"Capacity Building and Strengthening Institutional Arrangement"

Analysis and sampling of air and air pollution

Air Pollution and Environmental Impacts From Hydrocarbons (Oil and Gas)

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Air pollution and environmental impacts

Main Italian legislation on air quality

D.Lgs. (Legislative Decrete) n° 351, August 4th 1999

Implementation of Directive 1996/62/CE on Air Quality evaluation and management (general principles)

Decrete of Environment Ministry n° 60, April 2nd 2002

Implementation of Directive 1999/30/CE (air concentration limits for SO_2, NO_2, NO_x, PM_{10} and Pb) and Directive 2000/69/CE (air concentration limits for C_6H_6 and CO)

Decrete of Environment Ministry n° 261, October 1st 2002

Definition of technical criteria for air quality evaluation and action plan elaboration

Air pollution and environmental impacts

Anthropogenics activities considered in italy as main air pollution sources

- ✓ energy production (electric power stations)
- ✓ industry (oil & gas extration, oil refinery, gas treatment, chemical and petrolchemical plants, etc.)
- ✓ transports (road, maritime, aircraft)
- ✓ agricolture and forests (mainly co_2 and nh_3)
- ✓ residential and tertiary

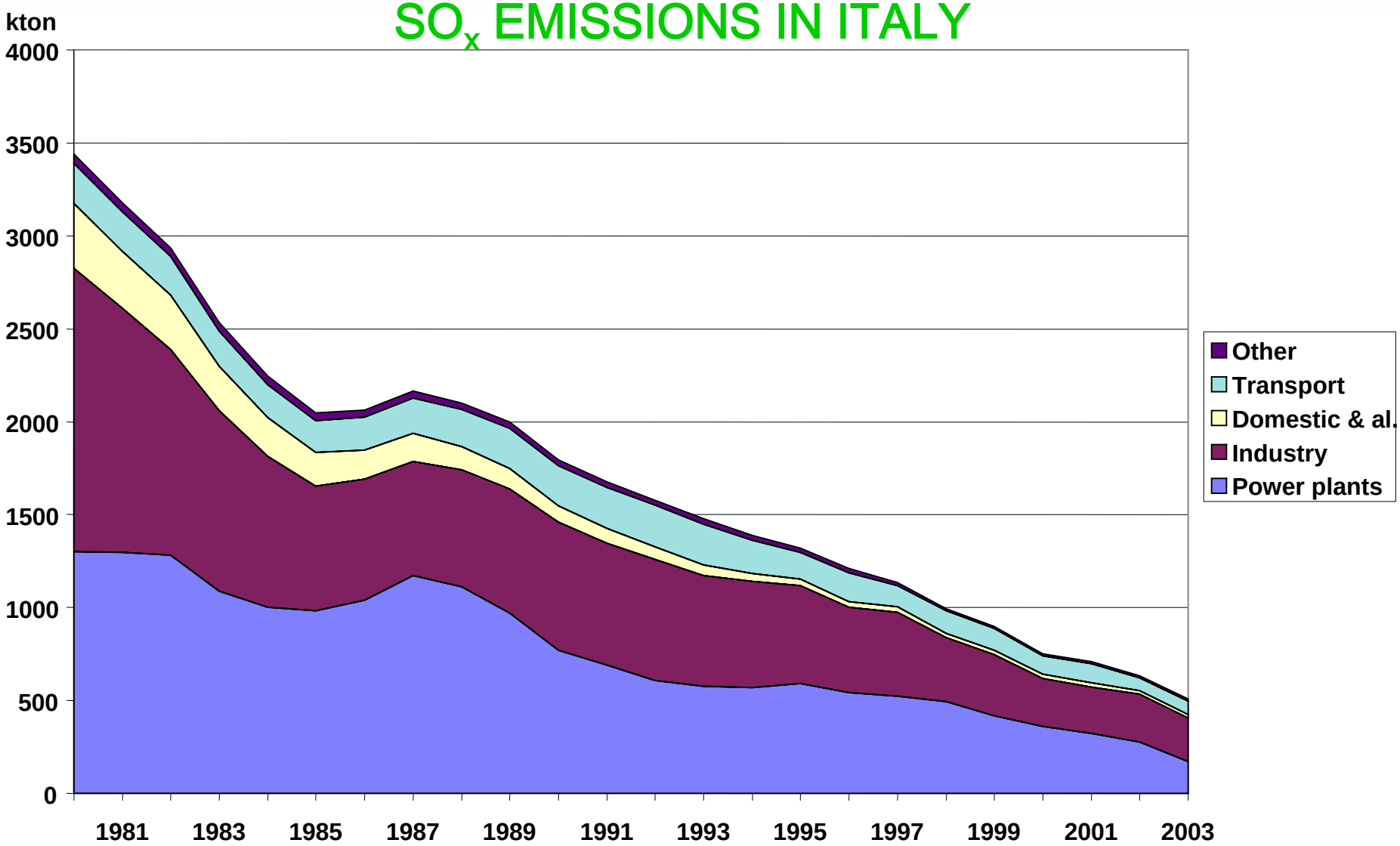
hydrocarbons (oil and gas) are primary energy sources for above mentioned activities

