


Factor AG Switzerland & Carbon Services Pakistan:


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Factor AG: Focus and Expertise



- Carbon Project Development
- Carbon Financing
- CDM Advisory Services



• 8 years in carbon business
• International team of 200
• Technical and methodological experience
• Experienced in structuring transactions
• International network of subsidiaries and partners

carbon services

Page 2 CDM Presentation by Factor AG & Carbon Services Pakistan **FACTOR**
SUCCESS IN CARBON BUSINESS

Factor Team

- Over 200 full time CDM and Carbon Finance Experts
- Operations include
 - Headquarters in Zurich, Switzerland
 - Subsidiaries and Partner offices in:
 - China
 - India
 - Brazil
 - Romania
 - Pakistan
 - Germany
 - USA
 - Chile
 - Russia



Track Record in a Nutshell (as of June 2007)

Carbon Financing

- Executed transactions from initial offering to final contract
- Transacted with the most credible Buyers in the market
- **20 Million tons of CO2 transacted** since 2004, with a market value exceeding €125 million

Carbon Asset Development

- Over 20 registered CDM Projects
- Over 20 more at validation
- Over 60 projects under development
- Total pipeline exceeding 20 Mt CO2 to 2012
- Over € 475 million internal carbon fund
- Over € 800 million carbon funds under “exclusive management”



We do business with leading global firms...

Page 5 CDM Presentation by Factor AG & Carbon Services Pakistan

Track Record: CDM Projects

Volume t CO ₂ e	Vintages	Host Country	Project Type
300'000	2005-11	India	Biomass energy
61'000	2005-12	India	Biomass energy
500	2004-13	Costa Rica	Biomass energy
960'000	2008-12	Costa Rica	Landfill gas
5'000	2005-11	India	Solar energy
1'900'000	2005-12	Brasil	Landfill gas
1'300'000	2005-12	Brasil	Landfill gas
1'300'000	2006-12	Brasil	Landfill gas
162'000	2004-12	India	Hydro
105'000	2004-12	India	Hydro
200'000	2005-12	India	Hydro
120'000	2005-12	India	Hydro
840'000	2007-12	India	Hydro
90'000	2005-12	India	Biomass energy
50'000	2006-12	India	Hydro
210'000	2007-12	India	Hydro
21'000	2008-12	India	Hydro
150'000	2008-12	India	Hydro
180'000	2007-12	India	Hydro
210'000	2007-12	India	Biomass energy
810'000	2006-12	India	Biodiesel
360'000	2007-12	India	Energy efficiency
189'000	2007-12	India	Biodiesel
90'000	2007-12	India	Energy efficiency

Page 6 CDM Presentation by Factor AG & Carbon Services Pakistan

Track Record: CDM Projects

Volume	Vintages	Host Country	Project Type
300'000	2007-12	India	Hydro
300'000	2007-12	India	Hydro
84'000	2007-12	India	Hydro
315'000	2008-12	India	Energy efficiency
105'000	2008-12	India	Fuel switch
270'000	2008-12	India	Hydro
840'000	2007-12	India	Hydro
350'000	2006-12	India	Hydro
450'000	2006-12	India	Hydro
1'015'000	2007-12	India	Hydro
560'000	2007-12	India	Biomass energy
280'000	2009-12	India	Biomass energy
280'000	2008-12	India	Biomass energy
105'000	2008-12	India	Hydro
140'000	2009-12	India	Hydro
0	2006-12	India	Fuel switch
315'000	2009-12	India	Hydro
525'000	2009-12	India	Hydro
400'000	2008-12	Mali	Fuel switch
92'000	2007-12	Switzerland	Biomass energy
150'000	2007-12	China	Hydro
400'000	2008-12	China	Hydro
120'000	2007-12	Brazil	Fuel switch
50'000	2008-12	Indonesia	Energy efficiency
50'000	2007-12	Indonesia	Landfill gas
300'000	2008-12	Argentina	Biomass energy
20'000	2007-2012	Nepal	Solar energy



