

UNECE Convention on Long-range Transboundary Air Pollution

Comparison of emission scenarios for Italy

Implications for the feasibility of achieving GP targets

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Prologue

This presentation is focused on the comparison analysis of emission scenarios for Italy, developed by the GAINS_Italy Model, taking into account of the effects introduced by the global financial crisis and in the perspective of establishing targets for the revised Gothenburg Protocol.

Two emission scenarios are analysed, with and without the effects of the economic crisis. The energy input is compared with the assumptions (for what is known) in the Primes_2009 scenario.

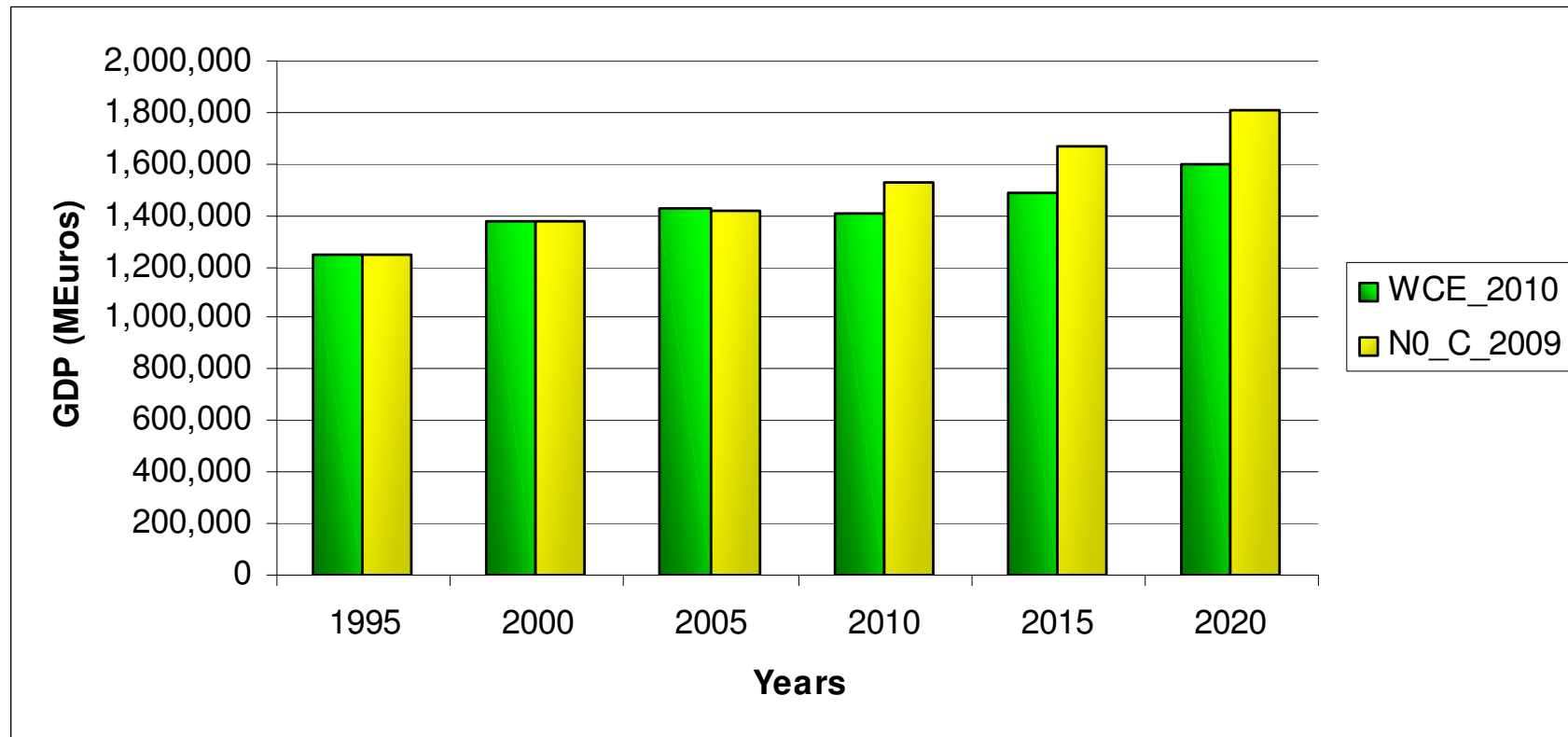
2 Emission Scenarios

Under the revision process of the Gothenburg Protocol, Italy submitted to IIASA, in May 2009, a complete (energy, agriculture, processes etc.) CP scenario, not including the economic crisis effects (**NO_C_2009**).

In December 2009, once the new statistical data on the economic crisis were known, a new energy scenario was developed by the national energy experts, using the Markal Model. In January 2010, a new emission scenario was calculated by Gains_Italy (**WCE_2010**).

