

Strategy for Green Industrial Policy in Bangladesh

Presented at the Seminar on
**“Promoting Green Industrial Policy for Bangladesh:
Opportunities and Challenges”**

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Presented by

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Green Industry: Context & Concept

- ❑ Industries are central to economic growth as they are instrumental in the provision of food, transport, technologies, infrastructure, housing, and other goods and services.
- ❑ However, many industries use more materials and energy than their production process require
 - This is due to the use of obsolete and inefficient technologies and methodologies
- ❑ Both producers and consumers have adopted patterns of production and consumption that do not take into consideration the limits to growth -
 - The planet has limited resources
 - The assimilative capacity of the planet for emission is limited
 - This is complicated by population growth

Green Industry: Context & Concept

- ✓ Current production systems are therefore unsustainable – they do not allow today's needs to be met without jeopardizing the ability of future generations to meet theirs.
- ✓ Green Industry is industrial production and development that does not come at the expense of the health of natural systems or lead to adverse human health outcomes
- ✓ Objectives of Green Industry include mainstreaming environmental, climate and social considerations into the operations of enterprises

Effects of industrial pollution

On Human health:

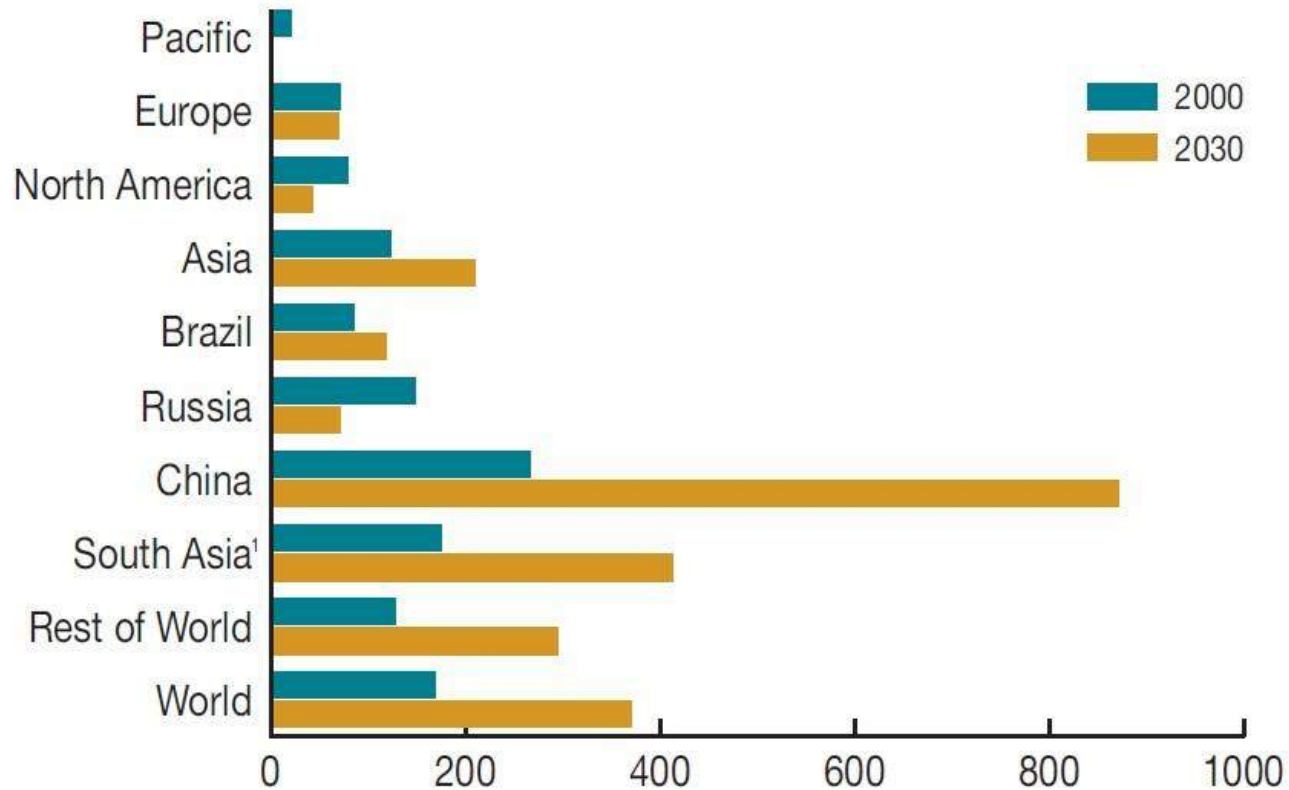
- Adverse air quality can kill many organisms including humans.
- Ozone pollution can cause respiratory disease, cardiovascular disease , throat inflammation, chest pain, and congestion .
- Water pollution causes approximately 14,000 deaths per day, mostly due to contamination of drinking water by untreated sewage in developing countries (Owa 2014)
- Oil spills can cause skin irritations and rashes
- Noise pollution induces hearing loss, high blood pressure, stress, and sleep disturbance.