Track Record: CDM Projects

139'000	2008-12	Romania	Fuel Switch, En. eff.
60'000	2008-12	Romania	Energy efficiency
150'000	2008-12	Romania	Energy efficiency
500'000	2008-12	Romania	Energy efficiency
200'000	2008-12	Romania	Biomass energy
5'000'000	2008-12	Romania	N2O
300'000	2008-12	Estonia	Methane recovery
200'000	2008-12	Estonia	Biomass energy
1'000'000	2008-12	Bulgaria	Biofuel, transportation
175'000	2008-12	Bulgaria	Biofuel, energy efficiency
600'000	2008-12	Bulgaria	Landfill gas
200'000	2008-12	Bulgaria	Methane recovery
650'000	2008-12	Czech Republic	Dist. Heating, Geotherm
238'000	-	Czech Republic	Fuel Switch, En. eff.
247'000	2008-12	Slovak Republic	Energy efficiency
40'000	2008-12	Poland	Energy efficiency
140'000	2008-12	Poland	Energy efficiency
145'000	2008-12	Lithuania	Energy efficiency

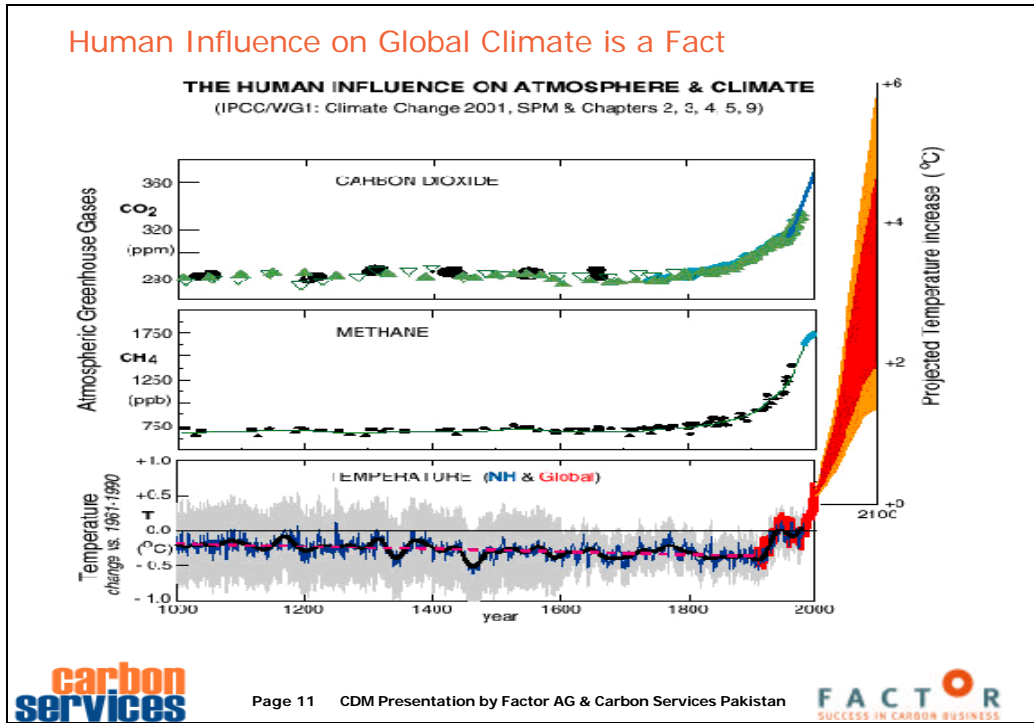


Track Record: CDM Projects

1'380'000	2004-12	Russia	Methane recovery
1'800'000	2008-12	Russia	Methane recovery
2'700'000	2008-12	Russia	Methane recovery
600'000	2008-12	Russia	Flaring
2'800'000	2008-12	Russia	Flaring
780'000	2008-12	Russia	Industrial energy efficiency
465'000	2008-12	Russia	Dist. Heating, fuel switch
280'000	2008-12	Russia	Energy efficiency
960'000	2008-12	Russia	Gas capture
2'200'000	2008-12	Ukraine	Gas capture
990'000	2008-12	Ukraine	Power, energy efficiency
590'000	2008-12	Ukraine	Gas capture
620'000	2008-12	Ukraine	Wind energy
200'000	2008-12	Ukraine	Industrial energy efficiency
500'000	2004-12	Belarus	Energy efficiency
350'000	2008-12	Kazakhstan	Hydro power
50'000	2008-12	Kazakhstan	Solar energy

