

Title of the paper: Climate negotiation: The Case of Per Capita CO₂ Targets

Author: Dr. Ing. Valentin Crastan

e-mail address and affiliation: valentin.crastan@bluewin.ch

Text of the abstract:

A major challenge with climate protection is that governments have difficulties to agree on CO₂ emissions targets, given the large existing differences in development levels. In the Kyoto Protocol, emissions targets have been set in their simplest form, as CO₂ targets, whereby the emissions of the year 1990 are taken as benchmark.

The point is made here that if the number of countries accepting climate targets is to be enlarged from 40 to over 190, the targets should be formulated as per capita CO₂ targets. Allocating CO₂ emissions per person seems to be the only ethically acceptable way for distributing the scarce resource "CO₂ emissions" in the long term among everyone. Population forecasts are sufficiently stable for allowing per capita targets to be set for long term horizons like 2050 and 2100. The Energy Science Center of the Federal Polytechnic School (ETH) Zürich has recently formulated the ambitious objective of a "1 ton CO₂ society", meaning that long term CO₂ emissions should be kept at 1 t CO₂ per person per year.

The paper uses a global interactive model involving atmospheric CO₂ stocks and emissions, energy stocks and consumption, GDP, population and capital stocks in order to show how key indicators like global CO₂ emissions, carbon intensity, energy intensity, per capita energy consumption and GDP per person would have to evolve coherently if per capita CO₂ targets were set that allow limiting maximum global warming at 2 degrees centigrade.