

ADDRESSING CLIMATE CHANGE AND THE CDM: THE PHILIPPINE INITIATIVES

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Significant Milestones on the Philippine's response to climate change

- ▶ Created the Inter-Agency Committee on Climate Change (IACCC) in May 1991
- ▶ Signed the UNFCCC in Rio de Janeiro in June 1992.
- ▶ The Philippine Senate ratified the Convention on August 2, 1994, thus committing the country to its provisions as a Non-Annex 1 Party.
- ▶ Signed the Kyoto Protocol on April 15, 1998



The Inter-Agency Committee on Climate Change (IACCC)

- ✓ Established by virtue of Presidential Administrative Order No. 220
- ✓ DENR Secretary : Chair
- ✓ DOST Secretary : Co-Chair
- ✓ Environmental Management Bureau/DENR
 - acts as Secretariat to the IACCC



The Inter-Agency Committee on Climate Change (IACCC)

- ✓ Composed of about 15 government agencies and NGO representatives
- ✓ Created to coordinate various climate change related activities, propose climate change policies and prepare the Philippine positions to the UNFCCC and other issues relative to climate change.



Climate Change Activities and CDM Initiatives

- **ADB Climate Change Project (1991)**
 - conducted vulnerability studies
 - generated a rapid assessment of the country's vulnerable sectors and areas to climate change (agriculture, water resources and coastal areas)
- **U.S. Country Studies Program**
 - initiated the 1990 National Emissions Inventory
- **GHG Abatement Awards (1998)**
 - with assistance from the USAID and US-EPA, the awards program intended to recognize companies that voluntarily reduce GHG emissions through activities such as energy efficiency; the first award was given last December 1998



Climate Change Activities and CDM Initiatives

- **A Study on “Capacity Development on the Clean Development Mechanism”**
 - funded by the UNDP to generate local awareness and understanding of the CDM;
 - provided a brief background information on priorities and opportunities for CDM cooperation in the Philippines;
 - examined the existing policy, program and legal framework and the project development and implementation processes



Climate Change Activities and CDM Initiatives

- **Sustainable Development Priorities through the Philippine Agenda 21**
 - as early as 1989, the Philippines crafted and adopted the **Philippine Strategy for Sustainable Development (PSSD)** which initially identified 10 strategies for sustainable development;
 - the PSSD was subsequently elaborated into the **Philippine Agenda 21** after the UNCED – Rio *Earth Summit* in 1992.



Principles of Sustainable Development as stated in the Philippine Agenda 21

- ✓ Primacy of developing full human potential
- ✓ Holistic science and appropriate technology
- ✓ Cultural, moral and spiritual sensitivity
- ✓ Self-determination
- ✓ National sovereignty
- ✓ Gender sensitivity
- ✓ Peace, order and national unity
- ✓ Social justice, inter- and intra-generational and spatial equity
- ✓ Participatory democracy
- ✓ Institutional viability
- ✓ Viable, sound and broad-based economic development
- ✓ Sustainable population
- ✓ Ecological soundness
- ✓ Biogeographical equity and community-based resource management
- ✓ Global cooperation



Climate Change Activities and CDM Initiatives

- **GHG Mitigation Assessment under the Asia Least Cost Greenhouse Gas Abatement Strategy (ALGAS)**
 - launched in 1995 with GEF funding, implemented by the UNDP and executed by the ADB
 - looked into GHG mitigation options in the energy, agriculture and forestry sectors.
- **National Action Plan on Climate Change**
 - funded by the USAID which aimed at integrating climate change concerns into the government's development plans and programs, develop adaptation response to climate change impacts, design mitigation measures which are “no regrets” in character;
 - served as framework plan which provides for the specific guidance on mitigation priorities



