No	Yes
LOCSEE	Yes	No	No	Yes
PRIMES	Yes	Yes	No	Yes
PROMITHEAS4	n.a.	No	No	No
SEE-SEP	Yes, not all sectors	No	No	Yes
SLED	Yes	Yes	No	Yes

Sector	Model	CO2 emissions, kt (2010)*	Final energy demand, TWh (2010)*
Agriculture	NC3 Inventory	365	n.a.
	NC3 UNDP and USAID*	222	1.13
	OPEERA**	2066	0.78
Buildings	NC3 Inventory	1287	n.a.
	PRIMES	563	9.34
	NC3 UNDP and USAID	290	7.76
	OPEERA	68	7.44
Industry	NC3 Inventory	703	n.a.
	OPEERA	1050	3.41
	PRIMES	926	4.15
	NC3 UNDP and USAID	654	3.61
Transport	NC3 Inventory	2301	n.a.
	LOCSEE	2266	8.59
	OPEERA	2262	8.32
	PRIMES	2283	8.67
	NC3 UNDP and USAID	2239	8.57
Total	NC3 Inventory	4969	n.a.
	INSTAT	n.a.	22.89
	OPEERA	5446	19.95
	NC3 UNDP and USAID	3639	21.43
	PRIMES	3868	22.16

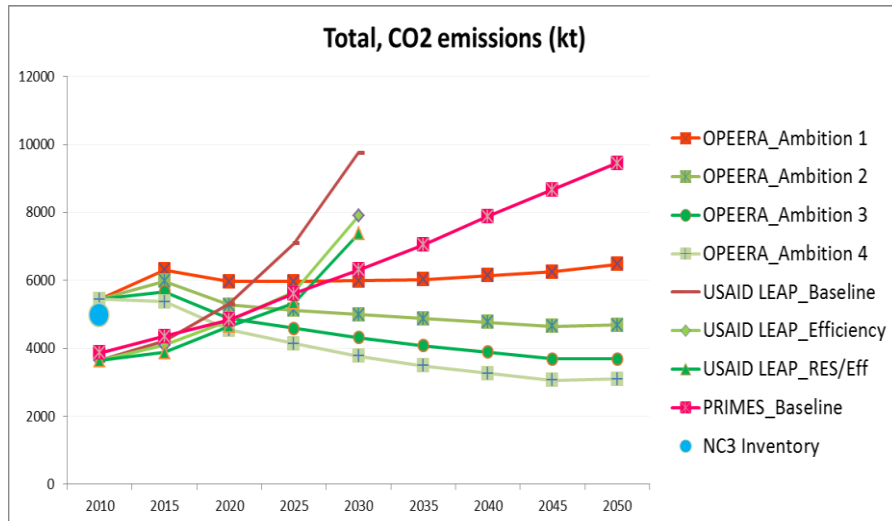
* emissions for the inventory are from year 2009, emissions for NC3 UNDP and USAID are for year 2012

Scenarios

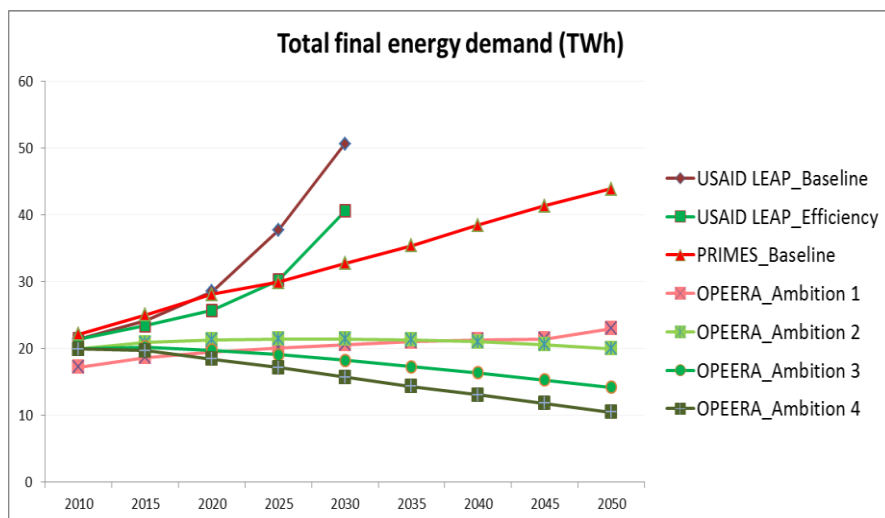
- Baseline scenario should represent current undertakings (existing policies), mitigation scenario should be current undertakings +
- Ideally autonomous energy efficiency improvement should be included in baseline
- Level of ambition should be in line with 2 degree target
- Commitment should be fair, reflect responsibilities and respective capabilities

Drivers	Model	2010	2015	2020	2025	2030	2035	2040	2045	2050	AGR (%)
GDP, bn EUR	PRIMES	8.87	9.84	12.28	14.50	17.01	19.83	23.01	26.51	29.81	3.08
	SEE-SEP OPEERA	8.87	10.23	11.58	13.57	15.56	15.88	16.20	17.62	19.04	1.93
	NC3 & USAID	9.50	10.25	12.29	15.76	21.60					4.67
Hholds, '000	SEE-SEP OPEERA	722	742	763	767	772	781	791	801	812	0.29
	NC3 & USAID	966	1091	1235	1397	1581					2.77
Pop, million	SEE-SEP OPEERA	2.82	2.84	2.86	2.82	2.78	2.76	2.74	2.72	2.70	-0.11
	NC3 & USAID	2.86	2.95	3.10	3.26	3.42					1.00
	PRIMES	3.15	3.20	3.24	3.28	3.31	3.30	3.25	3.18	3.09	-0.04

Total CO2 emission trends for different models



Total final energy demand for different models



Summary

- Some models (NC3 UNDP/USAID, PRIMES, SLED buildings, SEE-SEP OPEERA) still under calibration/consultation
- For base year data on emissions and energy demand NC3 UNDP/USAID model seems to be closest to official data, further checks needed
- PRIMES and SLED electricity model assume cost-optimising behaviour, other models are simulation models
- None of the scenarios of any of the models adequately represent existing and planned policies
- Drivers of emissions most realistic in PRIMES

The way forward?

Hybrid approach which takes best of all models:

- NC3 UNDP/USAID for base year values
- PRIMES for baseline sectoral projections
- Contribution from other sectoral models (in particular SLED electricity and buildings sector models)
- For mitigation projections assess measures and their costs, propose low cost measures to go beyond efforts contained in the baseline

Scope: CO2 only, no LULUCF

Thank you for your attention!

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