Track Record: CDM Projects

500'000	2006-12	Tajikistan	Hydro
350'000	2005-12	Tajikistan	Hydro
0	2007-12	Moldova	BioEthanol
1'000'000	2006-2012	Uzbekistan	Hydro
1'800'000	2006-2012	Uzbekistan	Power, energy efficiency
120'000	2006-2012	Uzbekistan	Heating, energy efficiency
900'000	2006-2012	Uzbekistan	Hydro power
500'000	2006-2012	Uzbekistan	Lightning efficiency
500'000	2006-2012	Uzbekistan	Transportation, fuel switch
350'000	2006-2012	Uzbekistan	Dist.Heating, energy efficiency
20'000	2005- 2012	Kyrgyz Republic	Energy efficiency
100'000	2006-2012	Kyrgyz Republic	Housing
300'000	2006-2012	Kyrgyz Republic	Biomass energy
51'118'500			



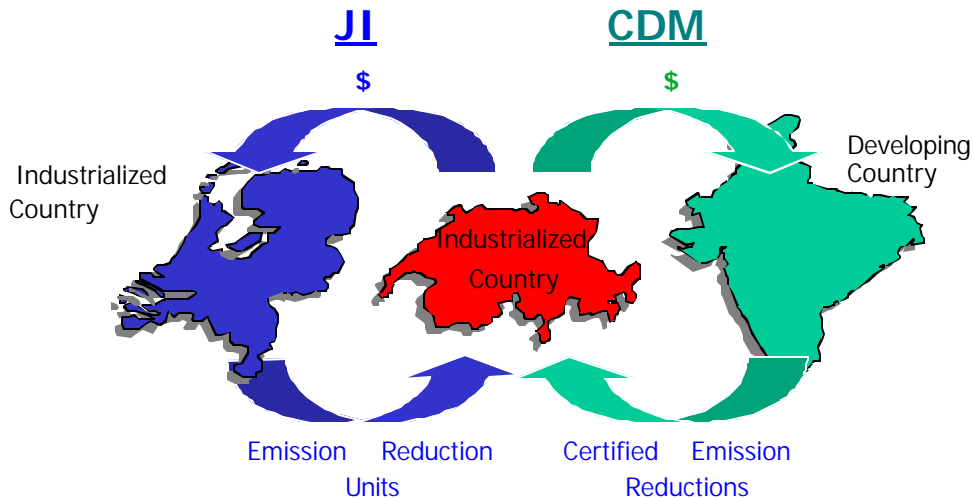
Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC)

- Signed in 1997; in force since 16 February 2005
- Ratified by >160 countries
 - Major non-participant: USA
- Industrialised (= Annex 1) countries are to reduce their greenhouse gas emissions by 5% below 1990 levels in 2008-12
 - Individual, quantified emission targets for each industrialized country
 - Emission reductions should mainly be achieved within the country
 - Six greenhouse gases covered: CO₂, CH₄, N₂O, HFC/PFC, SF₆
- "Flexibility mechanisms" for financing emission reductions abroad:
 - Clean Development Mechanism (CDM)
 - Joint Implementation (JI)
 - International Emissions Trading

CDM Objectives and Organization

- Principle: Emission reductions in developing countries can be certified and sold
 - Buyers = Annex 1 governments and companies located in these countries
- Twin objectives:
 - Help buyer countries meet their GHG reduction objectives cost-effectively
 - Contribute to sustainable development of the host countries
- Rules, modalities and procedures are defined in:
 - Kyoto Protocol (1997)
 - Follow-up decisions of COP, especially Marrakesh Accords (2001), and
 - Decisions of CDM Executive Board
- CDM Executive Board:
 - Responsible for further development of CDM rules, and supervising implementation
 - Composed of 10 Members + 10 Alternates
 - Reports to the Conference of the Parties (COP)