Climate Change Activities and CDM Initiatives

- **Enabling Activity on Climate Change (1998)**
 - Sponsored by the GEF, the project aims to build the capacity of various government agencies to prepare the country's initial national communication to the UNFCCC
 - Facilitated the preparation of the **1994 GHG Emissions Inventory** and the reporting requirements pursuant to Art. 12 of the Convention
 - Conducted training courses on GHG inventory
- **1994 National Greenhouse Gas Inventory**
 - undertaken under the U.S. Country Studies Program which was updated and incorporated in the Philippines' Initial National Communication
 - basis for future plans on mitigation, and therefore, possible CDM opportunities



Climate Change Activities and CDM Initiatives

- **Institutionalization of the GHG Inventory and Public Awareness (2001 – present)**
 - are extensions of the Project on Enabling Activity on Climate Change which intends to maintain and enhance the capacity to prepare the national communication
 - aimed at undertaking regular and systematic inventories of national GHG emissions
 - realized through the conduct of several consultative conferences and Trainers' Training



Climate Change Activities and CDM Initiatives

- **Promotion of Renewable Energy, Energy Efficiency and GHG Abatement (2002)**
 - Implemented by the DOE with ADB funding
 - Intended to develop capabilities for promotion on renewable energy and energy efficiency and GHG abatement projects



Climate Change Activities and CDM Initiatives

The Strategic Objective Agreement 5 (SOAG) or the Philippine Climate Change Mitigation Program (1998-2001)

- implemented by the DOE in coordination with the IACCC
- the basic strategy is to slow down the growth of GHG emissions through the expanded use of clean fuels in power generation, and by improving the efficiency of power generation, distribution and use
- established the **Climate Change Information Center (CCIC)**



Climate Change Activities and CDM Initiatives

- **Capacity Development for the Clean Development Mechanism in the Philippines (CD4CDM)**
 - funded by the Dutch Government, executed by the UNEP-RISO and implemented by the IACCC through the Climate Change Information Center (CCIC)
 - aims to generate a multi-sectoral understanding of the opportunities offered by the CDM
 - aims to develop the necessary institutional and human capabilities to allow formulation and implementation of CDM projects



Climate Change Activities and CDM Initiatives

CD4CDM (Cont'd.)

- generally aims to help establish GHG emissions reduction projects that are consistent with sustainable development goals, particularly projects in the energy sector
- intends to capacitate key stakeholders in the CDM regimes such as policymakers, project developers, project financiers, academe, research institutions, investment promoters, information disseminators, NGOs and local communities.



Climate Change Activities and CDM Initiatives

- **Establishment of the CDM National Authority, Operational Framework and Support Systems for the Philippines**
 - A project proposed to the Dutch Government through the UNDP which hopefully shall lay down the groundwork for the formal implementation of the CDM in the Philippines;
 - to secure the official designation of a national government entity as the National Authority for CDM;
 - to formulate the CDM Operational Framework.



Climate Change Activities and CDM Initiatives

- **Conduct of Public Awareness Campaigns on Climate Change**
 - Conduct of consultative workshops, conferences and orientation seminars among the different stakeholders to enhance understanding of the issues on climate change in preparation for the ratification of the Kyoto Protocol
- **Working Towards the Ratification of the Kyoto Protocol**
 - awaiting the Senate's concurrence to the ratification



Other various initiatives

- The research conducted by the International Rice Research Institute (IRRI) on methane emissions from rice paddies
- The socio-economic impact studies initiated by the International Geosphere and Biosphere Program (IGBP)
- Public awareness campaigns and policy studies by the Philippine Network on Climate Change (PNCC)



National Environmental Policies Related to Climate Change

- **All CDM projects to be implemented in compliance with the 1987 Constitution which aimed at:**
 - ensuring the people's right to a healthful and balanced ecology; and
 - the principle that the State owns all lands commonly referred to as the public domain, and its natural resources such as energy resources, must be under the State's control and supervision.



