

***CAPACITY BUILDING
AND
TRANSFER TECHNOLOGY***

-

***EXPERIENCE OF
UZBEKISTAN***



INTRODUCTION



Area - 447.400
km²

Population -
24,4 mln. people

Climate - sharply
continental, arid
environment

National circumstances of Uzbekistan

- **Uzbekistan** - agricultural and industrial country with transition economic
- Situated in arid zone of Asia, 70% of all territories occupied desert and semi-desert, base of agriculture is irrigated lands.
- Since 1990 through 2000 the population grew by **21,6%** - 0,4 mln./per year
- Urban population reduced from 40,8% at 1990 to 37,6 % at 2000
- Country has water deficit for irrigated agriculture
- Continuing multi-year drought in the region since 1999

National circumstances of Uzbekistan

- Aral Crisis affects on 19,2% of Central Asia territory or 52% of Aral Sea region : Karakalpkstan, Horezm province of Uzbekistan and Tashauz province of Turkmenistan
- The Karakalpakstan is one of region of Uzbekistan and most vulnerable area to climate change
- The Karakalpakstan's population is estimated at about 1.5 million
- In the past 12 years about 273,000 people or 20% of the population had to leave Karakalpakstan

Aral crisis area

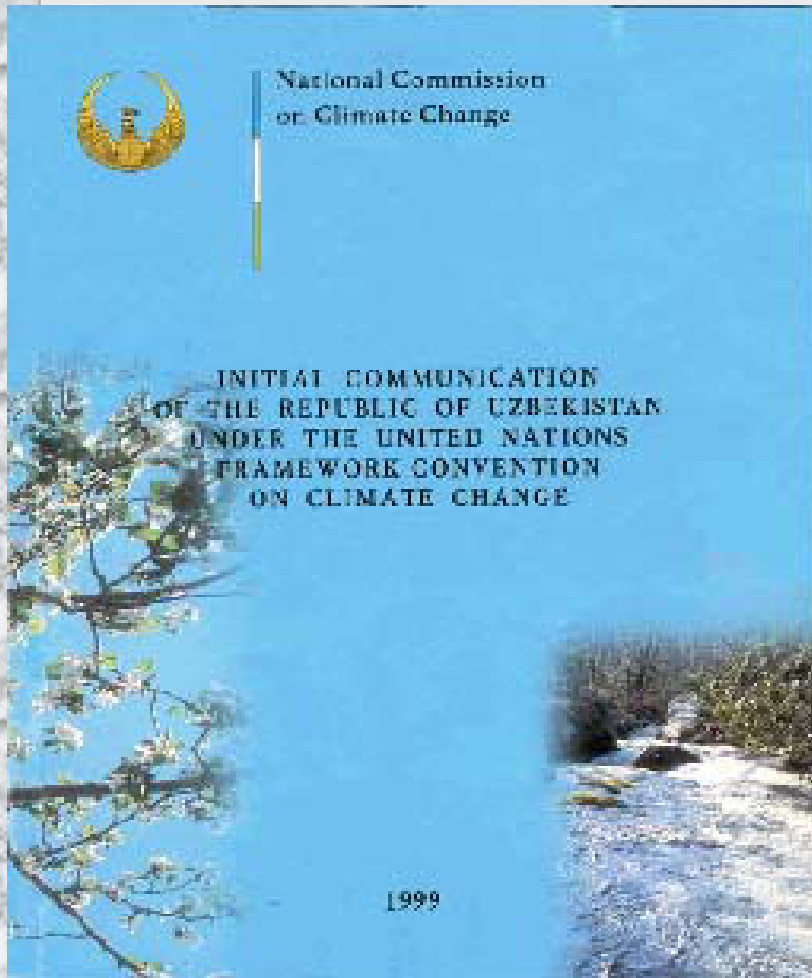


National circumstances of Uzbekistan

Problems of Karakalpakstan:

- Worsening of drinking water quality
- Growth of population incidence
- Increasing of quantity of dust storms (up 30 days/per year) and strengthening of salt transmission
- Increasing of share of salinity lands – up 49%

CAPACITY BUILDING BASED ON 2 GEF / UNDP Projects



➤ The Initial National Communication of the Republic of Uzbekistan on Climate Change was developed and presented at 5th Conference of the Parties of UNFCCC (1999)

➤ Top Up (Phase II) was finalising in 2001

The background of the slide is a photograph of a large dam structure, likely the Rogun Dam, with a reservoir of blue water to its left. The surrounding landscape is arid and hilly. The text is presented in a white box with a black border.