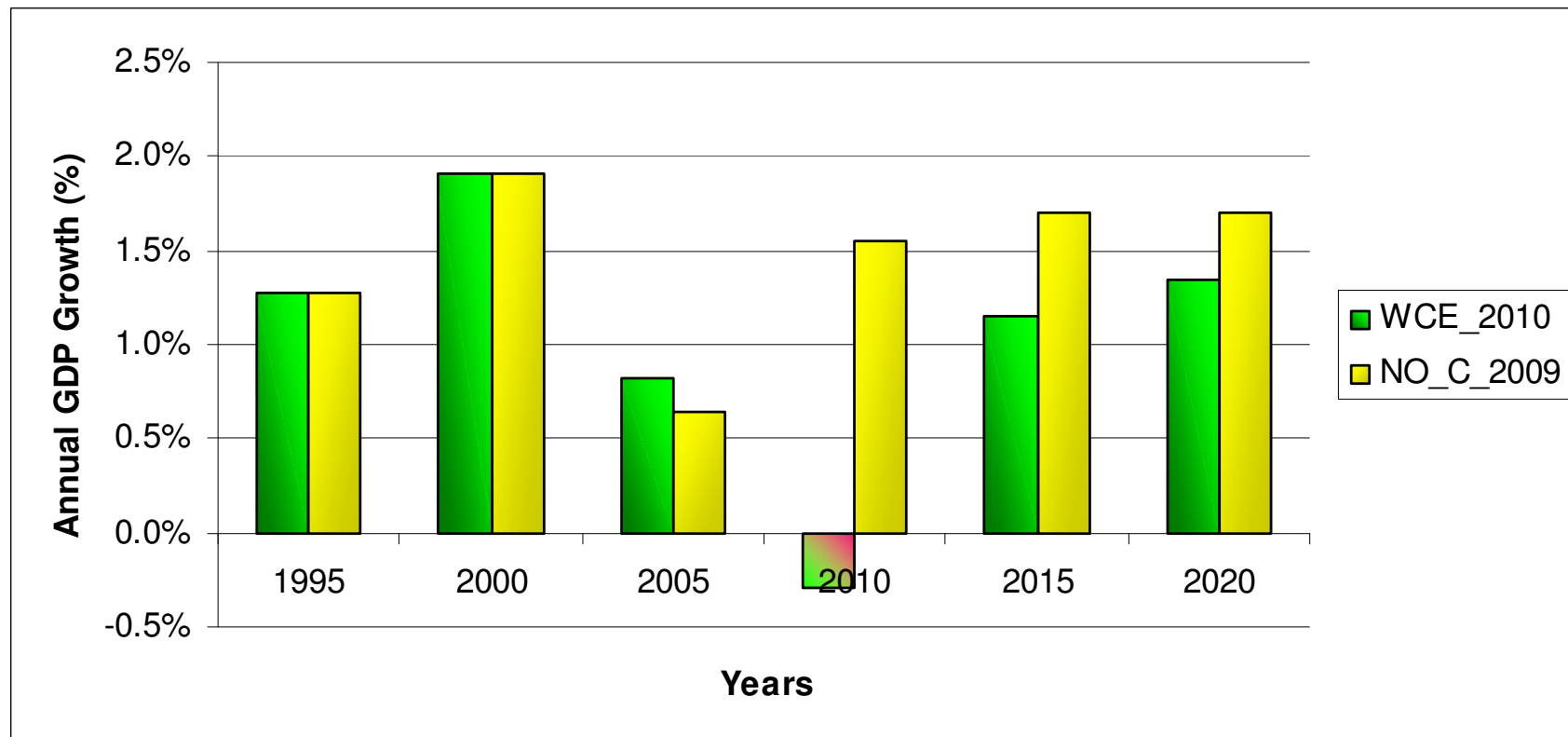
Economic Assumptions

GDP growth (absolute values)