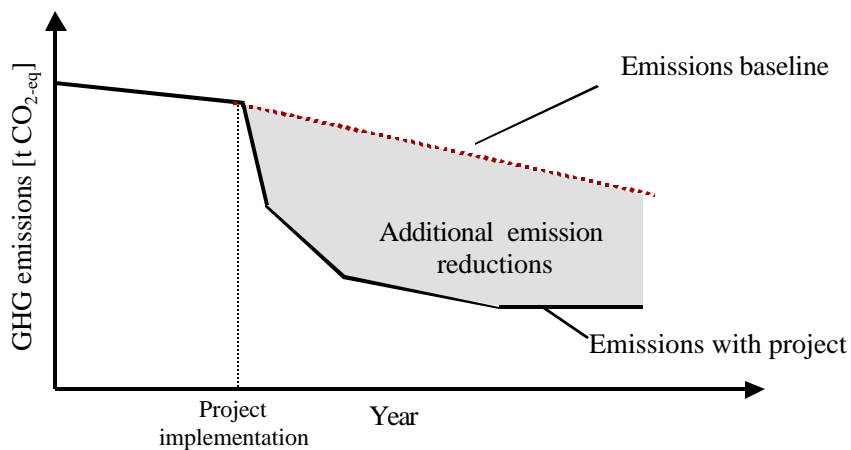
Joint Implementation / Clean Development Mechanism

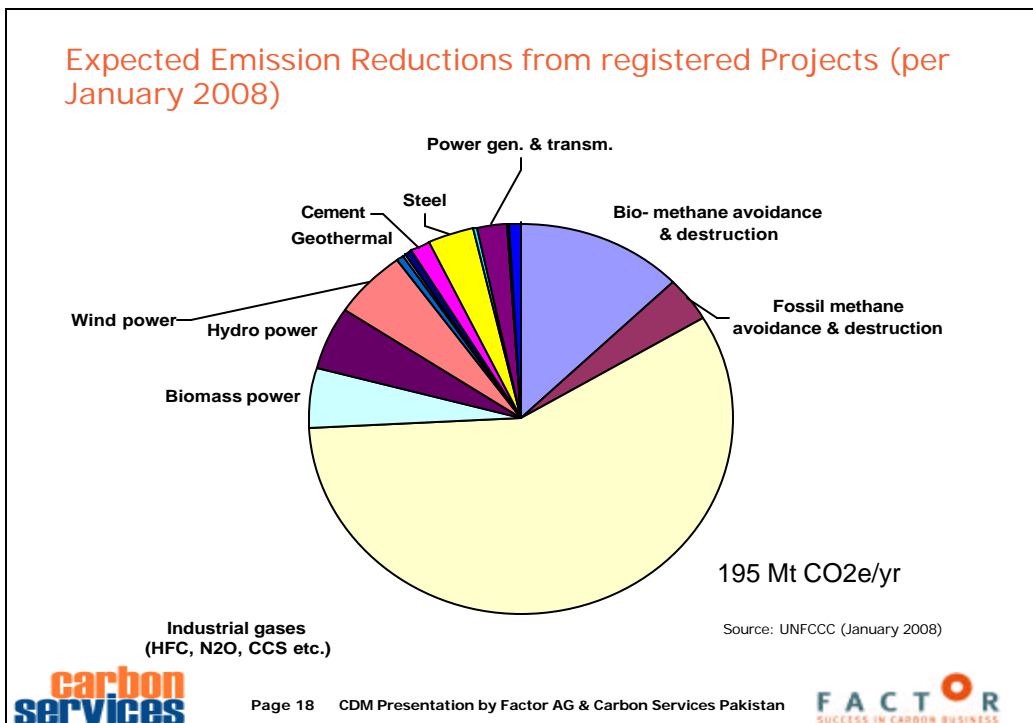
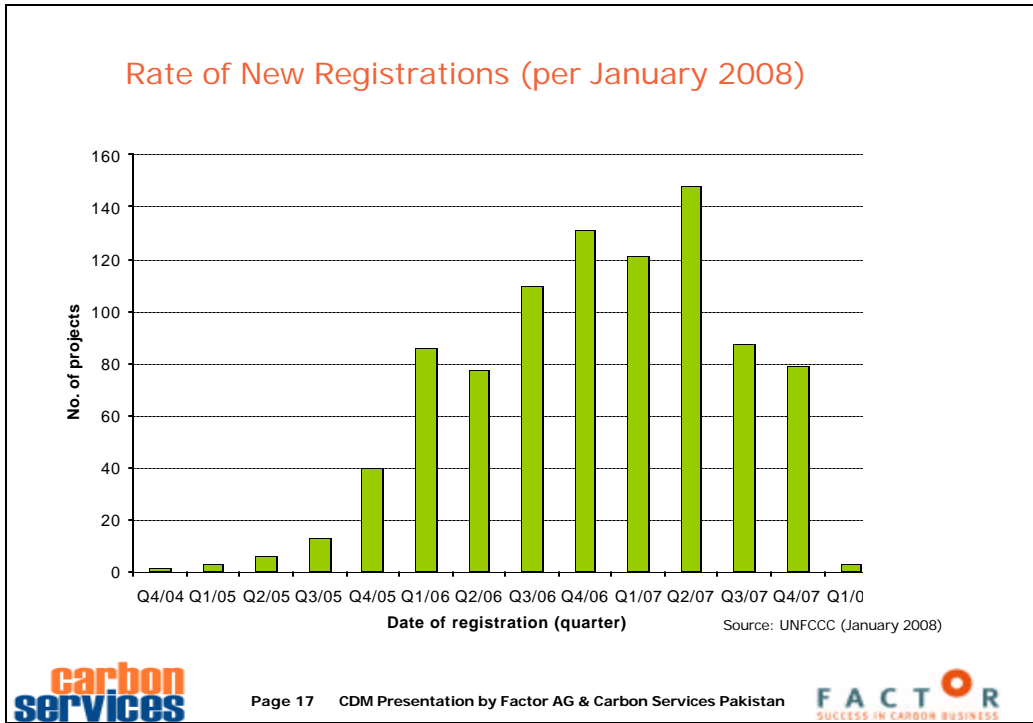