Air pollution and environmental impacts

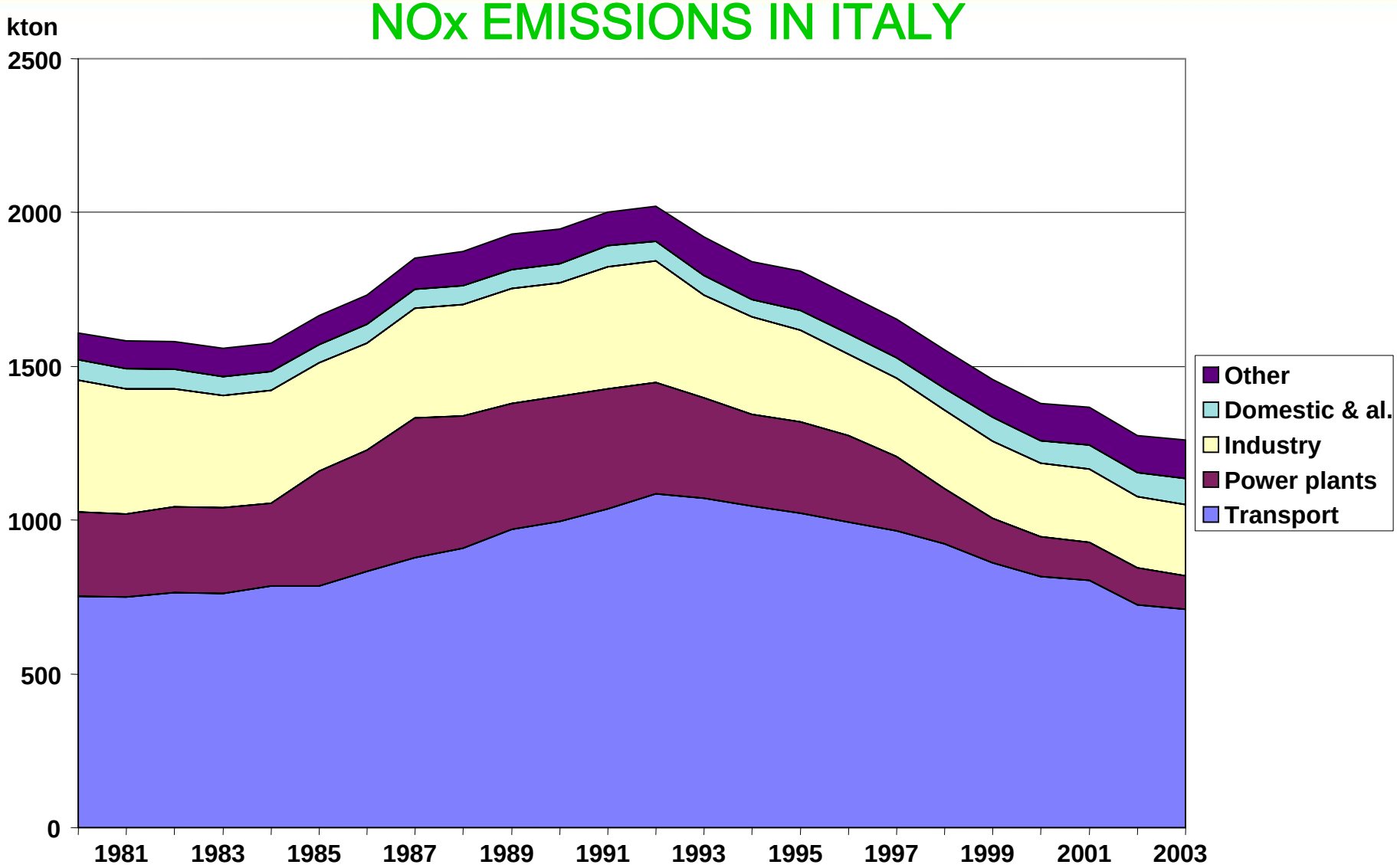
Main pollulants monitored in italy

- SO_x (mainly SO_2)
- NO_x (NO and NO_2)
- NMVOC (No Methanic Volatile Organic Compounds)
- PM_{10}
- C_6H_6
- Pb
- NH_3
- CO_2 (calculated for Greenhouse effect - Kyoto Protocol,etc.)