National Environmental Policies Related to Climate Change

- **Philippine Strategy for Sustainable Development (PSSD)**
 - in 1989, the country formally embraced sustainable development as a guiding principle and development efforts through the approval and adoption of the conceptual framework of the PSSD
 - balanced and integrated approach towards environment and development issues
 - led to the creation of the **Philippine Council for Sustainable Development (PCSD)** which was mandated to chart environmental and sustainable development issues



National Environmental Policies Related to Climate Change

- **Philippine EIA System**

- is anchored on the State's objectives of achieving a rational balance between environmental protection and economic development.
- evolved into a planning and management tool that seeks to:
 - incorporate environmental consideration at the earliest stage of project development and
 - enhance maximum public participation in the entire EIA process



National Environmental Policies Related to Climate Change

- **Philippine Clean Air Act of 1999**

- shall fully prepare and implement a national plan consistent with the UNFCCC and other international agreements, conventions and protocols on the reduction of GHG emissions in the country

- **New and Renewable Energy Program Act** – *An Act to Strengthen the National Program for the Development and Promotion of the Use of Non-Conventional Energy Systems*

- is a bill pending in Congress geared towards less dependence on fossil fuels

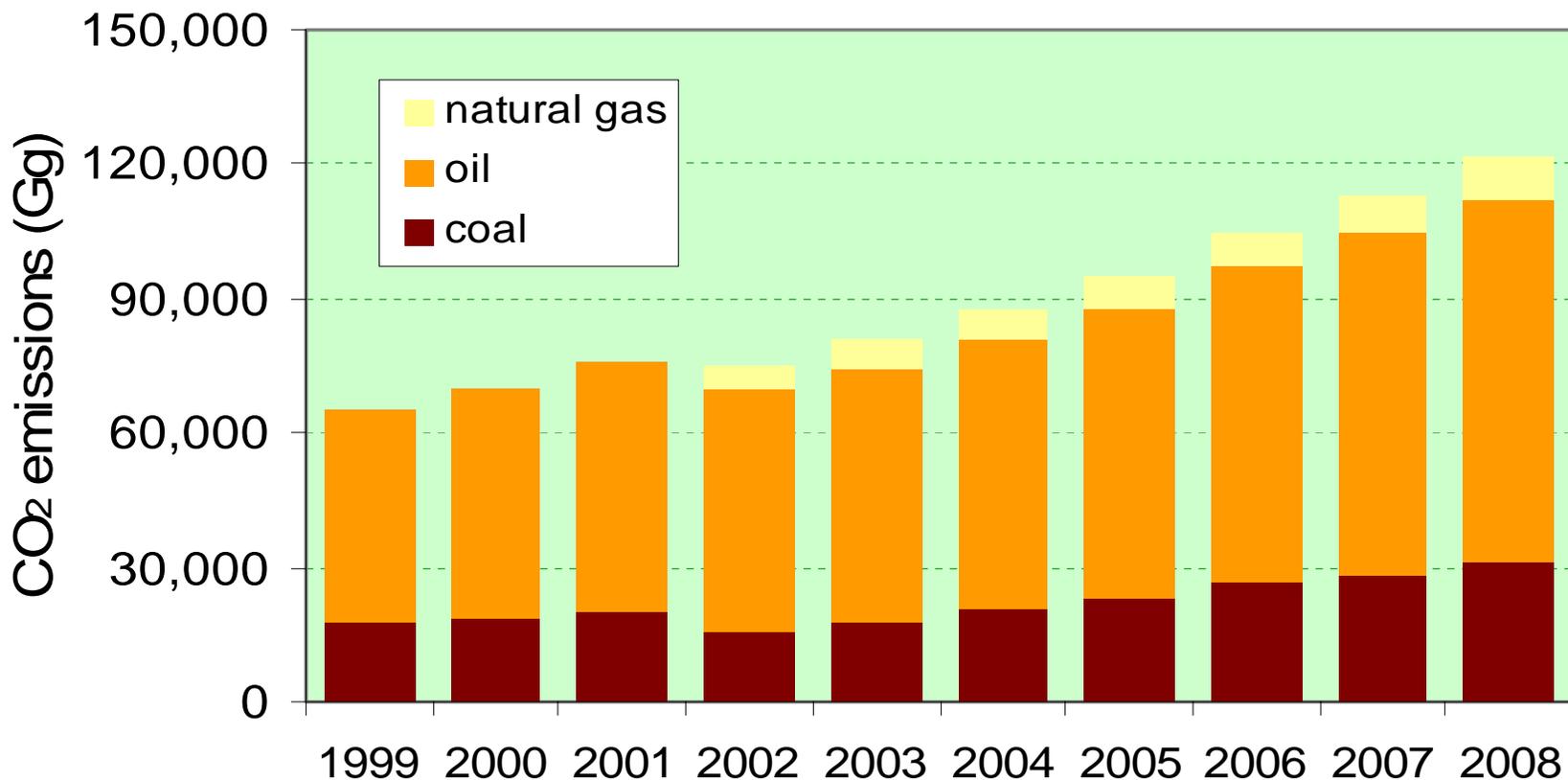


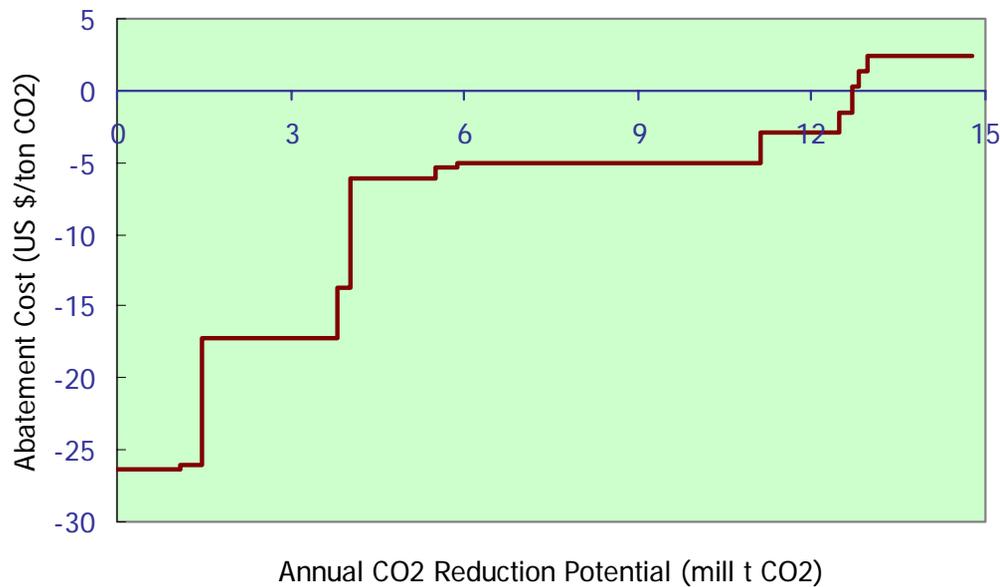
CDM Potential in the Philippines



Projected Philippine CO₂ Emissions: *Potential of CDM Emissions Reductions Supply*

