Voluntary agreements to reduce SO_2 and NO_X emissions of power stations in Flemish region

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Voluntary agreements with electricity production sector in Flemish region

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Introduction

Voluntary agreements (environmental policy agreements) to abate air pollution in the Flemish region exist for:

- electricity sector
- chemical industry
- glass industry

Voluntary agreements have been particularly successful for the electricity sector:

- applied since 1993
- setting global emission reduction commitments for SO_2 and NO_X (abatement of acidification) at sector level

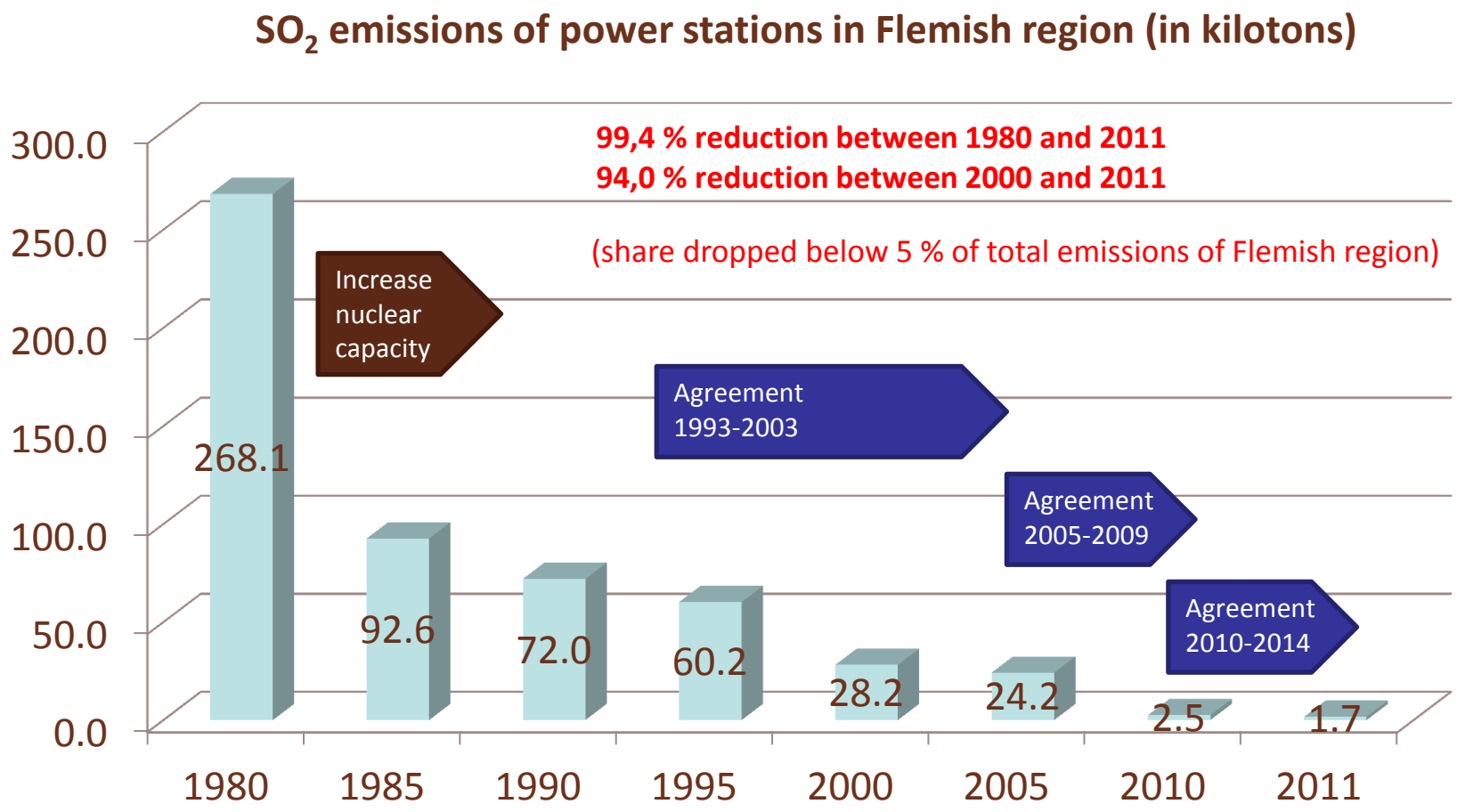
History

Overview of voluntary agreements with electricity production sector

1. National agreement 1993-2003 (adopted in 1991) between federal government, three regions and electricity sector (*environmental policy still national responsibility*)
   Targets Belgium (relative ceilings):
   - SO_2 : 80 % reduction in 2003 from 1980 level
   - NO_X : 40% reduction in 2003 from 1980 level
2. Regional agreement 2005-2009 (adopted in 2004) between Flemish region and electricity sector (*environmental policy became full responsibility of the regions*)
   Targets Flemish region (fixed ceilings):
   - SO_2 : 25 kt by 2005; 7,5 kt by 2009
   - NO_X : 25 kt by 2005; 14 kt by 2009
3. Regional agreement 2010-2014 (adopted in 2010) between Flemish region and electricity sector
   Targets Flemish region (fixed ceiling for SO_2, specific relative target for NO_X):
   - SO_2 = 6 kt by 2009; 2,8 kt by 2014
   - NO_X = 440 g/MWhe by 2010; 325 g/MWhe by 2014

