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Economic Measures of a Decrease in Carbon Dioxide emissions for Austria

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Abstract

The EC agreed on the COP-4 to reduce the relevant greenhouse gases by 8%. Within the scope of the internal agreement of the EC, in June 1998, Austria committed itself to a more than adequate share of 13%.- The CO₂-emissions of Austria in 1990 are amounting to 62 Mtons, the CH₄-emissions to 12 Mtons CO₂-equivalent as well as the N₂O-emissions to 3 Mtons CO₂-equivalent, a total of approximately 77 Mtons CO₂-equivalent, which should be reduced until 2010 to 67 Mtons of CO₂-equivalent (54 Mtons CO₂).

In an international comparison Austria shows with 7.1 tons CO₂ per capita low specific CO₂-emissions, which is clearly under the OECD average of 11 tons and the EC average of 8.4 tons. This outstanding position is attributed primarily to the high share of renewable energies, as the utilisation of hydro power and biomass. On the other hand, since Austria has the advantage of very low specific CO₂-emissions, further reductions lead to relatively high costs.

Title: Economic Measures of a Decrease in Carbonic Emissions in Austria

The Austrian Electricity Board has studied in 1992 the economic measures of a decrease in carbonic emissions. The goal of this research was to find out the most efficient strategies to reduce the emissions of CO₂ in the energy field for Austria and in formulation of political recommendations.

The calculation-model for optimisation is linear programming, which portrays the existing energy consumption with his respective technical, economic and for the environmental protection relevant parameters as well as his age-structure. It also takes new technologies into account, that in case of the optimisation for the substitute - and expansion-demand of energy consumption, is selected. Scenarios of the reduction were calculated, which a certain CO₂ - reduction-goal reaches.

After the results of examination climbs in the case, that no political measures are undertaken to the decrease of the greenhouse-gases, the primarily-energy-consumption up to the year 2010 on over 1300 PJ at; this corresponds to an increase of energy consumption of almost 20% opposite the year 1990. The consumption of oil changes, with it the carbonic-consumption not importantly and also only sinks negligibly, during the natural gas-consumption of 219 PJ in 1990 on approximate 350 PJ in the year 2010 ascends.

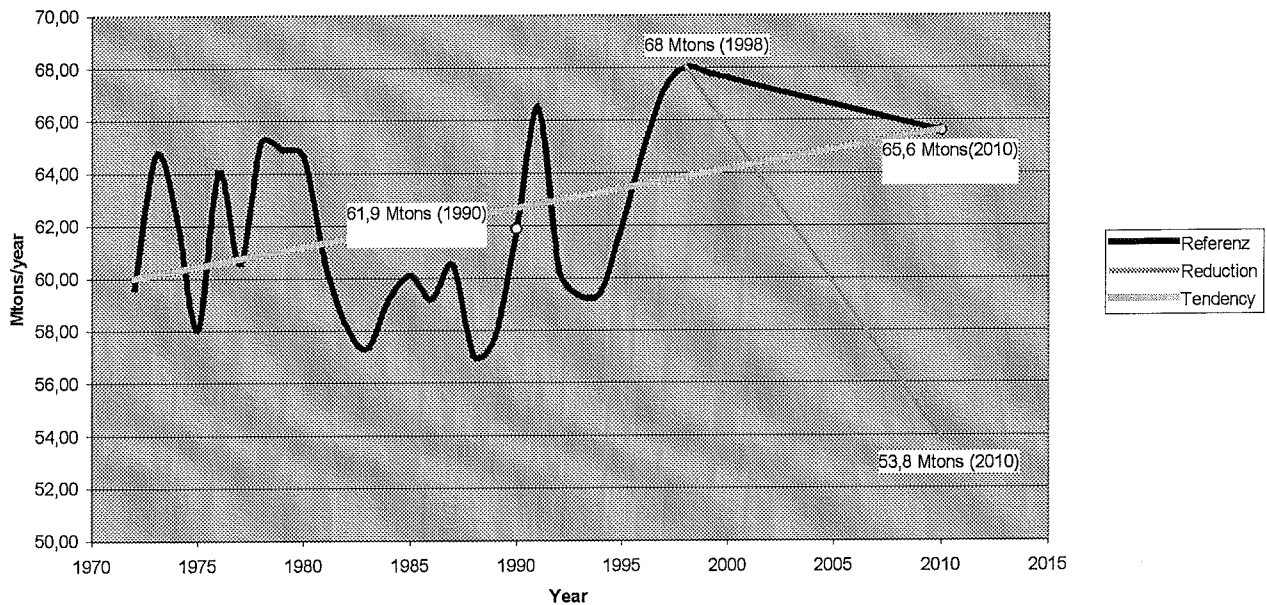
The total- CO₂-emissions climb from 57.8 millions tons on 63 millions tons in the year 2010. In the reduction-case, the emissions are stabilised from the year 2000 on the level of the basis-year 1990 and are reduced until 2005 to 43 millions tons.

A decrease of CO₂ caused through processes of the energy-conversion is connected with 5.6 billions EC. For a 20% reduction in the year 2005, the average expenses lie with approximate 60 ECU/to CO₂ doubles as highly as approximately in Germany. In addition CO₂-reductions are technically feasible further with a considerable increase expenditure. The expenses of that over it outgoing CO₂-reduction amounts 162 ECU for each further ton not emitted.