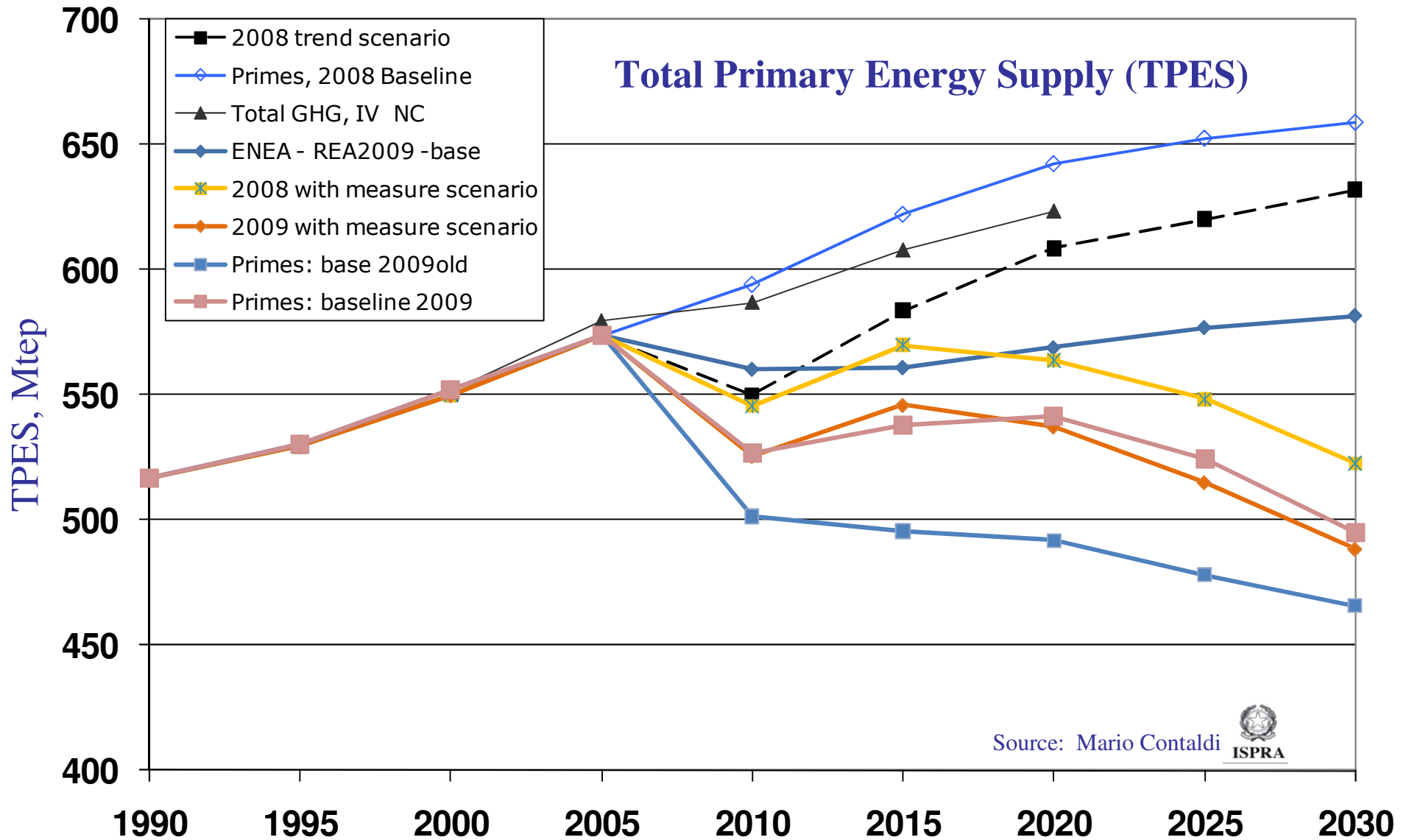


Economic Assumptions

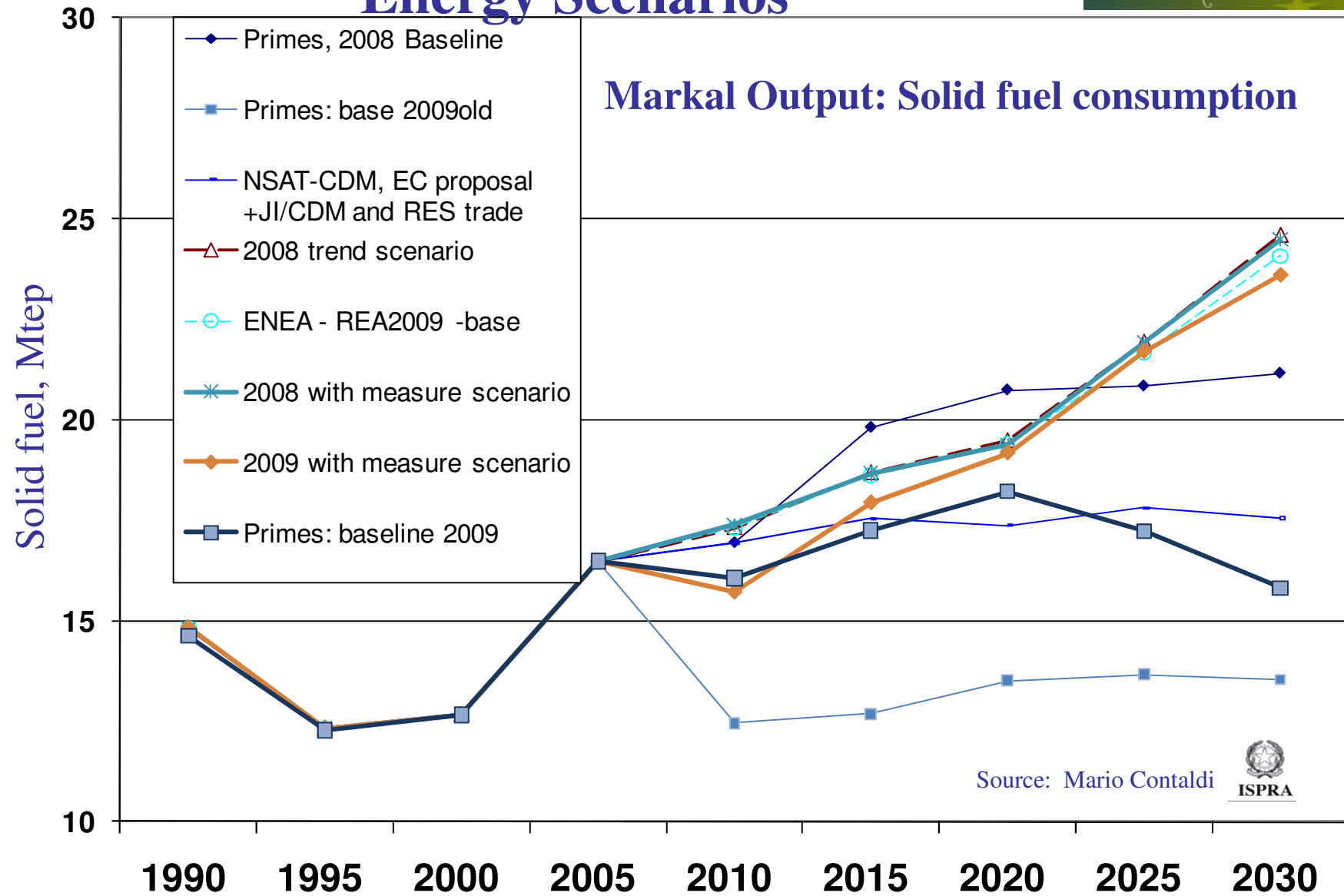
GDP growth (annual growth rate)