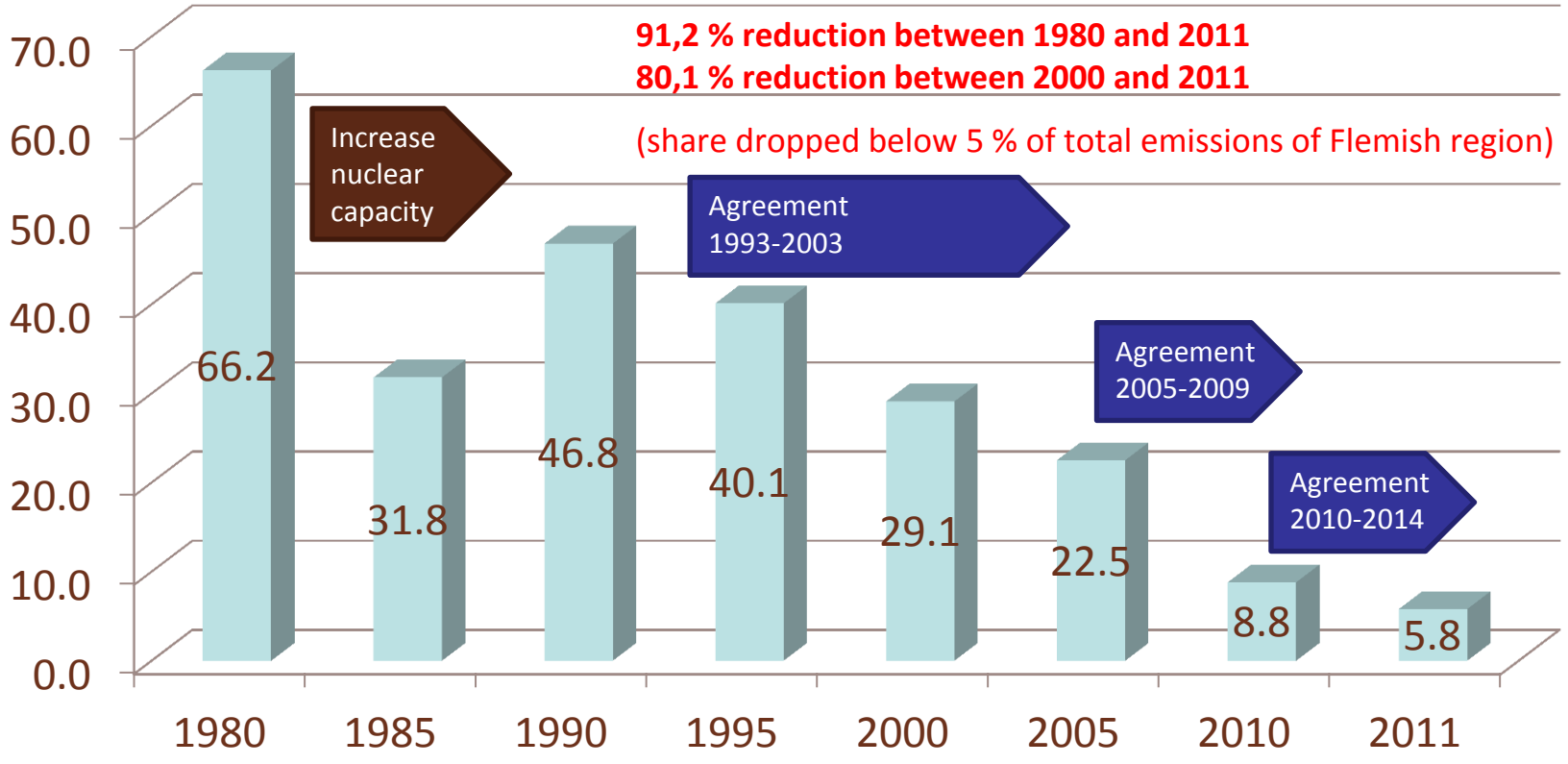
→All targets were achieved, despite increased electricity demand/production

SO_2 emission trend 1980-2011



NO_X emission trend 1980-2011

NO_X emissions of power stations in Flemish region (in kilotons)



Context

Broader context for choosing voluntary agreements to reduce SO_2 and NO_X emissions from power stations