Projected CO₂ Emissions 1999-2008





Philippine GHG Abatement Cost and Potential

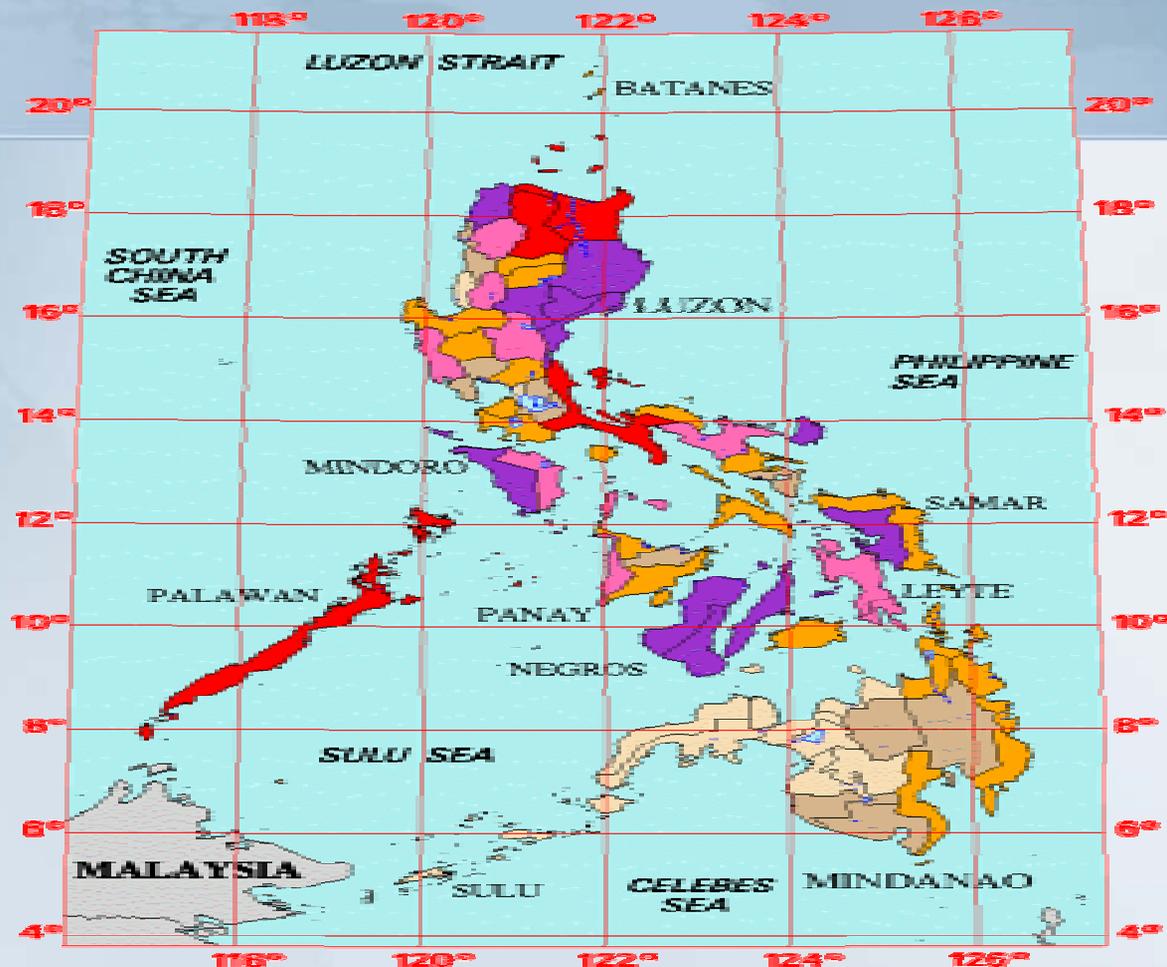
Source: ALGAS

<i>Abatement Option</i>	<i>Abatement Potential (mill t CO2/year)</i>	<i>Abatement Cost (US \$ / ton CO2)</i>
CFL	1.10	-26.3
Industrial Boilers	0.37	-26.0
System Loss Reduction	2.32	-17.2
Industrial Motors	0.24	-13.7
Eff Air Conditioning	1.47	-6.1
Eff Refrigerators	0.37	-5.4
Heat Rate Improvement	5.26	-5.1
Eff Transport	1.34	-2.9
Wind Power	0.24	-1.6
Biomass Power	0.12	0.3
Solar Power	0.12	1.4
CC Natural Gas	1.83	2.4



Philippines - Wind Electric Potential

Good to Excellent Wind Resource (Utility Scale Classification)



100 0 100 200 300 400 Kilometers

Philippines Total - 76,600 MW

The following assumptions were used in calculating the total potential wind electric capacity installed:

- Minimum wind power - 300 W/m²
- Turbine size - 500 kW
- Hub height - 40 m
- Rotor diameter - 38 m
- SD Side-to-side spacing - 190 m
- 100 Front-to-back spacing - 360 m
- Swept area - 1134 m²
- Turbines/km² - 13.9
- Capacity/km² - 6.9 MW