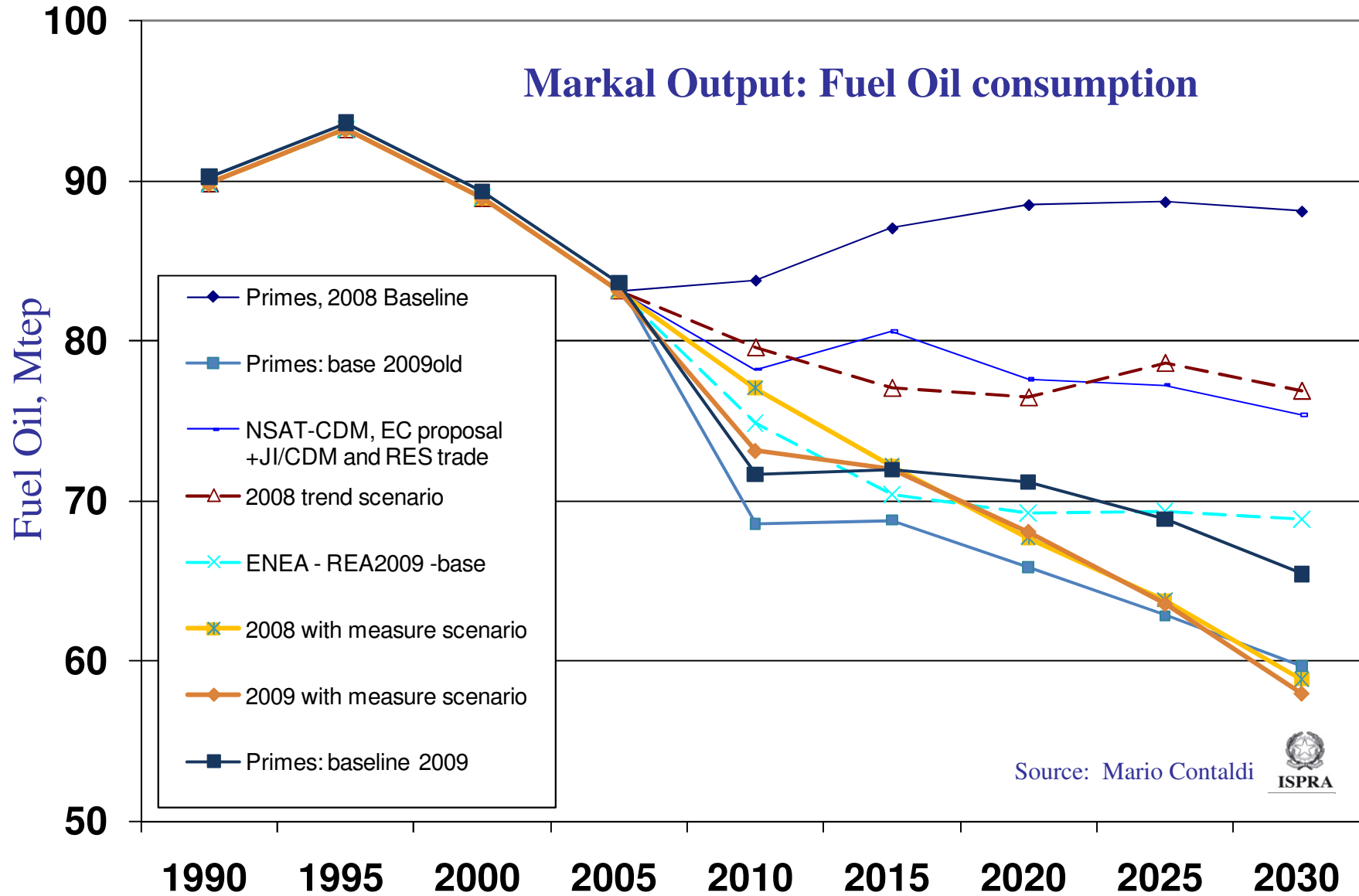


Energy Scenarios

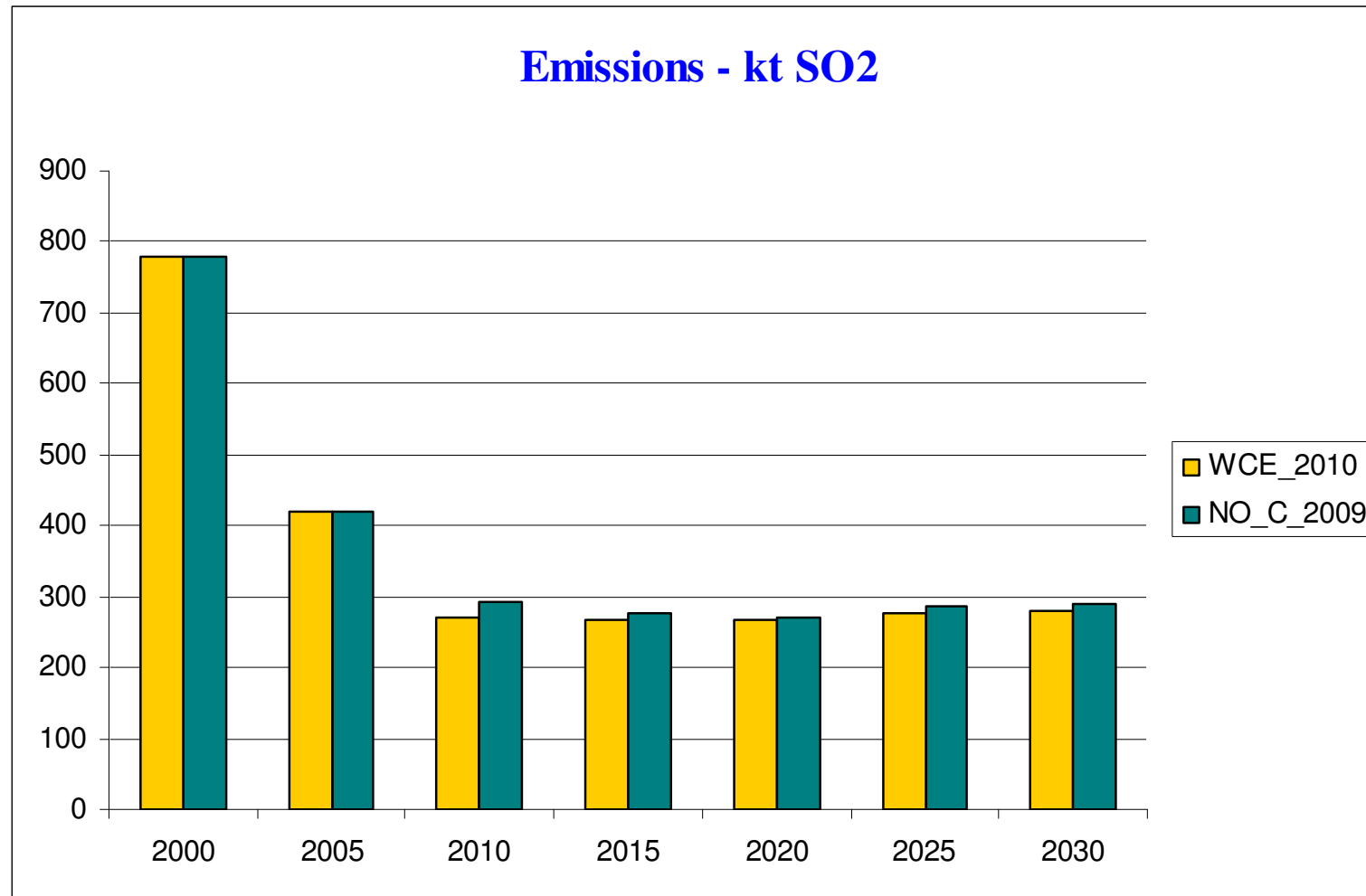