In Uzbekistan most vulnerable to climate change is:

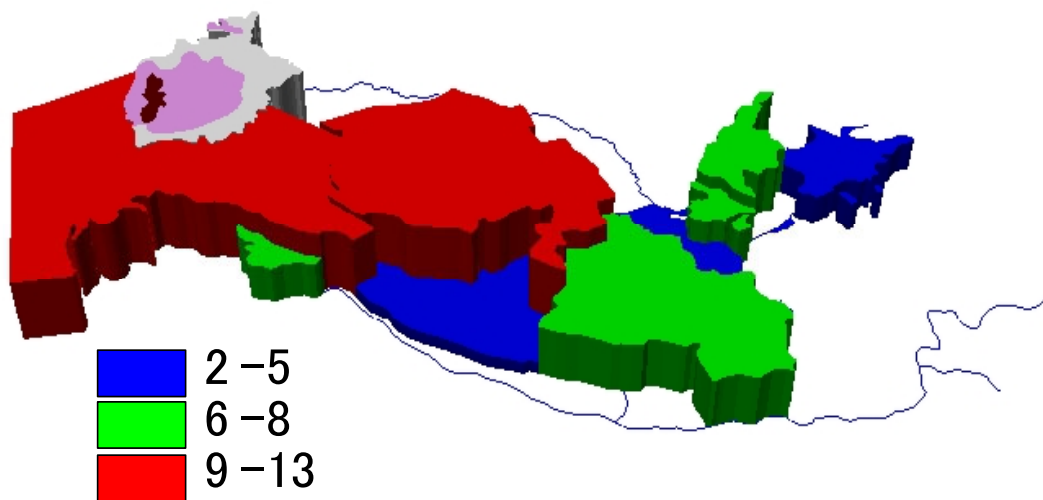
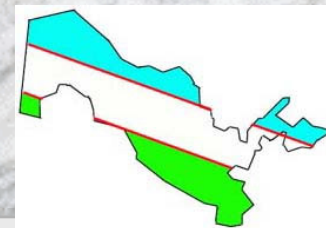
- **agriculture**
- **water resources**
- **ecological vulnerable territories**

Consequences :

- **Decreasing of main farm crop productivity and nature pasture;**
- **Reduction of water resources**
- **Strengthening of Aral Sea crisis.**

Climate change consequences of agriculture in Uzbekistan

The number of days with high air temperatures will be increase.



Crop losses:

- n Vegetable - 10-50%
- n Cotton - 9-15%
- n Rice - 10-20%
- n Melons - 10-30%

n Decreasing of fodder crops is expected on 20-40% for desert pasture

Expected climate change in Uzbekistan in period until 2030

n Increasing of average annual air temperature on 1,0-2,5°C

n Change of precipitation amounts – in interval from 89 - 126% to present norms

n Aridization of climate is expected in future

n Strengthening of mountain glacier degradation and losses of snow reserves in mountain river basin – ice mass reduction on 34% since 1957, in 2020 – will 10% yet