Effects of industrial pollution

On Environment:

- Carbon dioxide emissions cause ocean acidification, the ongoing decrease in the pH of the Earth's oceans as CO₂ becomes dissolved.
- The emission of greenhouse gases leads to global warming which affects ecosystems in many ways.
- Soil can become infertile and unsuitable for plants. This will affect other organisms in the food web.
- Sulfur dioxide and nitrogen oxides can cause acid rain which lowers the pH value of soil.

Premature deaths from PM10 air pollution (per million inhab.)



Source: OECD (2008), *OECD Environmental Outlook to 2030* and OECD (2009), *The Economics of Climate Change Mitigation: Policies and Options for Global Actions beyond 2012*.

Why Green Growth is important for Bangladesh?

- ❑ Bangladesh's economy has been going through significant structural changes over time.
- ❑ It is transforming from a predominantly agricultural to an industrial and service oriented economy.
- ❑ The share of agriculture has declined from 25% of total GDP during 1995 to 16% in 2015
- ❑ The share of industry has increased from 23.3% in 1995 to 30.42 percent in 2015

Projections of structural change to 2021 (Share in GDP in constant prices)

| Sectors | Average (FY2004-FY10) | Target FY2015 | Actual FY2015 (constant | FY2016 (P) | Target FY2021 |
|------------------------|-----------------------|---------------|-------------------------|--------------|---------------|
| Agriculture | 19.5 | 15.5 | 16.00 | 15.33 | 15.0 |
| Industry | 28.0 | 32.0 | 30.42 | 31.28 | 37.0 |
| of which manufacturing | 17.3 | 21.1 | 20.16 | 20.77 | 28.0 |
| Services | 52.5 | 52.5 | 53.58 | 53.39 | 48.0 |
| Total | 100 | 100 | 100 | 100 | 100 |