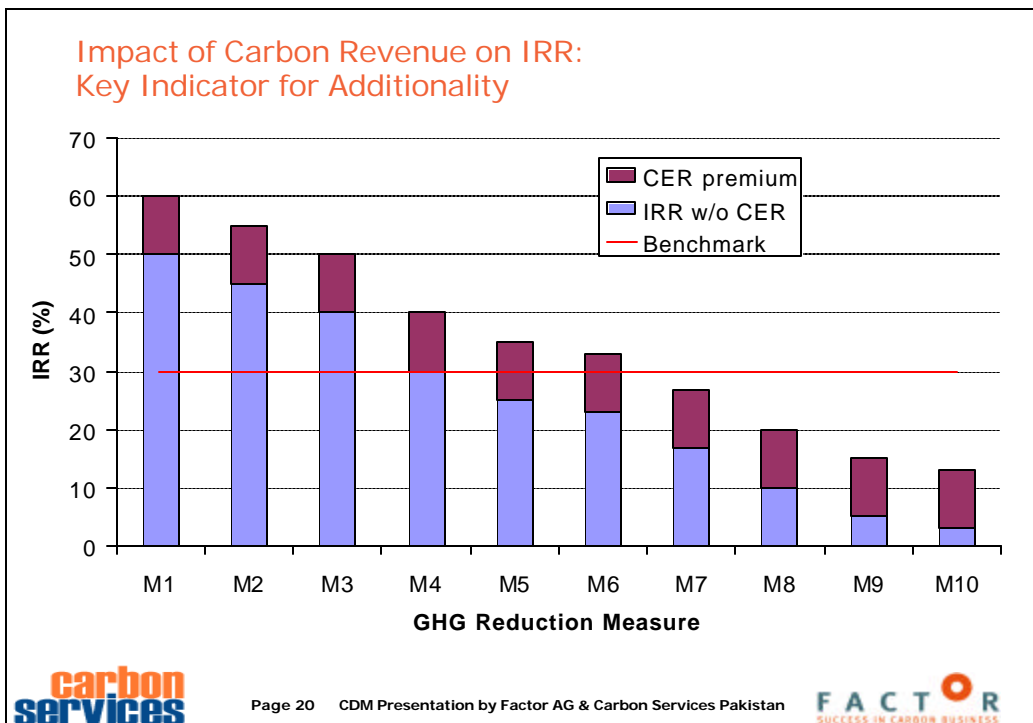
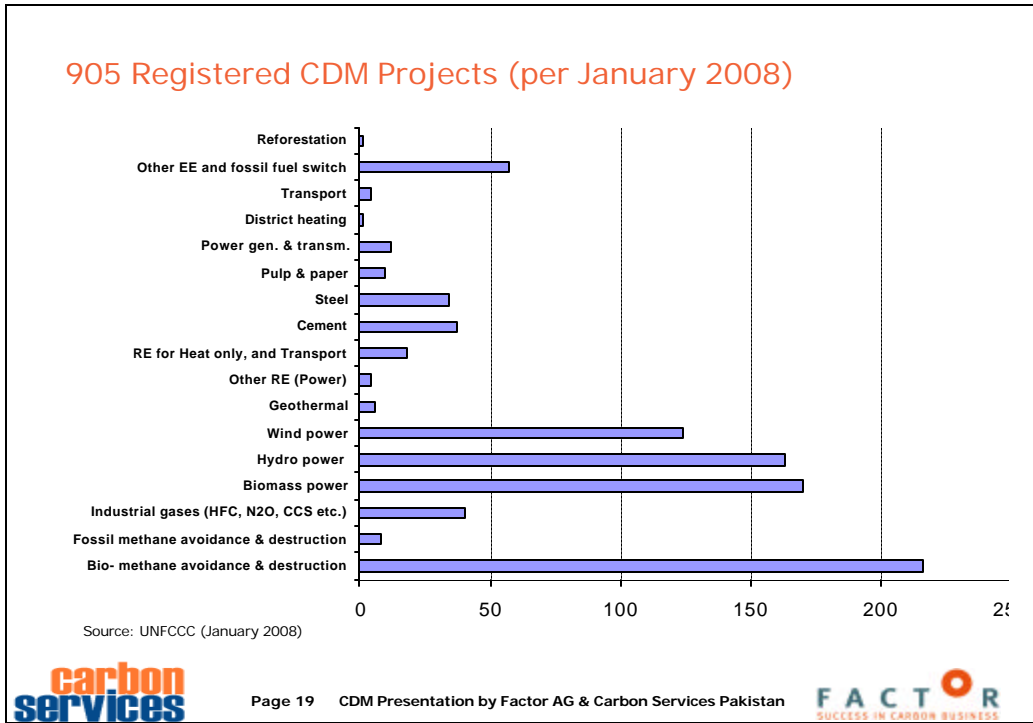
Eligible Project Types