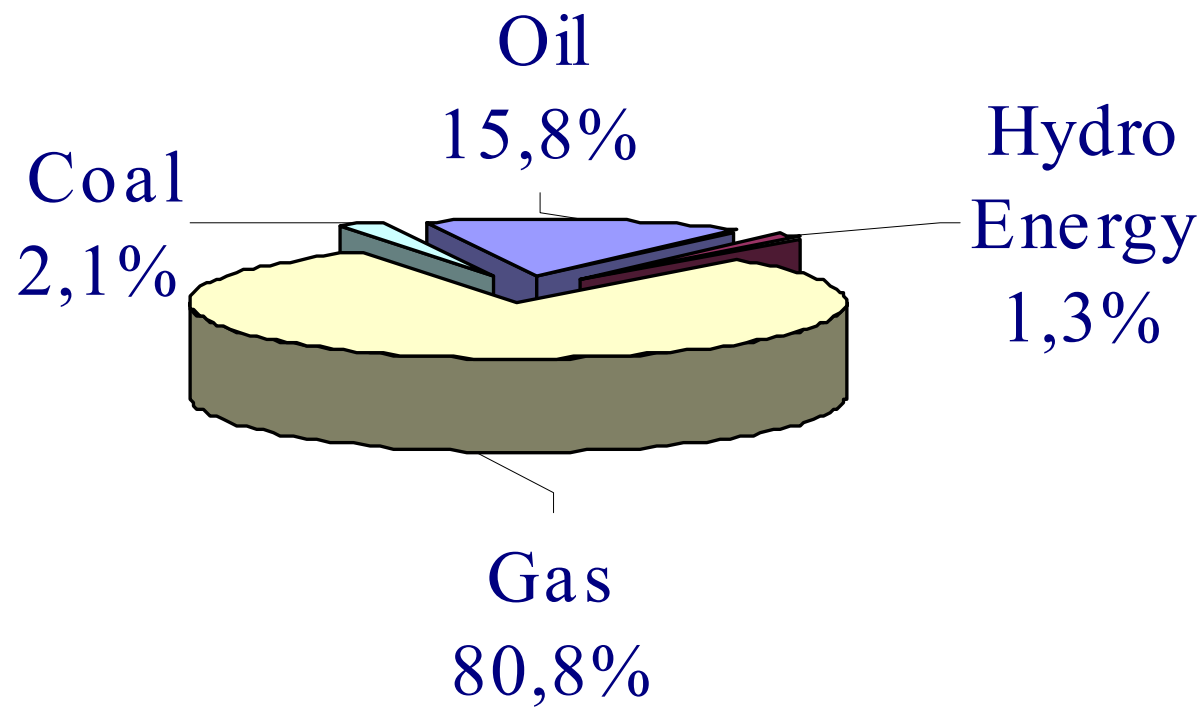
n Reduction of contributions of snow components on 15-30%

n Increasing of number of dangerous meteorological events – high temperature days more 40 °C, droughts, strong precipitation, dust storms

National Greenhouse Gases Inventory:

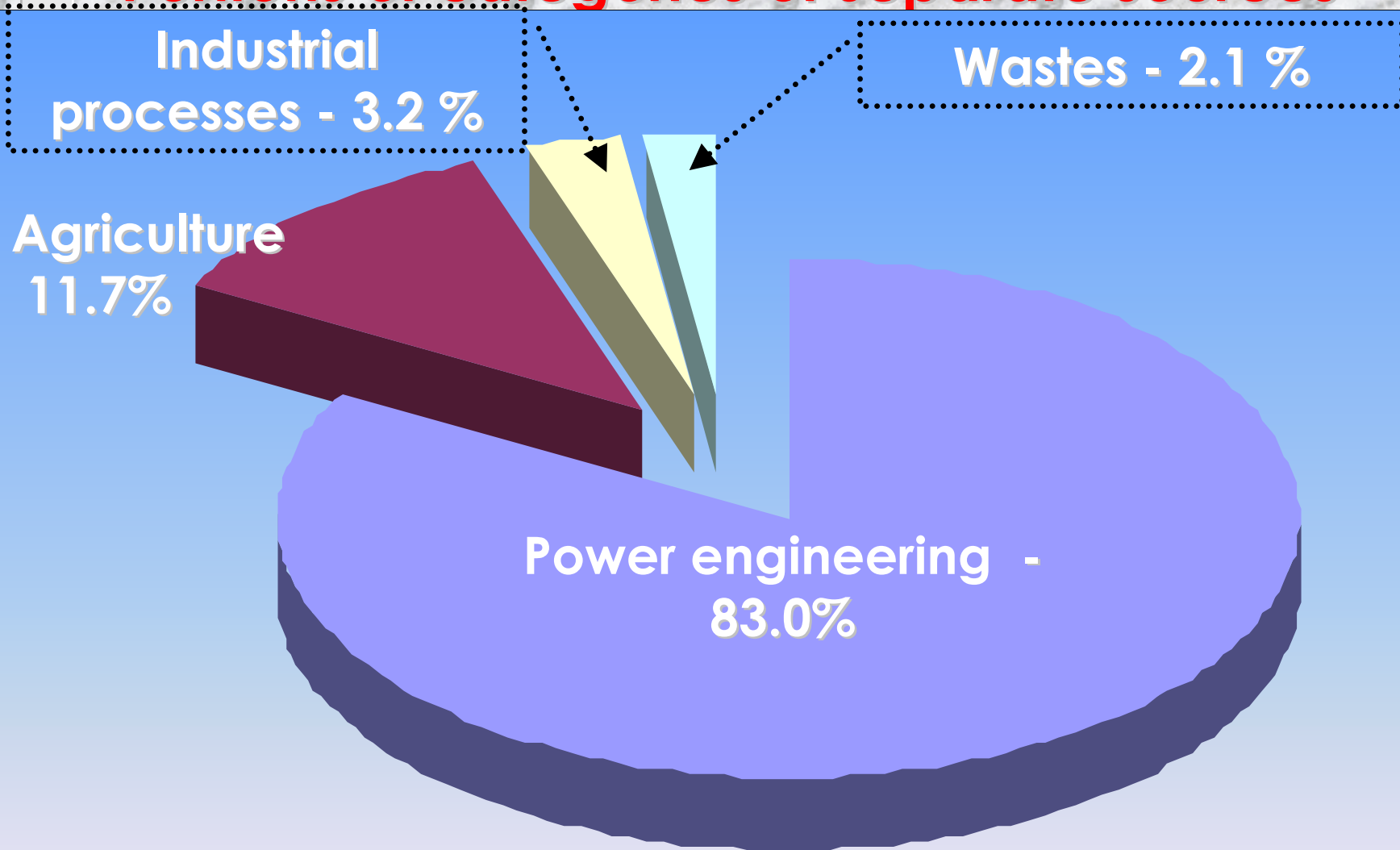
Primary energy sources

In total primary energy resources consumption Uzbekistan drained reserves of diversification fuel



National Greenhouse Gases Inventory:

Portions of categories of separate sources



Main contribution in GHG-emission gives Energy sector

Good Practices approach: Priority sources and key economic sectors of Uzbekistan in GHG emission reduction

n	Power Engineering –	25,7%
n	Oil&Gas systems –	22,2%
n	Domestic Consumers –	20,2%
n	Transport –	6,7%
n	Agricultural soils –	5,5%
n	Municipal sector –	5,3%
n	Enteric fermentation –	4,1%
n	Industry & construction –	3,3%

The GHG emission reduction technological projects

n In framework of implementation of project «Uzbekistan-Country Study on Climate Change, Phase II» has been made economical analysis about **40 technological projects** with total capacity of GHG emission reduction at **18,7 million tones** in CO₂ - equivalent.

n A portfolio of possible projects has been formed in Uzbekistan to be implemented within the framework of the Clean Development and/or Joint Implementation Mechanisms.