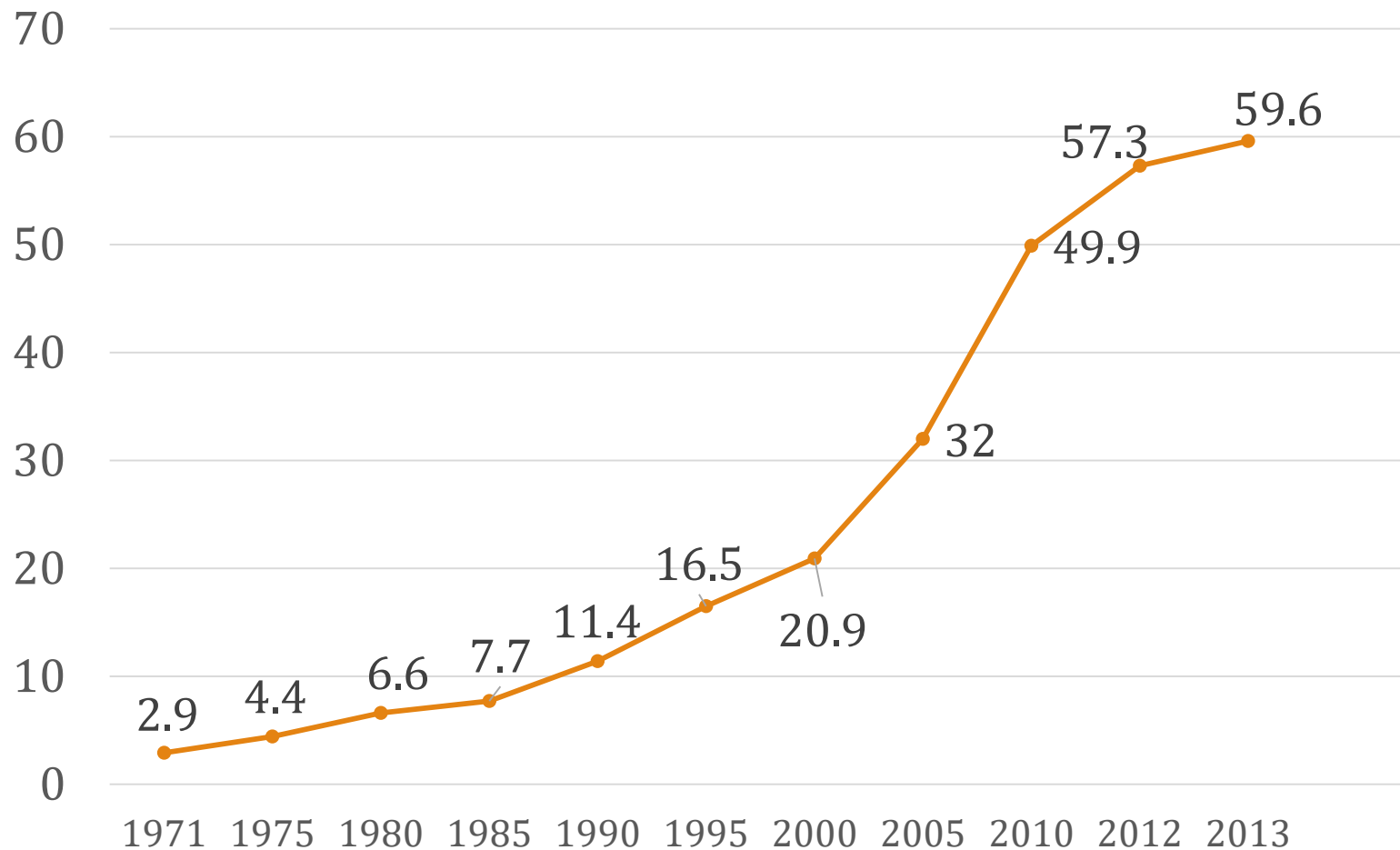
Source: GED, Planning Commission, Perspective Plan of Bangladesh 2010-2021 and BBS

Actual sectoral growth (in constant prices), FY2011-FY2016 (p) and projected sectoral growth of FY2021

| Sectors | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 (p) | FY 2021 |
|------------------------|-------------|-------------|-------------|-------------|-------------|--------------|-----------|
| Agriculture | 4.46 | 3.01 | 2.46 | 4.37 | 3.33 | 2.60 | 4.5 |
| Industry | 9.02 | 9.44 | 9.64 | 8.16 | 9.67 | 10.10 | 12 |
| of which Manufacturing | 10.01 | 9.96 | 10.31 | 8.77 | 10.31 | 10.30 | 14 |
| Services | 6.22 | 6.58 | 5.51 | 5.62 | 5.80 | 6.70 | 8 |
| GDP | 6.46 | 6.52 | 6.01 | 6.06 | 6.55 | 7.05 | 10 |