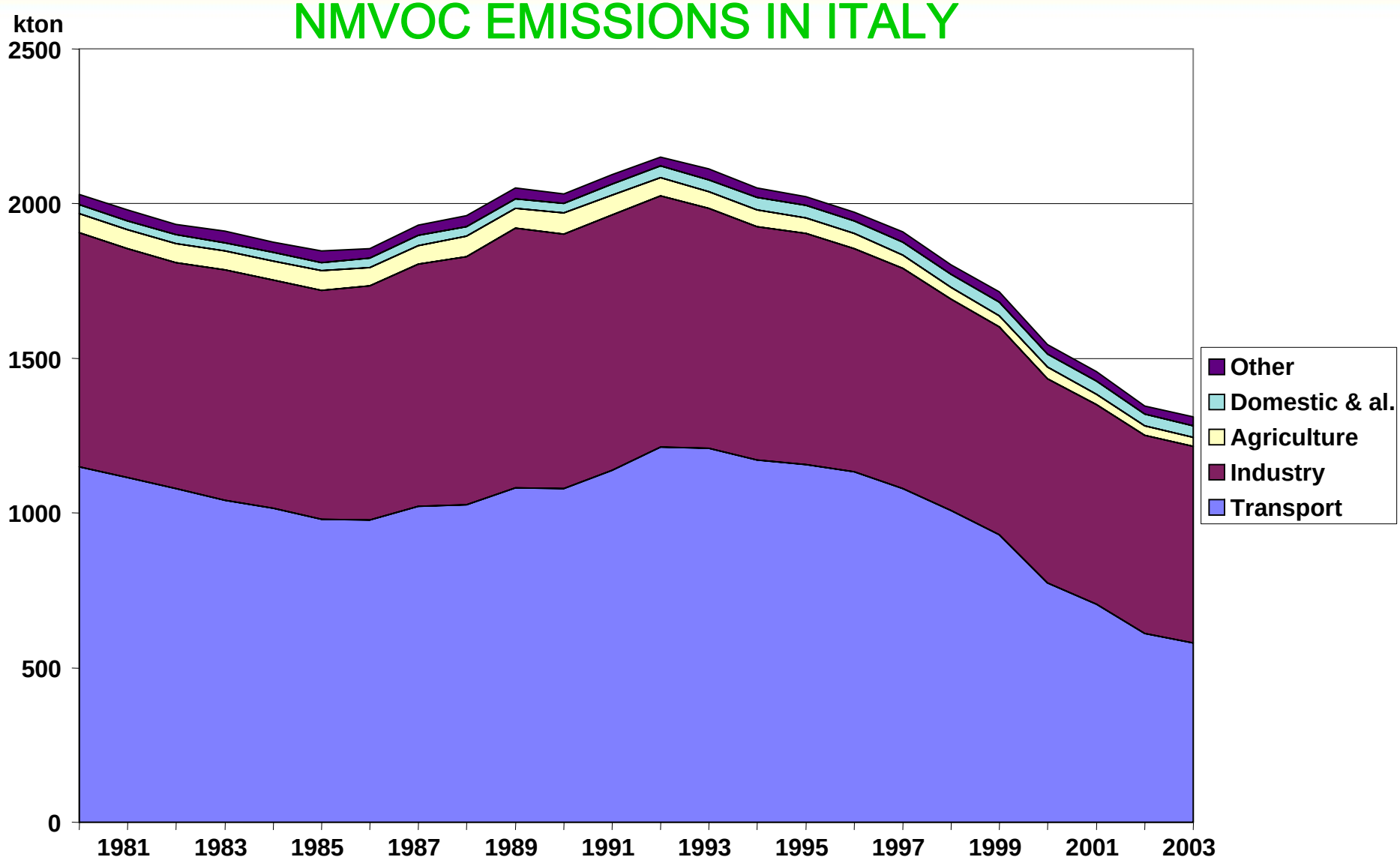
SO_x EMISSIONS IN ITALY



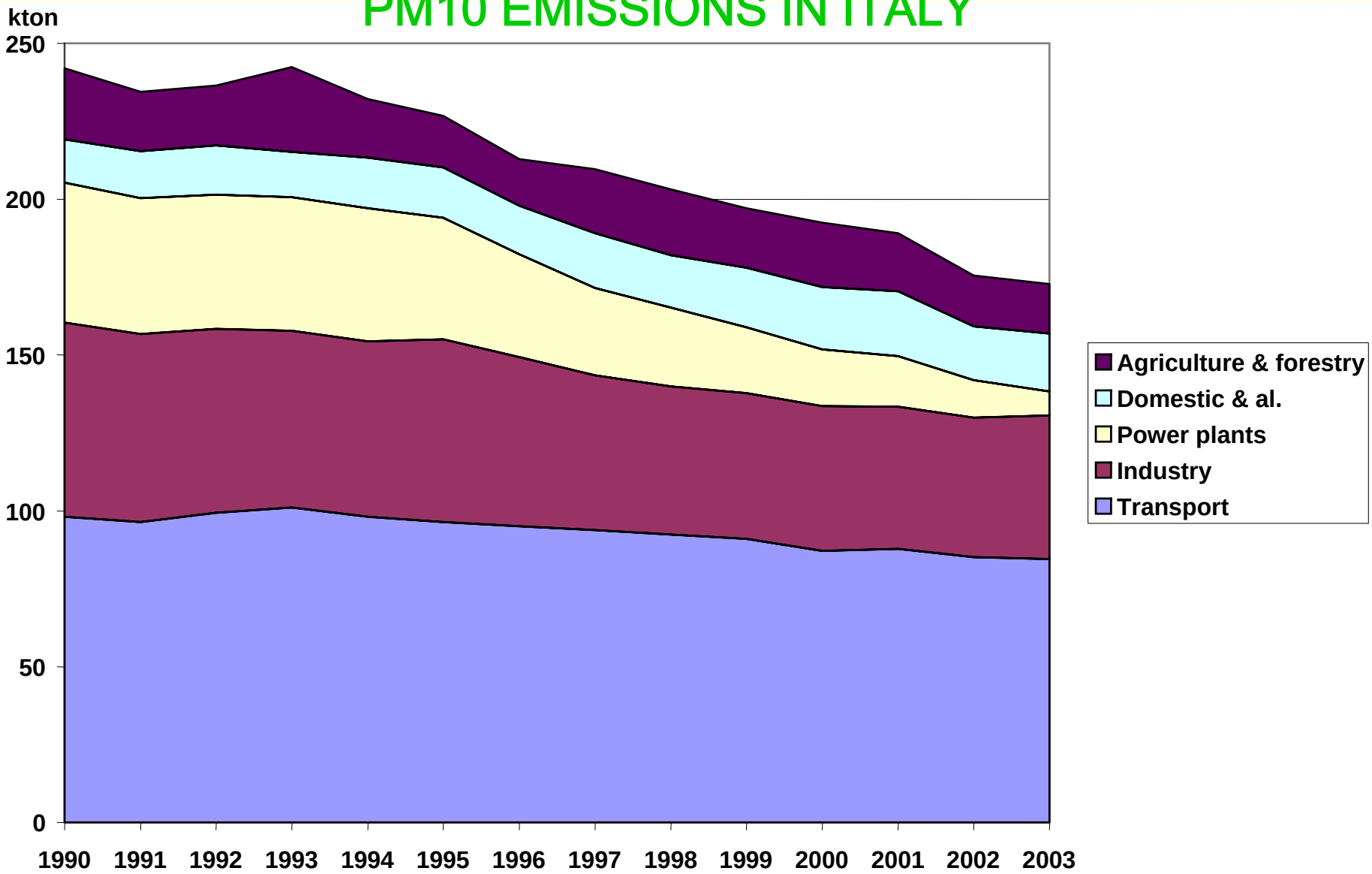
NOx EMISSIONS IN ITALY



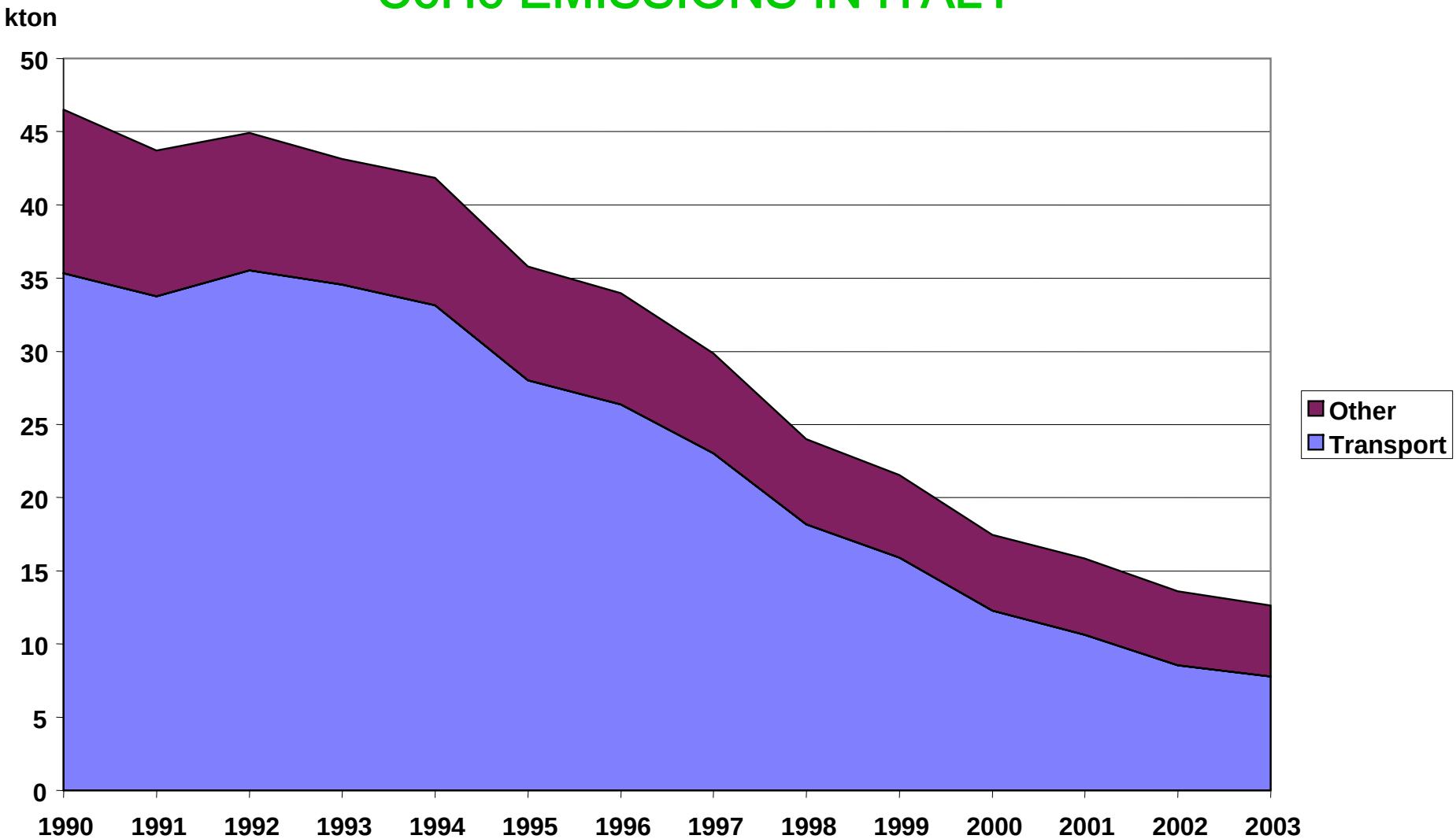
NMVOC EMISSIONS IN ITALY



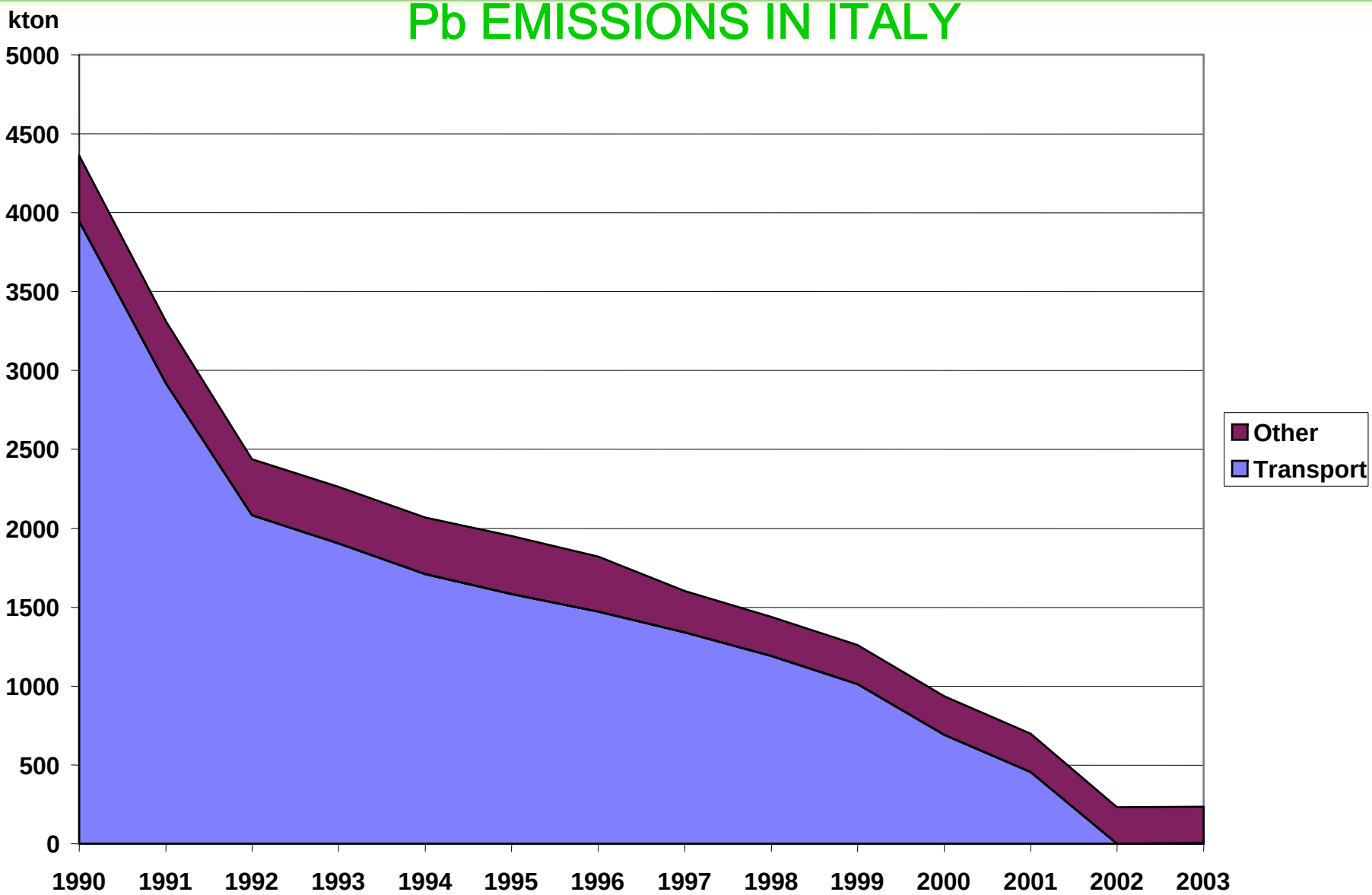
PM10 EMISSIONS IN ITALY



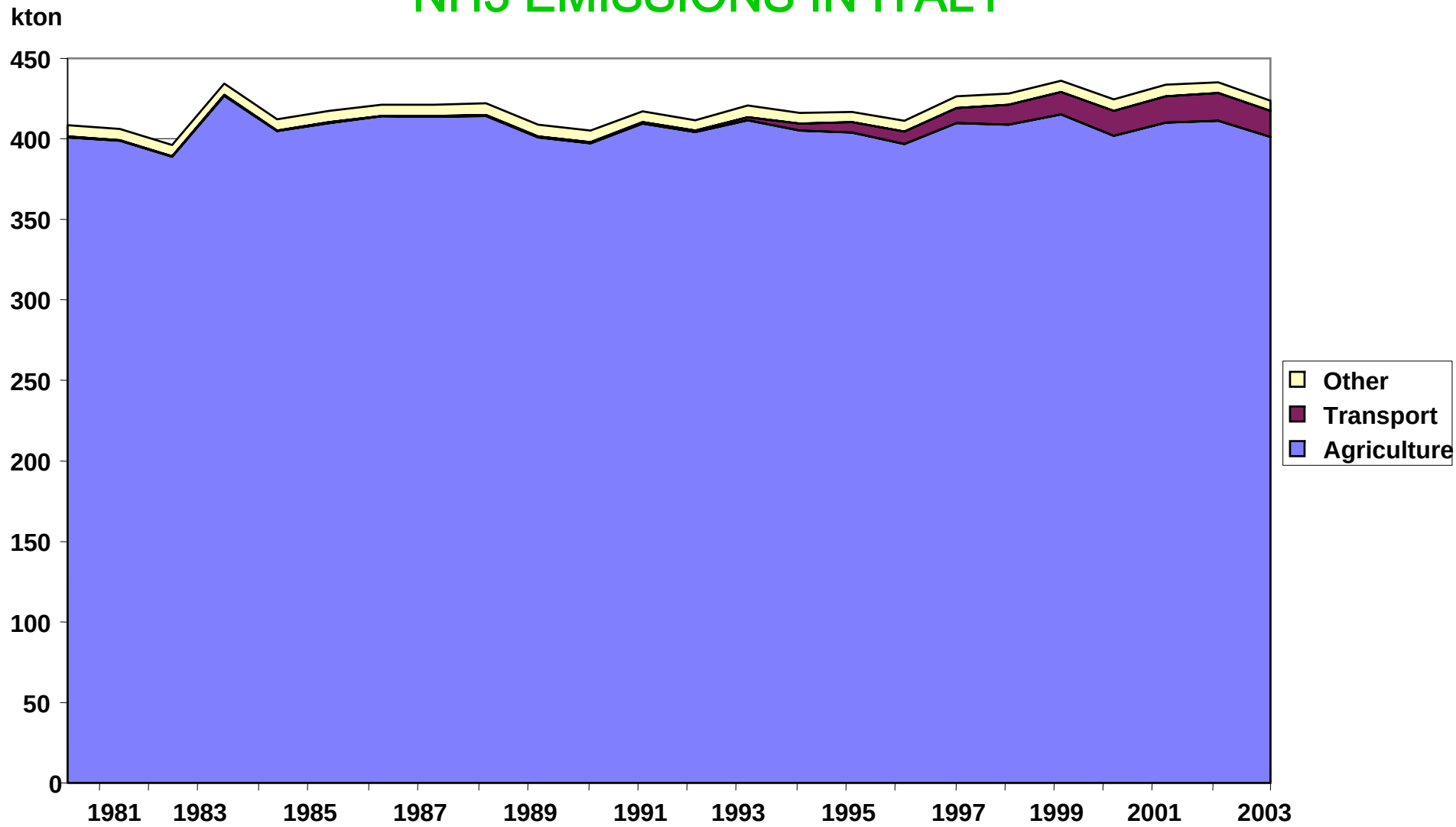
C6H6 EMISSIONS IN ITALY



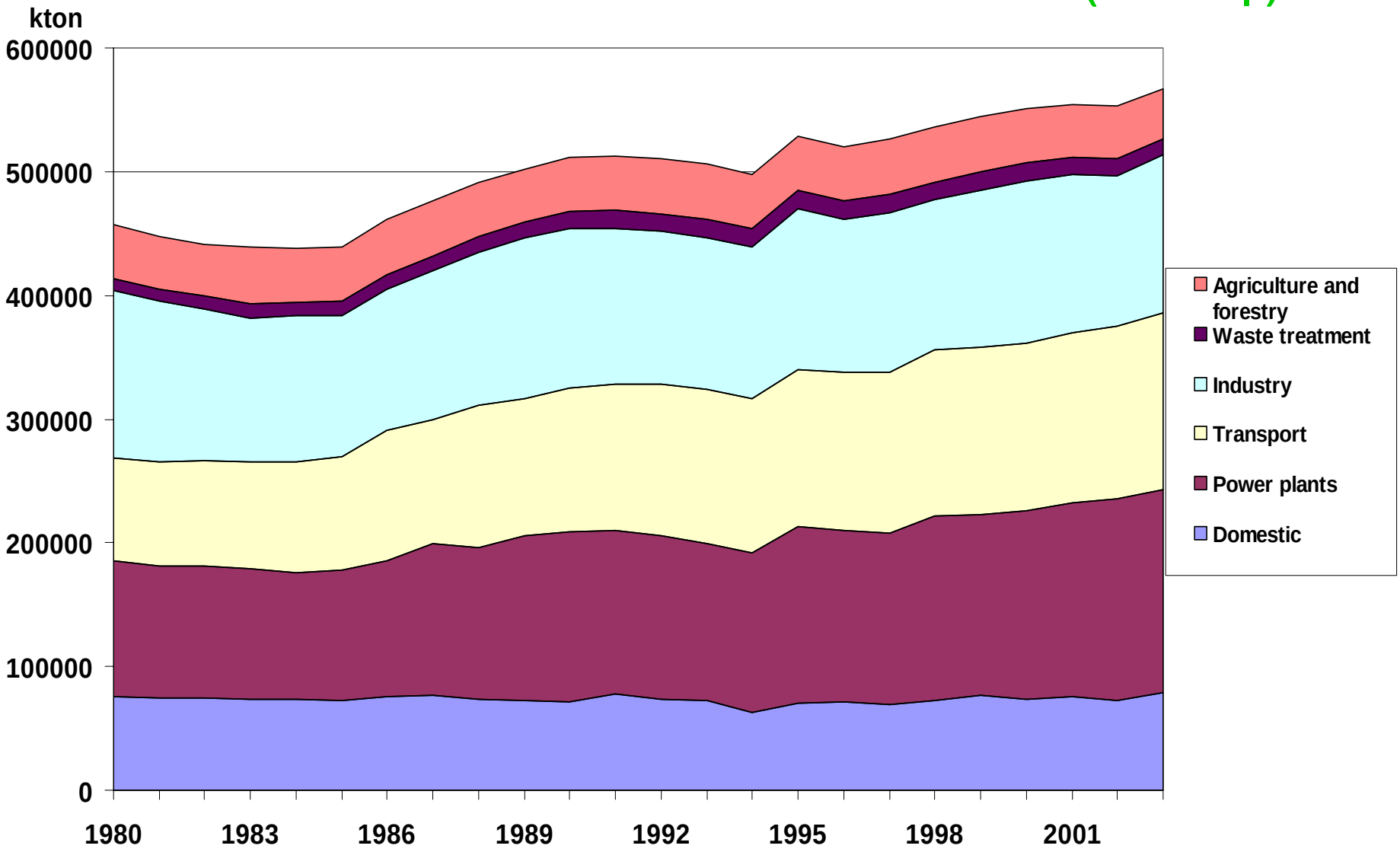
Pb EMISSIONS IN ITALY