Energy Scenarios

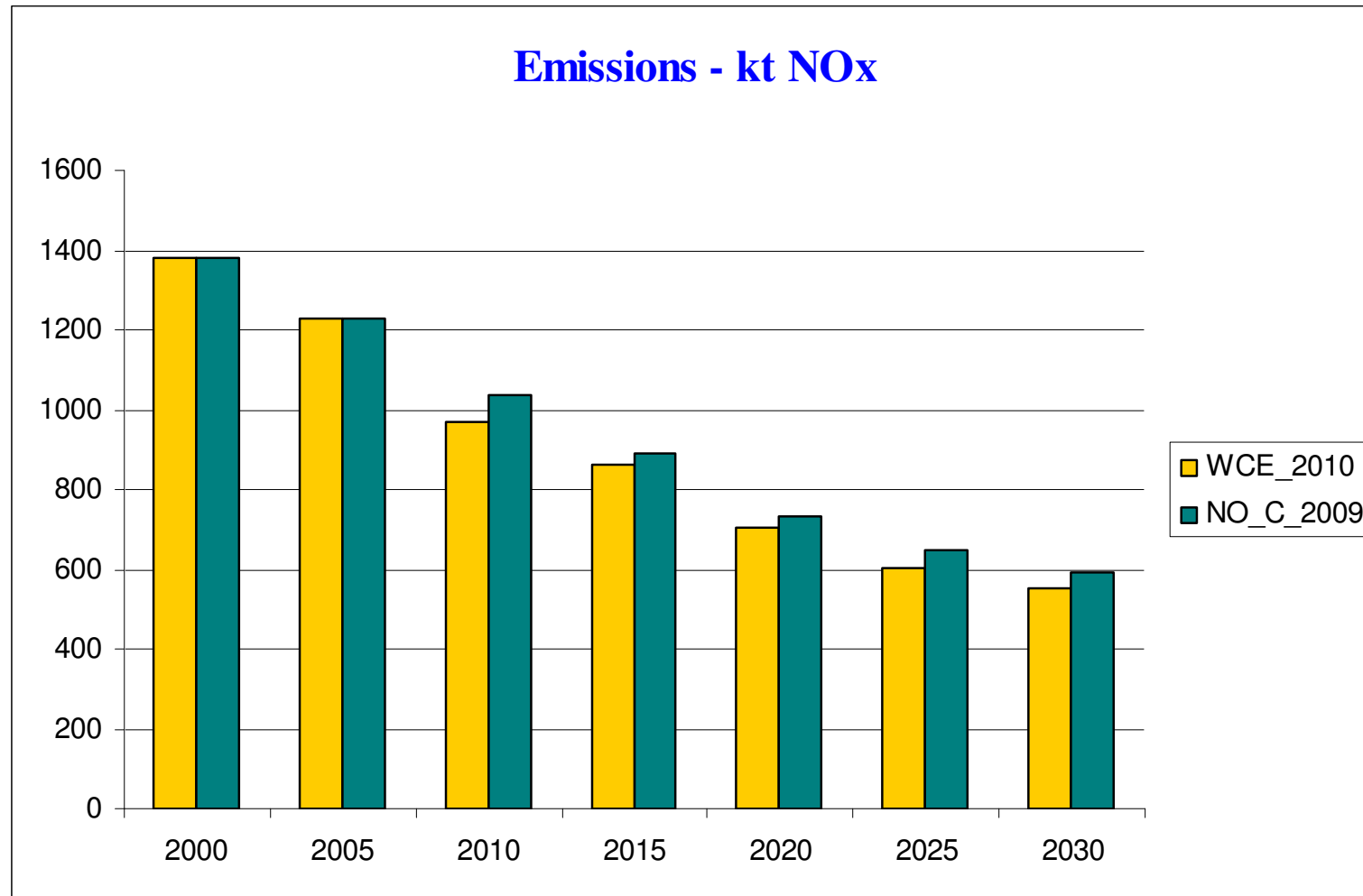