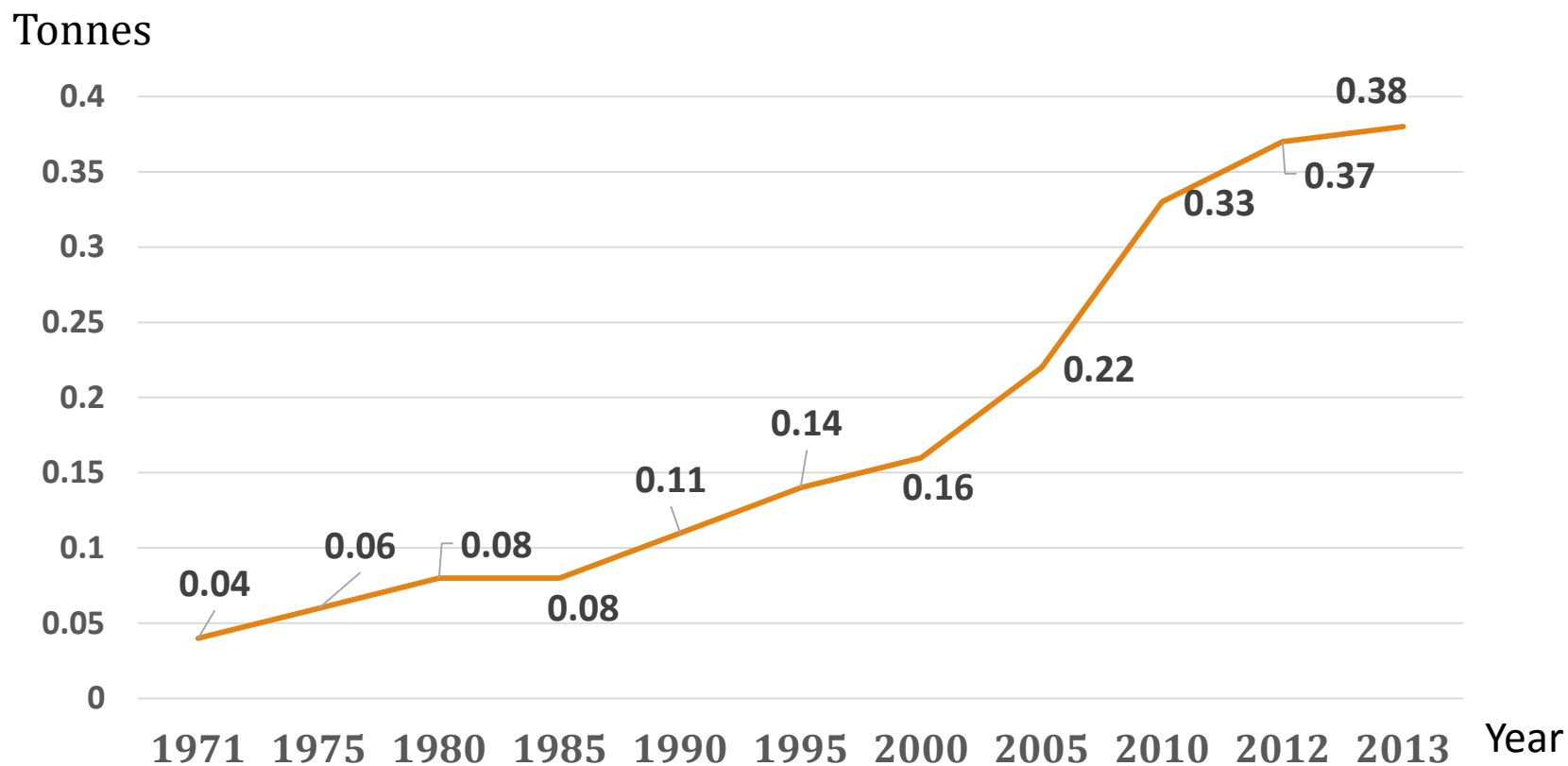
Source: GED, Planning Commission, Perspective Plan of Bangladesh 2010-2021 & BBS.