US Dept. of Energy - National Renewable Energy Laboratory

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Wind Electric Potential Megawatts



Solar Energy Resource Potential

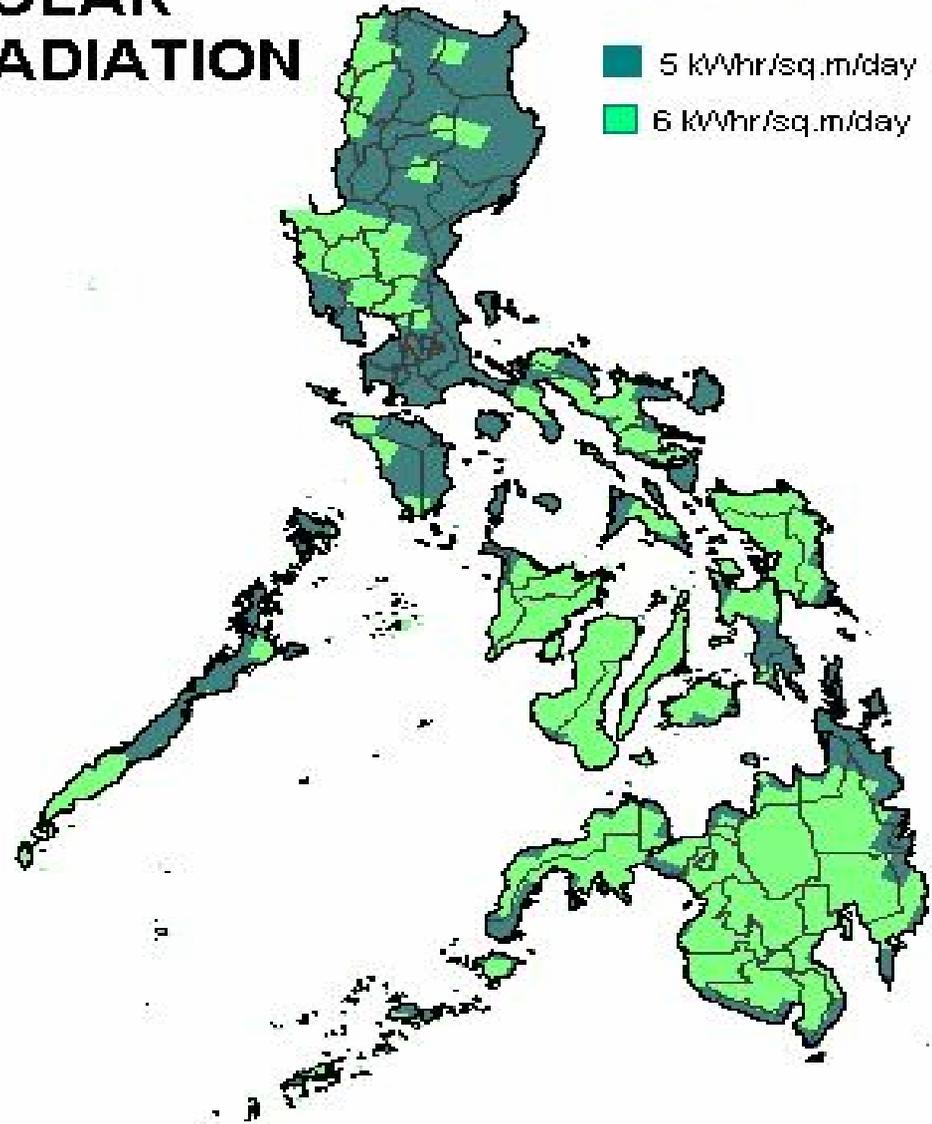
- Average installation of 5- 6 kWh/sq. m/day all throughout the country