- In principle, any project reducing "Kyoto gases" in the atmosphere:
 - Kyoto Gases: CO₂, CH₄, N₂O, HFC/PFC, SF₆
 - Popular project types:
 - Renewable energy generation (hydro, biomass, wind)
 - Energy efficiency projects
 - Cement
 - Geothermal
 - Steel
 - Landfill gas capture and waste management
 - Power Generation and Transmission
 - Bio-methane Avoidance and Destruction
 - Fossil Methane Avoidance and Destruction
 - Industrial Gases (HFC, N₂O, CCS, etc)
 - Included also: afforestation and reforestation
 - Excluded: nuclear energy, avoided deforestation (forest protection)
- Tradable unit: "Certified emission reductions" (CER)
 - 1 CER equals 1 metric tonne of CO₂-equivalent (CO₂e)

Baseline and Additionality of CDM Projects







Potential Projects in Pakistan

- Hydro Power
- Wind Power
- Biomass Power
- Textiles: Energy efficiency projects
- Cement: Fuel Switching, Waste Heat Recovery, Energy Efficiency
- Sugar: Bagasse cogeneration, Energy Efficiency
- Distilleries: Biogas power generation
- Paper & Pulp: Biogas, Energy Efficiency
- Waste: Composting and Landfill gas capture and waste management
- Steel: Waste Heat Recovery, Energy Efficiency
- Power Generation and Transmission
- Bio-methane Avoidance and Destruction
- Fossil Methane Avoidance and Destruction
- Afforestation and Reforestation



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