CO₂ emissions from fuel combustion in Bangladesh (million tonnes of CO₂)



Source: IEA Statistics

Per Capita CO₂ emissions (tonnes) in Bangladesh (1971-2013)



Source: IEA Statistics

Table: CO₂ emissions of Bangladesh by sector in 2013

| Different Sectors | Million tonnes of CO ₂ |
|--|-----------------------------------|
| Total CO2 emissions from fuel combustion | 59.6 |
| Electricity and heat production | 30.8 |
| Other energy industry own use | 0.1 |
| Manufacturing industries and construction | 10.6 |
| Transport | 8.2 |
| of which: road | 6.3 |
| Other sectors | 9.8 |
| of which: residential | 6.1 |

Source: IEA Statistics

Pollution Created by Industries

Water Pollution By industries:

- Many industries discharge industrial effluents directly into the river without conducting industrial impact assessment
- Textiles, tanneries, pulp and paper mills fertilizer, industrial chemical production and refineries are mostly located in the North Central region which release wastewater and effluents containing high alkalinity, high biological oxygen demand (BOD) and high-suspended solids without proper treatment into the nearby rivers
- The riverine environment of the river Buriganga is so badly affected that all fish have died, and increasing filth and human waste have turned it into black gel.
- It is being used as dumping ground for all kinds of solid , liquid and chemical waste.

Pollution Created by Industries....Contd.

- The bankside pollution has narrowed the river, disrupted its normal flow and polluted it in a manner that exposes its aquatic life of extinction.
- Other rivers like Turag, Dhaleshwari, Balu and Narai flowing around Dhaka city are the same condition as that of Buriganga.
- The rivers of Buriganga and Shitalakkhya have turned into this condition since 2001.
- They have lost their character as rivers and turned into large drains.
- Violating the environmental conservation rule 1997, textiles, metals, chemicals, rubber pharmaceuticals, cement leather pulp, paperboards, fertilizer, food processing, and petroleum refining in the city area are discharging untreated industrial effluents in the rivers per day.

Initiatives taken By the Government of Bangladesh

• **Environment Related Policies of Bangladesh:**

- Bangladesh Environment Conservation act, 1995
- Environment Court Act 2010
- Hazardous Waste and Ship Breaking Waste Management Rules 2011
- The Brick Burning (Control) Act, 1989
- The Building Construction Act, 1996
- The Environmental Conservation Rules, 1997
- The Environmental Conservation(Amendment) Law, 2000
- The Environmental Conservation(Amendment) Law, 2002
- The Environmental Court Act, 2000
- The Environmental Court(Amendment) Act, 2000
- The Forest Act 1927 (amended in 1990, 2000)
- Water Pollution control Ordinance 1973 (promulgated in 1974).
- Bangladesh wild life (preservation) order 1973 (promulgated in 1974) & wild life (preservation) Act 1973
- Bangladesh Bio-safety Rules 2010.

Important National Environmental Strategies

- National Conservation Strategy (NCS): Revision and finalising the draft National Conservation Strategy (NCS) - 2015 – 2016
- Bangladesh Climate Change Trust (BCCT)
- National Environmental Management Action Plan (NEMAP): June 1994-September 1998
- National Bio-diversity Strategy and Action Plan (NBSAP): NBSAP was finalised in July 2004
- National Action Programme (NAP) for Combating Desertification(Bangladesh signed the United Nations Convention to Combat Desertification (UNCCD) in 1996.
- Bio-safety Guideline for Bangladesh
- National Adaptation Programme of Action(NAPA)
- National Capacity Self Assessment (NCSA)
- Bangladesh Climate Change Strategy and Action Plan-2009

Initiatives taken by the Government

Classification of industrial units or projects based on its location and impact on environment : The Environment Conservation Rules, 1997 [Rule 7(1&2)]

(A) GREEN Category

(B) ORANGE-A Category

(C) ORANGE-B Category (PVC items, Glass Factory, Bricks/tiles, Plastic products, Clinic and pathological lab, Garments and sweater production, Fabric washing, etc.)

(D) RED Category [Tannery, Urea fertilizer, T.S.P. Fertilizer. Power plant, All mining projects (coal, limestone, hard rock, natural gas, mineral oil, etc.), Cement, Paper and pulp, Sugar. Fabric dyeing and chemical processing, Acids and their salts, Nitrogen compounds, Pesticides, fungicides and herbicides, Detergent, Ship manufacturing, Tobacco, etc.]