The GHG emission reduction technological projects

Share of GHG emission reduction in key economic sectors of Uzbekistan

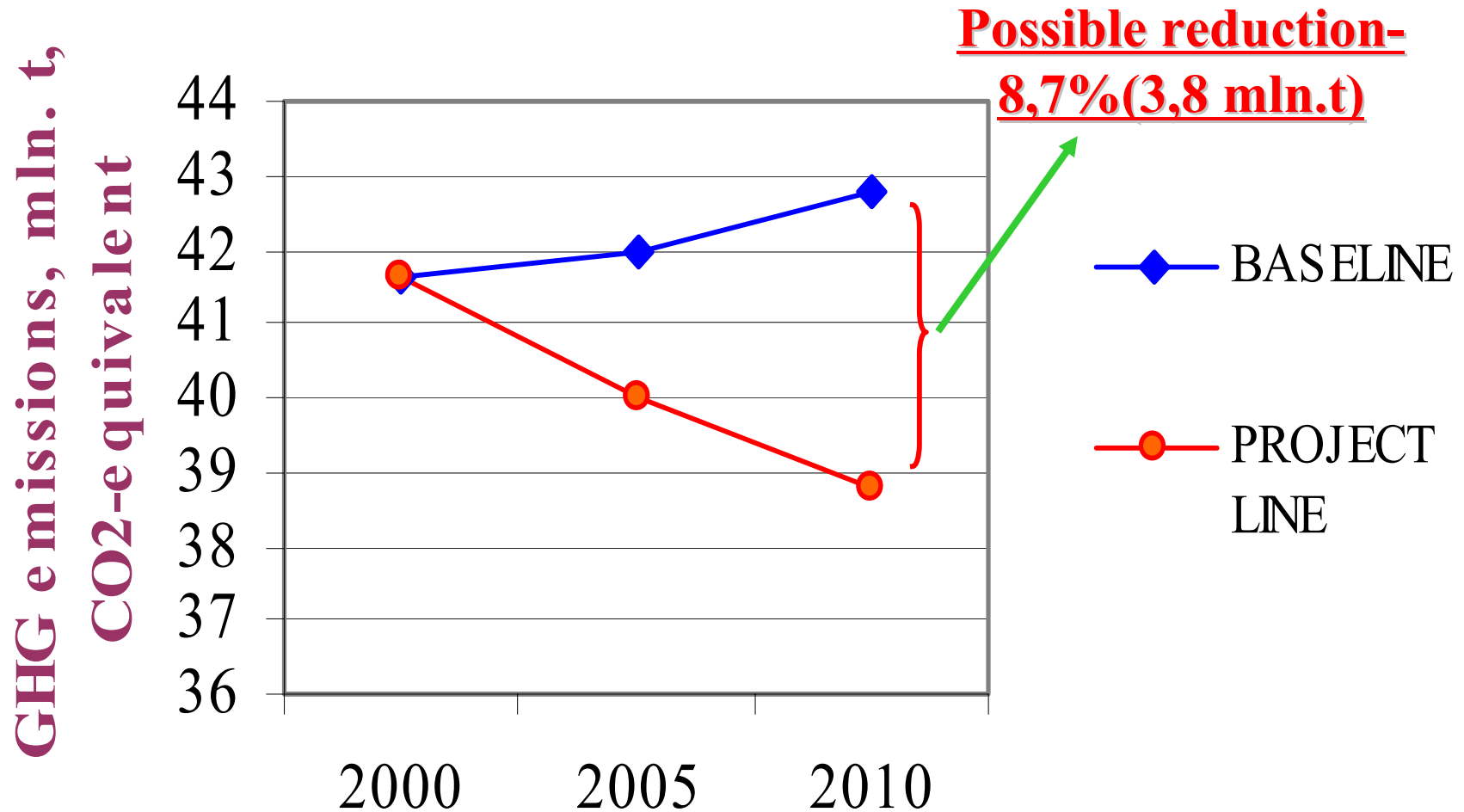
n Oil&Gas supply	13 projects	19,4%
n Municipal sector	8 projects	45,7%
n Power engineering	7 projects	12,8%
n Chemical industry	7 projects	3,1%
n Cement production	3 projects	11,5%
n Wastes utilisation	1 projects	5,3%
n Renewable energy sources	1 projects	2,2%