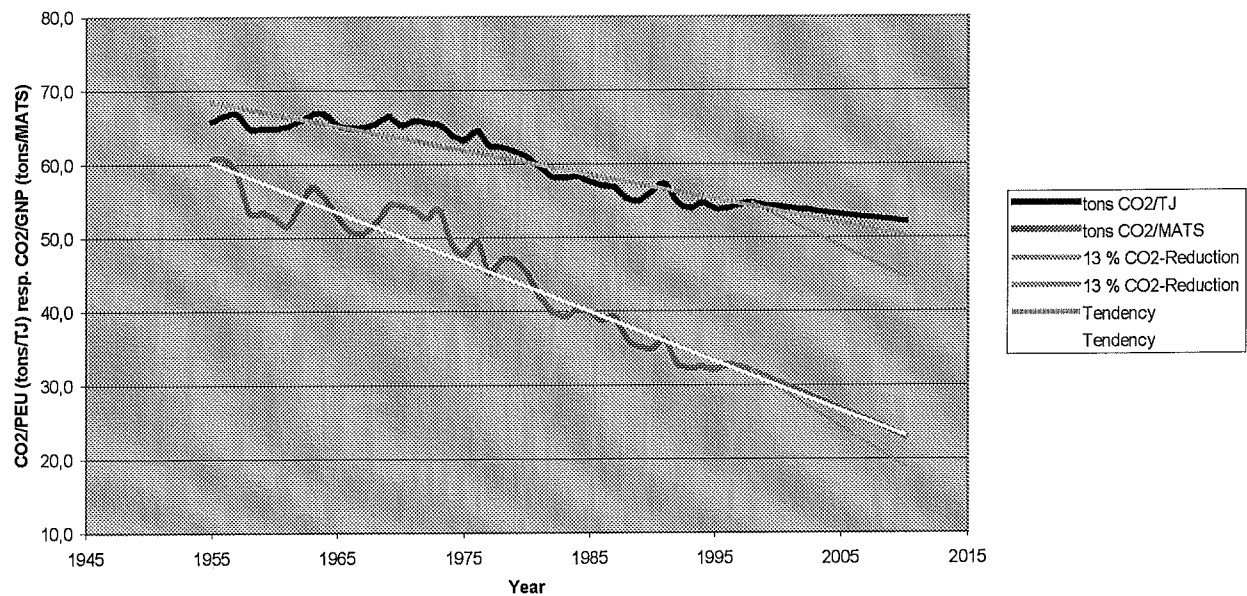
The results of the study from 1992 were compared with the results of similar studies of other EC – States. In addition the results of 1998 are updated for the late goal of the CO₂ - reduction of Austria as member-state of the European Union.

Economic Measures of Decrease in Carbon Dioxide Emissions for Austria Preliminary Sketch

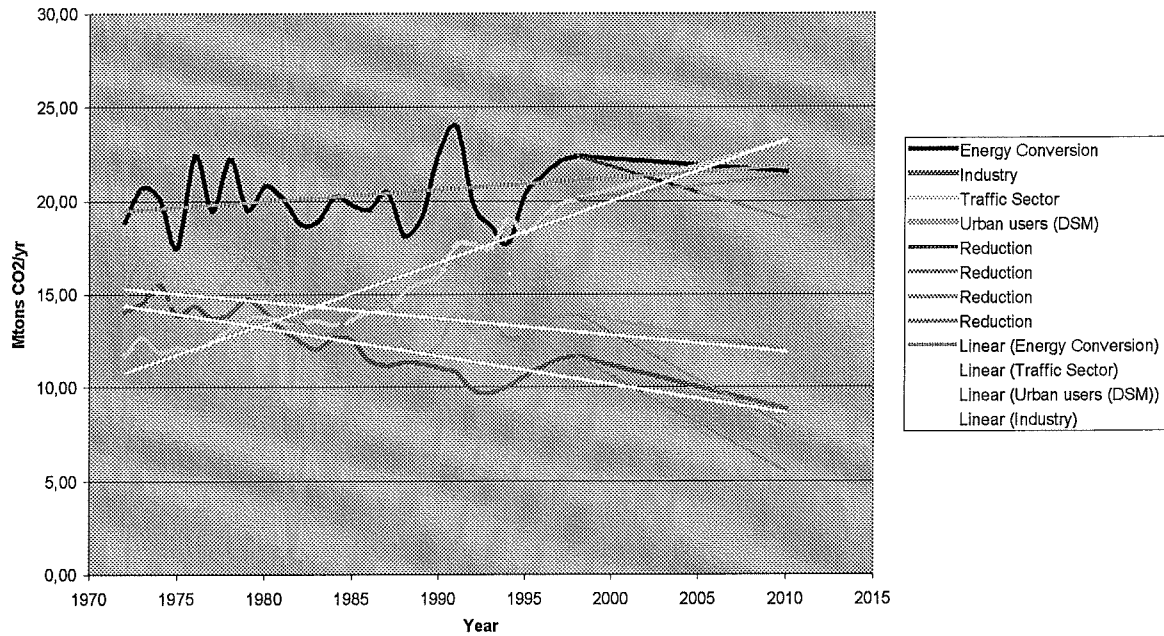
CO₂-Emissions



Specific CO₂-Emissions



CO₂-Emissions of different Sectors



Specific CO₂-Values