Initiatives taken by the Government

Classification of industrial units or projects based on its location and impact on environment.....contd

- (a) No industrial unit included in this list shall be allowed to be located in any residential area.
- (b) Industrial units shall preferably be located in areas declared as industrial zones or in areas where there is concentration of industries or in vacant areas.
- (c) Industrial units likely to produce sound, smoke, odor beyond permissible limit shall not be acceptable in commercial areas.
- (d) After obtaining location clearance on the basis of Initial Environment Examination (IEE) Report, the Environmental Impact Assessment (EIA) Report in accordance with the approved terms of reference along with design of ETP and its time schedule shall be submitted within approved time limit.

Initiatives taken by the Government

- **Seventh Five Year Plan FY2016 – FY2020** has outlined strategies to adapt to the impact of climate change
- **The National Adaptation Programme of Action (NAPA)** identified six priority areas: food security, social protection and health; comprehensive disaster management; infrastructure; research and knowledge management; mitigation and low carbon development; capacity building and institutional strengthening.
- **The Renewable Energy policy 2009**, is committed to facilitate both public and private sector investment in Renewable Energy projects to substitute indigenous non-renewable energy supplies and scale up contributions of existing Renewable Energy based electricity productions.

Green measures in the national budget

FY 2015-16: In order to provide policy related support to the noble venture of producing and supplying environment friendly solar power, budget proposed to allow exemption of VAT on producing and supplying batteries up to the capacity of 60 ampere to the IDCOL registered solar panel manufacturers by the battery manufacturing industries.

In continuation and with a view to ensuring a green environment, budget proposed to withdraw the existing trade VAT on local sales of jute products. In addition, it also proposed to withdraw the existing 15% VAT levied on the license issuance and license renewal fee of jute and jute products.

Considering their adverse impact on our environmental protection, budget proposed to raise the customs duty on certain harmful chemicals namely– Azo Dyes, Organotin Compounds, Chlorophenols from 5% to 25%.

Similarly, budget proposed to increase the customs duty on Artificial Filament Tow, used to produce filter tips for cigarettes, from 5% to 25%. Moreover, budget proposed to impose Supplementary duty of 20% on tyres used in motorcars.

FY 2016-17: In order to encourage installation of energy saving kilns in brick fields, proposes to allocate Tk. 100 crore as lump sum.

Tk. 100 crore has been allocated to the Climate Change Trust Fund.

Strategy for Green Industrial Policies for Bangladesh:

Two-pronged strategy to create green industry that does not require the ever-growing use of natural resources and pollution for growth and expansion.

1) Greening of existing industry: with a long-term focus on continuously improving environmental performance regardless of sector, size or location by:

- ✓ • **improving production efficiency:** using resources more efficiently and optimizing the productive use of natural resources;
- ✓ • **enhancing environmental performance:** minimizing environmental impact by reducing the generation of waste, emissions and environmentally sound management of residual wastes; and
- ✓ • **minimizing health risks:** caused by environmental emissions

Strategy for Green Industrial Policies for Bangladesh..

(2) *Creating new green industries:* Green industry goal is to supply for domestic needs with green technologies as well as service the need of international markets

Companies that manufacture and install renewable energy equipment as well as a wide range of companies developing clean technologies for the industrial, transport, buildings and automotive sectors.

Service industries, including recycling companies, waste management and treatment companies, as well as companies that transport.

Other examples - engineering companies that specialize in wastewater treatment, air pollution control and waste treatment equipment, as well as companies that provide monitoring, measuring and analysis services.

Policy Framework for Greening Industries in Bangladesh

Greening of industries is a cross-cutting exercise. It has a range of policy streams, such as

- 1) **Industrial policy**
- 2) **Environmental policy**
- 3) **Regional development policy**

Green industry policies - broad range of government interventions which directly or indirectly support the greening of industries

Achievement of overall goal of Greening industries – policy mix that combines “Carrot and Stick” approach and Awareness Raising

Policy Framework for Greening Industries in Bangladesh

1) An Integrated Framework for Supporting the Greening of Industries

- ✓ Commitment to the greening of industries from top levels of the government
- ✓ Setting up a high-level strategy, be it regarding sustainable development, poverty reduction, sustainable consumption and production, or other related topics
- ✓ Setting up regulatory frameworks
- ✓ Coordination of various bodies such as ministerial committees or inter-agency forums, and developing integrated, high-level sector strategies, e.g. education, health & safety, science
- ✓ Development of clear, measurable and enforceable policies