Source: ALGAS

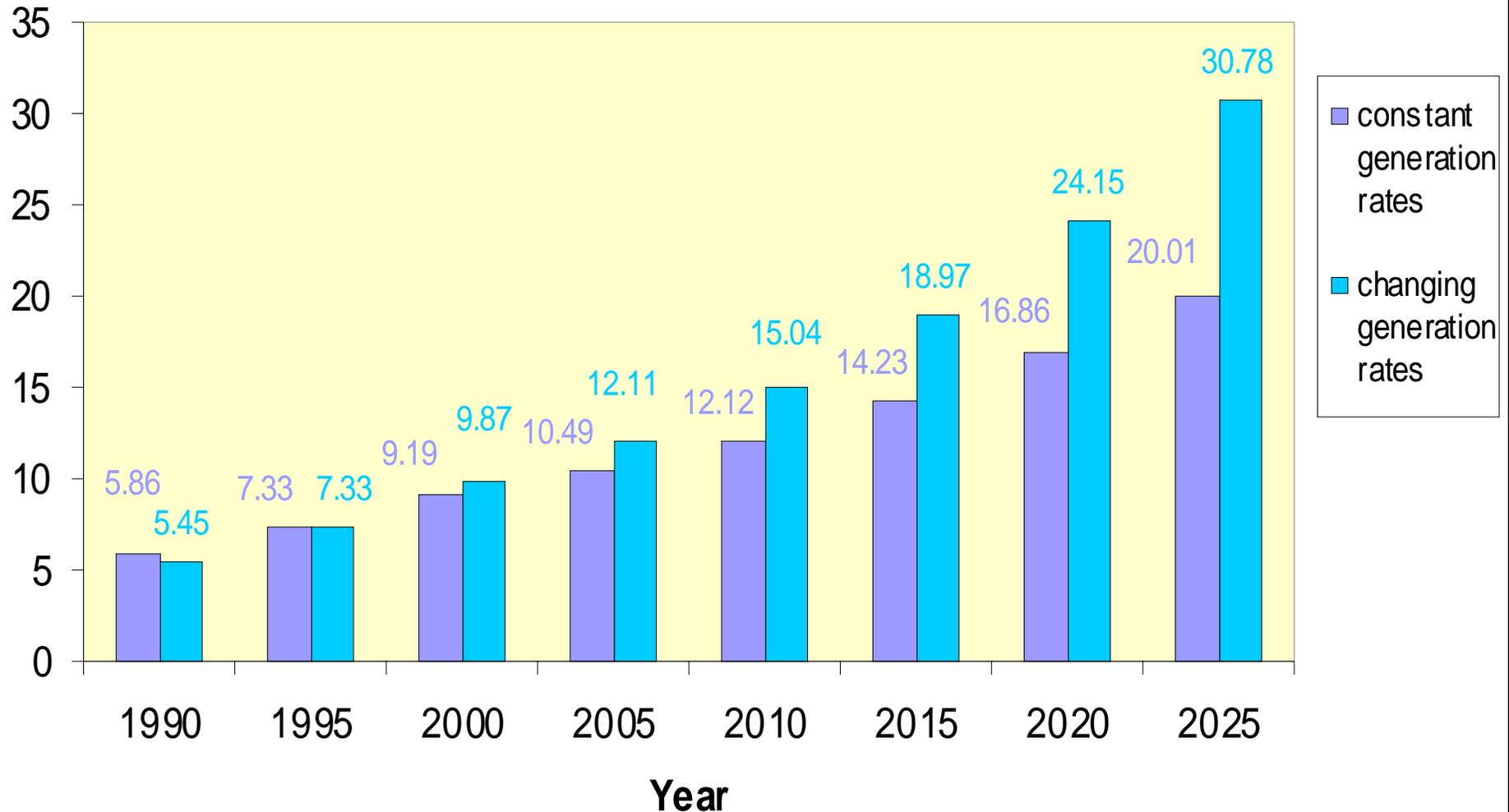
ANNUAL SOLAR RADIATION

LEGEND :

- 5 kWh/sq.m/day
- 6 kWh/sq.m/day



1990-2025 Equivalent CO₂ Emissions from Municipal Solid Waste Generation (million tons)



Source: ALGAS

Thank you . . .

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