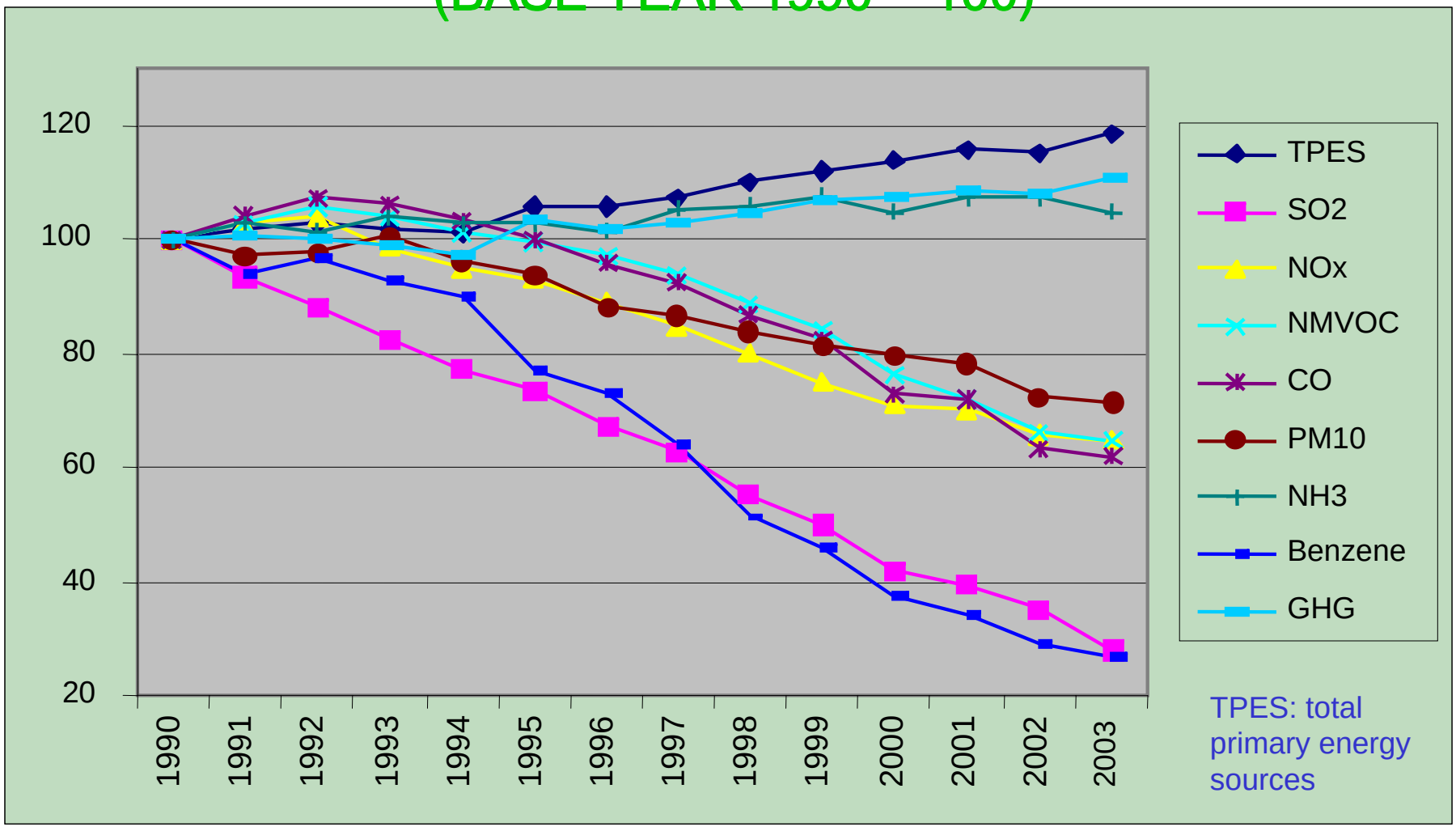
NH3 EMISSIONS IN ITALY



GREENHOSE GASES EMISSIONS IN ITALY (CO2eq.)



OVERALL EMISSION TRENDS IN ITALY, 1990-2003 (BASE YEAR 1990 = 100)



AIR POLLUTION AND ENVIRONMENTAL IMPACTS

PRIORITY SECTORS OF INTERVATION

Based on the analysis of emission trend, the following priority sectors of intervention have been identified:

- transports

- industry