Policy Framework for Greening Industries in Bangladesh

2) Creating an Enabling Environment

- ✓ Market-based measures such as
 - Providing access to finance through loans, grants, seed funds etc.
 - Removal of harmful subsidies
- ✓ International cooperations and trade and investment policies. Integration of environmental issues with trade and investment policies
- ✓ Provision of eco-efficient infrastructures such as wastewater, water, energy, recycling etc.
- ✓ Supporting local action by empowering local authorities and community-based organisations. Collaborations, resourcing, capacity building, and institutional support
- ✓ Enhancing the skill base of society through education curricula and training programmes. Targeting all levels of education: primary and secondary, technical and vocational, higher education, and lifelong/on the job

Policy Framework for Greening Industries in Bangladesh

3) Instrument Mixes to Support the Greening of Industries

- ✓ Policy mixes, which include market-based, regulatory, voluntary, and information-based instruments
- ✓ Instrument mixes which are flexible and broad-based
- ✓ A system of monitoring, revenue collection and enforcement to support the implementation of market-based instruments (Environmental taxes and charges pricing instruments)
- ✓ An integrated, overarching legal framework to support regulatory policy measures
- ✓ Flexible and well-designed policy measures so not to stifle technological innovations
- ✓ Environmental indicators to support monitoring and enforcement regime
- ✓ Compliance regimes which combine promotion, monitoring, and enforcement tools

Policy Framework for Greening Industries in Bangladesh

4) Harnessing Environmental Technologies

- ✓ Developing technical capacity. Education, outreach, links to research labs.
- ✓ Building the technology base through strategic R&D programmes. Industry-led research partnerships, co-funding programmes, technology transfer initiatives.
- ✓ Financing environmental technologies through tax breaks, grants, seed & venture capital etc. Funding and incentive instruments which are carefully designed to avoid windfall gains.
- ✓ Accelerating technology diffusion. Effective incentives, targeted sectors, locally oriented programmes, and integrated services.
- ✓ Promoting effective knowledge transfer through networks, collaboration and infrastructures. Knowledge transfer facilitated through the formation of science partnerships, joint ventures, clusters, incubators, science parks, global networks etc.
- ✓ An integrated and strategic science system supported by tools such as environmental scanning.

Policy Framework for Greening Industries in Bangladesh

5) Industry-Led Initiatives

- ✓ Supporting facilities which raise awareness and build capacity. Enhancing firm capability through training facilities and demonstration programmes.
- ✓ Promoting Environmental Management Systems. Government-business partnerships which seek to foster improved environmental management.
- ✓ Industry-based standards.
- ✓ Eco-labels and certification.
- ✓ Life cycle analysis. Identifying pollution and waste reduction initiatives throughout a product's life cycle.
- ✓ Greening the supply chain.
- ✓ Promoting Corporate Environmental Responsibility. Designing incentives that promote pro-active behaviours, rather than opportunities to avoid compliance issues.

Concluding remarks

Multiple benefits of Green Industry:

- ✓ Reduced raw material (i.e. commodity) costs,
- ✓ Increased security of supply,
- ✓ Reduced pollution risks and costs,
- ✓ Lower cost of capital,
- ✓ Increased employee appeal and engagement,
- ✓ Increased awareness of emerging smart technologies,
- ✓ Enhanced innovation capacity and skills, and
- ✓ Improved brand recognition and competitive position in markets
- ✓ Pathway to long term economic growth and sustainable development

Concluding remarks

- ❑ Green Economy is achieving improved human well-being and social equity while simultaneously diminishing environmental risks and reducing ecological scarcities.
- ❑ Green Industry transforms manufacturing and allied industry sectors by introducing more efficient/productive/responsible use of raw materials so that they contribute more effectively to sustainable industrial development.
- ❑ It is about doing more, and better, with less.
- ❑ Green Industry is thereby the sector strategy for the realization of Green Economy, and ultimately, sustainable development.

Thank You