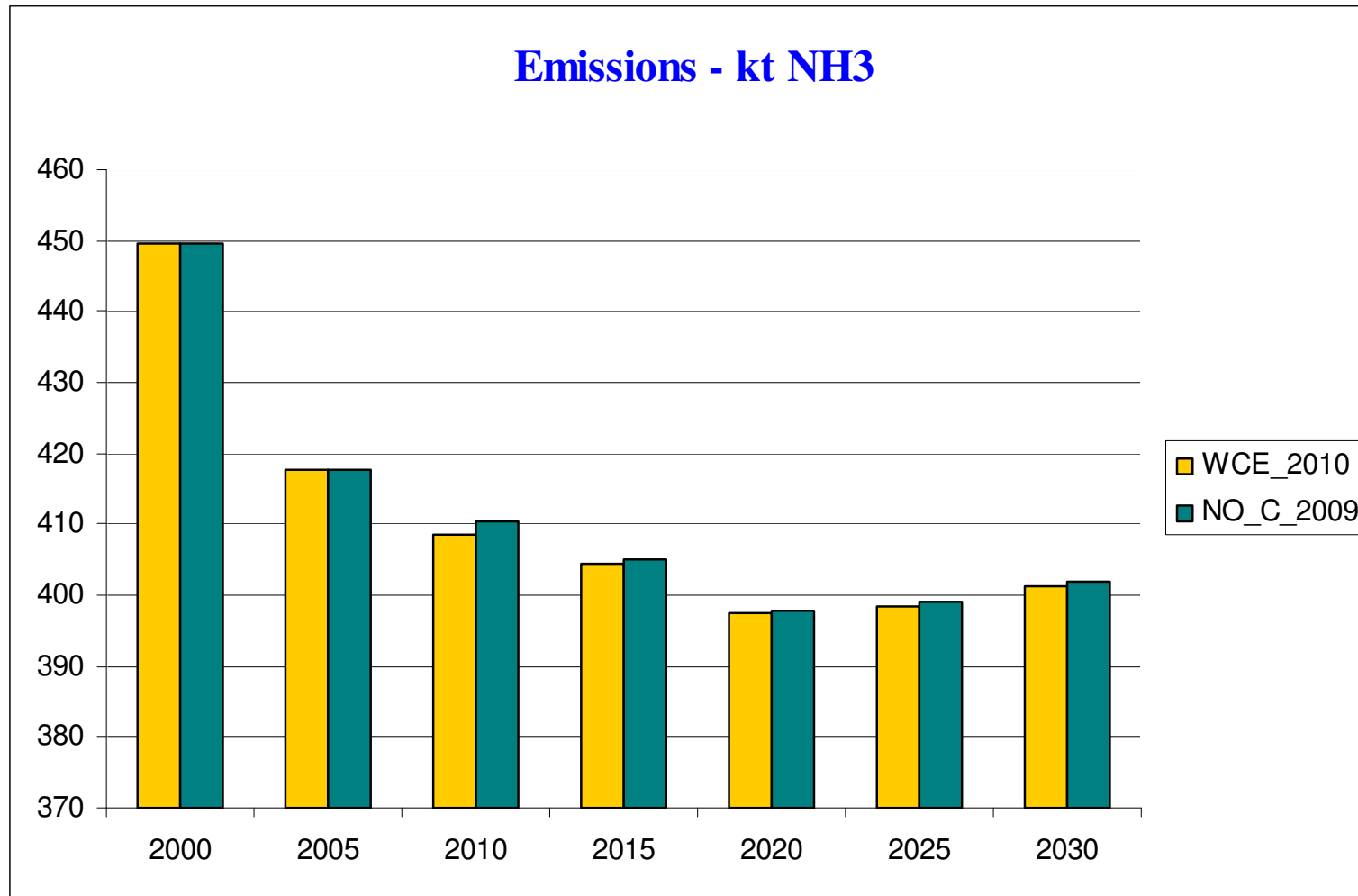
CLE Scenario - Calculated by Gains_Italy