INFORMATION DATABASE ON TECHNOLOGIES

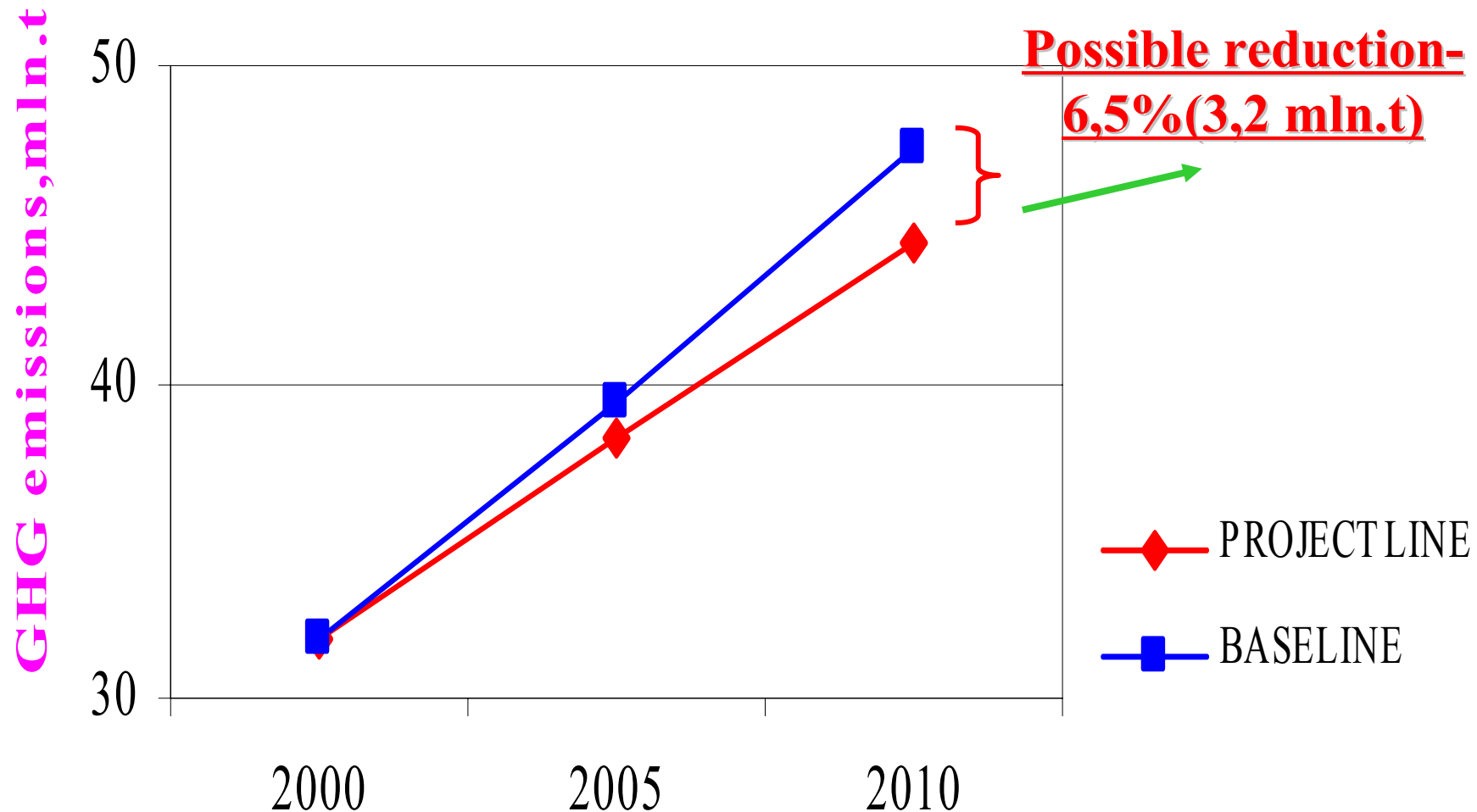
The database contains:

- description of project
- the required investment amount
- the volume of reduction of GHG-emission
- specific capital investment per unit of emission reduced
- project cost recovery period
- net present value and internal rates of return
- data on energy efficiency and possibility of project replication