- fits in the overall policy to abate the transboundary air pollution and to address largest sources of SO_2 and NO_X emissions in a cost-effective way
- first national agreement (1993-2003) was specifically designed to contribute to the abatement of acidification
- second and third agreement at Flemish level (2005-2009 / 2010-2014) were designed to contribute to the achievement of the SO_2 and NO_X emission reduction commitments set by the protocol of Gothenburg and the European NEC directive
  - sector targets for electricity sector were defined on the basis of detailed analysis of emission reduction potentials and evolution of electricity demand / production (bottom-up / top-down)
  - Intensive consultation process
  - instrument to reduce emissions further than minimum required by EU legislation for LCP (ELV-BAT)

Content

Content of voluntary agreements with Flemish region

1. Legal framework
   → reference to Flemish legal acts setting the basis for making voluntary agreements
   → contract between two Parties (Flemish government and association representing electricity producers)
2. Scope
   → installations covered by agreement
   → limited to existing plants since 2004 (not obvious to force newcomers to enter an agreed contract in the privatised electricity market; best approach for new plants = strict ELVs)
3. Objectives
   → sector emission reduction commitments in light of NEC/GP objectives
4. Commitments of electricity sector
   → achievement of sector emission reduction commitments
   → development of plan with indicative measures showing how reduction commitments can be achieved (measures include switch to cleaner fuels and production, restricted use of certain plants - phase out of coal, primary and secondary abatement measures, …)
   → exchanging necessary information for evaluating progress in reaching commitments

Content

5. Commitments of Flemish government
   → not issuing stricter emission requirements or measures than imposed by agreement, unless required by international regulations (EU)
6. Monitoring Committee
   → responsible to monitor application of agreement (follow-up and assessment)
   → exchanging necessary information with electricity sector for implementation of agreement
7. Reporting and evaluation
   → annual reporting (for each installation) of emissions, fuel consumptions, electricity production, implemented and planned measures, possible obstacles → importance of transparency
8. Length of agreement
   → 5 years, with possibility to prolong
   → contract can be terminated at any time, with notice period of 6 months

Scope and approaches

Scope and approaches applied in voluntary agreements since 1993

1. National agreement 1993-2003
   - approach: relative ceilings with 1980 as reference year and with correction options for fluctuations in production of nuclear plants and emissions of new CHP plants (subtracting emissions of heat part)
   - scope: existing and new plants burning fossil fuels or biomass (excluding auto production and autonomous production)
2. Flemish agreement 2005-2009
   - approach: fixed ceilings
   - scope: existing plants burning fossil fuels or biomass (excluding new plants, auto production and autonomous production); emissions of (i) new plants and (ii) existing plants transferred to electricity producers not acceded to the agreement, are subtracted from agreed fixed sector ceilings
3. Flemish agreement 2010-2014
   - approach: fixed ceiling for SO_2 and relative ceiling for NO_X (expressed as g NO_X/MWhe produced)
   - scope: existing plants burning fossil fuels or biomass (excluding new plants, auto production, autonomous production and small scale production by stationary engines): ceilings for existing plants are set with sufficient margin for emissions not covered by this agreement; emissions of transferred plants are subtracted

Considerations

Considerations (reasons) for choosing voluntary action

A long history of positive experience with the voluntary agreement
(for both sides: electricity production sector and Flemish administration)

The voluntary agreement

- is a flexible and cost-effective instrument to reduce the emissions of the sector to a desired level, while at the same time respecting the existing mandatory emission regulations with respect to ELV and BAT (Flemish - European level)
  - less burden/costs for administration (implementation and enforcement) compared to e.g. economic instruments like emission trading schemes
  - offers operators the chance to choose most cost-effective measures (choice of technology, location, …) within boundaries of other existing regulation and in synergy with other policies (energy, climate)
  - offers added value compared to stricter individual emission regulation or economic instruments
- encourages exchange of information between sector and government
- encourages cooperation between sector and government
- receives strong support from the sector
- offers a stable regulation framework for longer periods of time

Conclusions

The combined (2-track) approach of strict ELVs for new installations and voluntary action for existing installations has led to significant SO_2 and NO_X reductions in the electricity production sector in the Flemish region

- for existing installations the use of a voluntary agreement is a very cost-effective instrument to reduce emissions to a desired level
- for new installations continuous strengthening of mandatory ELV (on the basis of evolution in BAT) is the most appropriate approach to keep extra emissions as low as possible
- profits from synergies with other policies (e.g. climate policy → incentives for cleaner production)

With respect to the Gothenburg protocol obligations, voluntary action (agreement) is a tool that could be used :

- to help reaching the emission reduction commitments of annex II; and/or
- as an alternative approach to applying ELVs at installation level (annexes IV, V and X), in line with flexibility options of article 3.2/3.3 (alternative reduction strategy achieving equivalent overall emission levels)