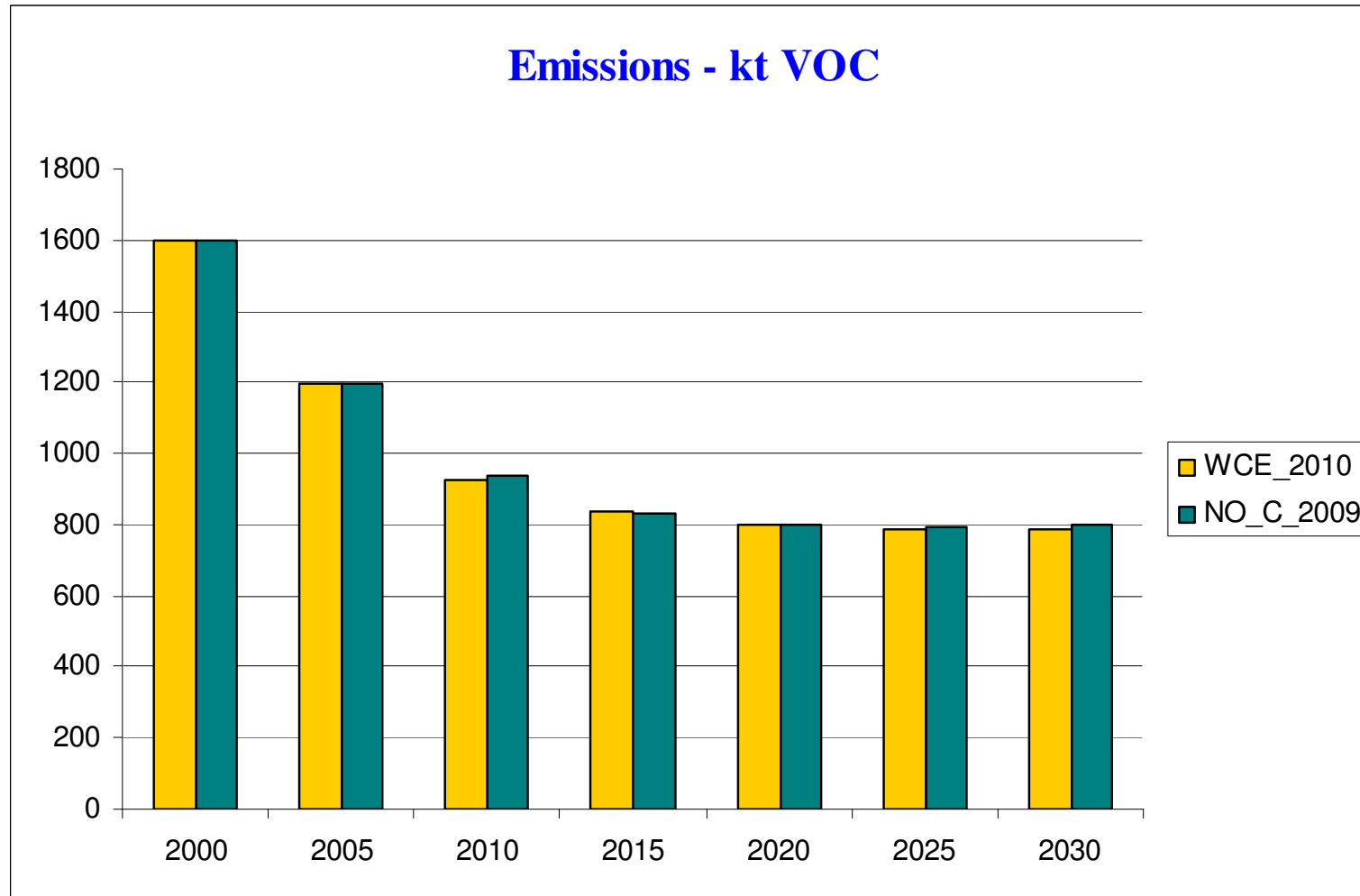
CLE Scenario - Calculated by Gains_Italy