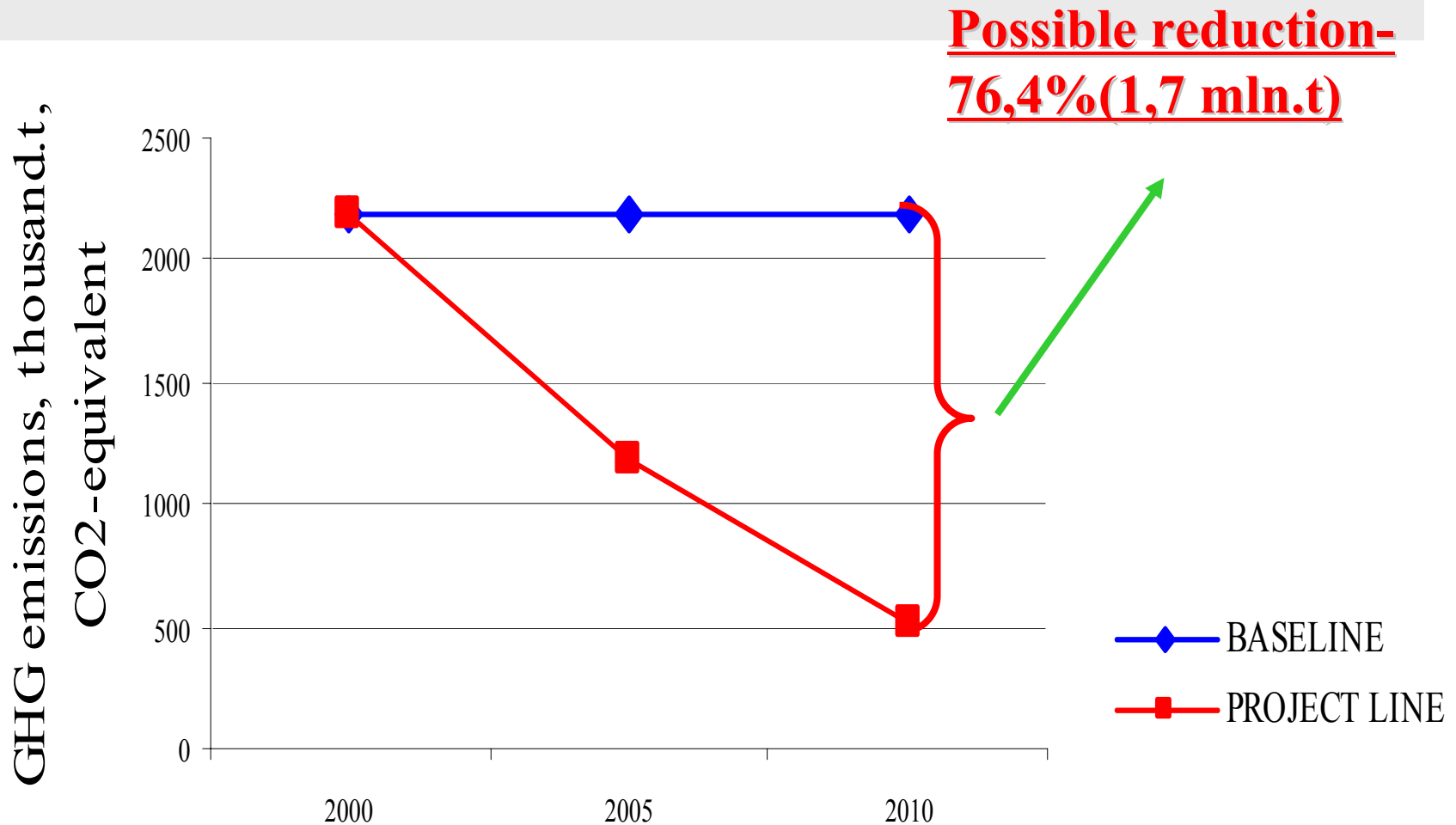
DINAMICE OF POSSIBLE REDUCTION OF GHG EMISSION IN THE OIL&GAS SECTOR



DINAMICE OF POSSIBLE REDUCTION OF GHG EMISSION IN POWER ENGINEERING



DINAMICE OF POSSIBLE REDUCTION OF GHG EMISSION IN CHEMICAL INDUSTRY



BARRIERS TO TECHNOLOGY TRANSFER AND WAYS OF REMOVING THEM

Barriers

Economic situation:

- limited public resources for purchasing equipment abroad
- lack of national currency conversion
- state subsidies to energy consumption
- non-involvement of national banks in technology transfer

Possible solutions

- extension of grants & easy credits; expansion of operational programmes of multilateral financing institutions
- improvement of the economic situation in the country; acquisition of government permissions on currency operations
- inclusion of the actual cost of energy resources into the national financial turnover
- involvement of national banks in project formulation and implementation

BARRIERS TO TECHNOLOGY TRANSFER AND WAYS OF REMOVING THEM

BARRIERS

Lack of awareness:

- lack of access to technological information
- low public awareness of the necessity of energy conservation and emission reduction
- lack of information among investors on the potential technology market in Uzbekistan
- Lack of skilled professionals in energy conservation and efficiency

POSSIBLE SOLUTIONS

- development of a system of specialised information services
- intensification of public awareness interventions related to climate change issues as well as mitigation of the impact of and adaptation to climate change
- in-depth assessment of the country's technological requirements and activities within the framework of the projects selected for specific investors; development of consulting services in entrepreneurial activity
- targeted development of human capacity and training of specialists for the public and private sectors

WHAT ACTIVITY WE MUST TO UNDERTAKE FOR REALISATION PROJECTS IN FRAME OF CDM?

- Uzbekistan is require the practice support for further progress of projects
- Is necessary the building of national structure on registration and monitoring CDM projects
- Implementation of pilot project phase on creation of prototype of National Registry and testing enable procedures on example of small groups project proposals is expedient