- residential and tertiary

AIR POLLUTION AND ENVIRONMENTAL IMPACTS

MAIN ACTIONS ON TRANSPORT SECTOR

Examination of this aspect will be part of next presentation

AIR POLLUTION AND ENVIRONMENTAL IMPACTS

MAIN ACTIONS ON INDUSTRY SECTOR

- Implementation of best available techniques (b.a.t.) on authorization iter of new plants

- Rationalization of new plants site location, taking into account obligations derived from local action plans for air quality management and reclamation

- Fiscal incentives for gradual b.a.t. implementation on existing plants

AIR POLLUTION AND ENVIRONMENTAL IMPACTS

MAIN ACTIONS ON RESIDENTIAL AND TERTIARY SECTOR

- Efficency optimization of existing air heating & conditioning systems

- Efficency optimization of thermal insulating systems

- Implementation of energy saving legislation during the authorization iter of new buildings design

- Implementation of district heating systems on new residential areas

- Implementation of cogeneration heating systems

- Implementation of renewable energy sources (solar, photovoltaic, etc.)

AIR POLLUTION AND ENVIRONMENTAL IMPACTS

NEED OF KNOWLEDGE TOOLS

- Improvement of regional networks for air quality monitoring

- Development and continuous updating of local air emission inventories, as necessary tools for action plans design on air quality management

- Improvement monitoring networks of metheorological parameters

- Development of mathematical models for costs/benefits estimation of proposed action plans on air quality management

Development of long-term epidemiological studies on human health effects of implemented action plans