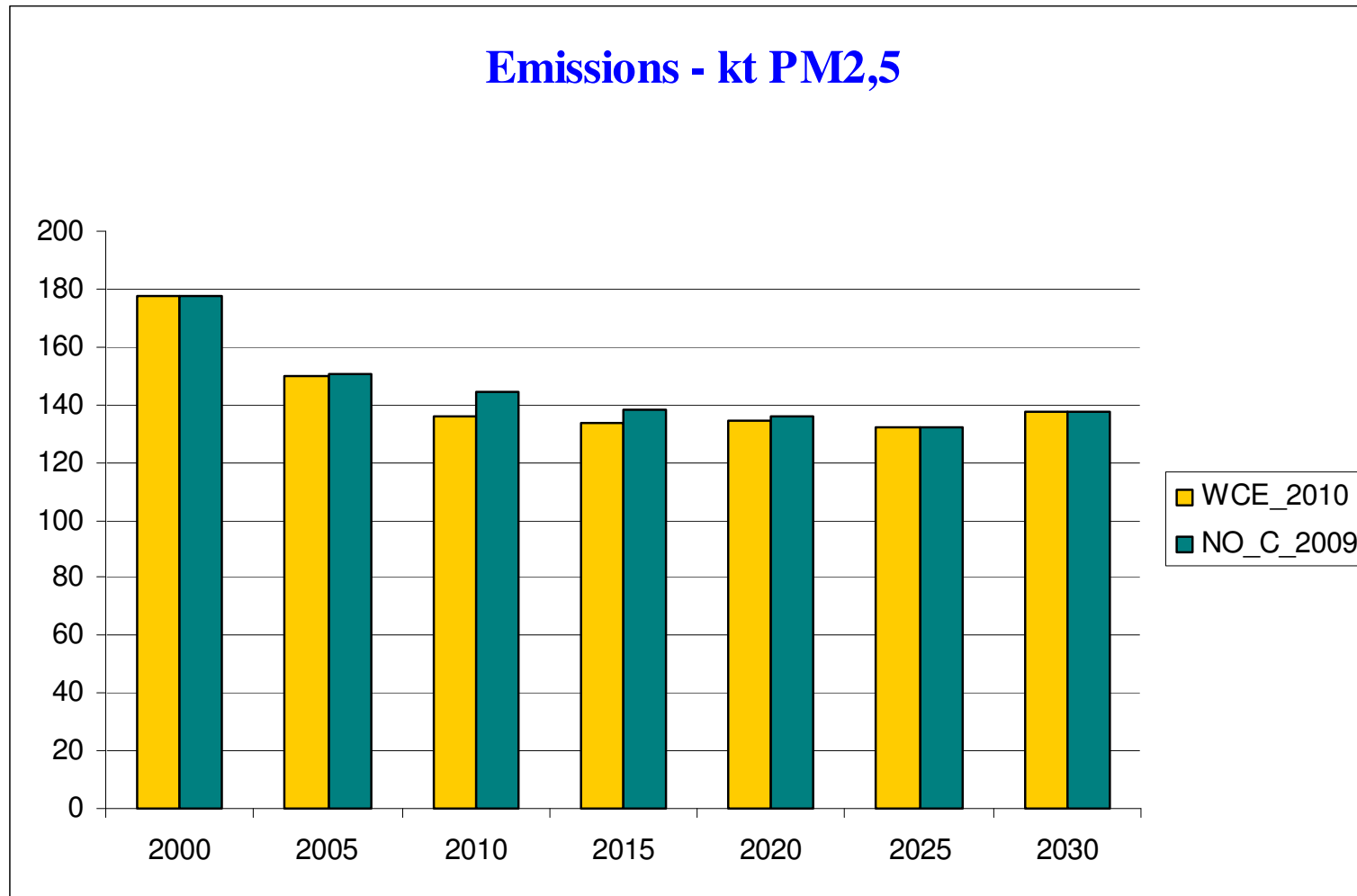
CLE Scenario - Calculated by Gains_Italy



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Implication on GP Targets

The new Primes_2009, revised with comments from national experts, seems significantly “closer” to the latest national energy scenario, which includes the economic crisis effects. Some differences still exist with respect the official submitted scenario.

Importance of reflecting national peculiarities in Primes_2009

The differences between the National and the Primes_based scenario, where still exist, may introduce an initial gap which might influence the achievement of the targets.

In terms of emissions the effects of the economic crisis are clear in the range 2010 and 2015. Beyond 2015, other driving factors intervene (energy efficiency, nuclear energy, CCS etc.)

Conclusions

For the purposes of the negotiation for the Gothenburg Protocol, the use of both national and Primes_based scenarios should be recommended to provide a more comprehensive approach to the managements of the uncertainties and inconsistencies (oil price, carbon cost, GNP growth, “recovery speed”, etc.).

The existing gap between the national and Primes_based scenarios should be taken as quantification of uncertainty and leave the “gap closure” to the negotiation process (being the final targets driven by the desired ambition level).

Uncertainty is mainly in the assessment of the input data to the model, rather than in the model performances.