

**Workshop to support the consideration of information on potential environmental, economic and social consequences, including spillover effects, of tools, policies, measures and methodologies available to Annex I Parties
(AWG – KP - 7)**

Addressing Developing Country Concerns on Spillover Effects

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Key Questions

1. What are the objectives of Annex I countries in respect of developing countries ?
2. What impact could response measures have on developing countries?
3. What types of spillover exist?
4. What actions are needed to minimize the impact?
5. How to enhance compliance?
6. How to incorporate developing countries' concerns into future regimes?

1) What are the objectives of Annex I countries' climate change measures in relation to developing countries?

Provisions of Articles 2.3 and 3.14 of the Kyoto Protocol govern climate change measures of Annex I countries under AWG-KP:

- ✓ Minimize adverse international trade, social, environmental, and economic impact on developing country Parties including:
 - ✓ Spillover effects of response measures
- ✓ Establishment of funding, insurance and transfer of technology to help minimize the adverse impacts on developing countries.

2) What impact could response measures have on developing countries ?

- ✓ Potential adverse economic impact: productivity loss, unemployment, decline in consumption, decline in investment, and increased trade barriers.
- ✓ Potential adverse social impact: internal/external migration, poverty, food security, education, and social and ethnic conflicts.
- ✓ Potential adverse impact on environment: degradation of environmental resources, loss of habitat and biodiversity, and water pollution.

3) What types of spillover exist?

Defining spillover:

According to the Third Assessment Report of the IPCC, “spillovers from domestic mitigation strategies are the effects that these strategies have on other countries. Spillover effects can be positive or negative and include effects on trade, carbon leakage, transfer and diffusion of environmentally sound technology, and other issues.”

3) What types of spillover exist?

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1. Technological Innovation

- ✓ Spillovers due to the diffusion of technological innovations induced by abatement action in the industrialized countries and transferred to the developing countries.

2. Policies Spillovers

- ✓ Spillovers due to policy and political influence of mitigation efforts of industrialized countries on abatement actions of developing countries (e.g. acknowledgement of need to abolish fossil fuel subsidies, accepting mitigation commitments, liberalizing electricity markets or implementing other energy efficiency-enhancing measures).

3) What types of spillover exist?

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3. Investment leakage

- ✓ Spillovers due to economic substitution effects.

4. Investment in factors of production

- ✓ Barriers in Annex I countries make it difficult to attract FDI

3) What types of spillover exist?

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5. Adverse impact on trade in energy goods:

- ✓ Restrictions in Annex I countries lead to less demand for energy goods and thus:
 - ✓ lower prices of energy goods
 - ✓ reduced trade of energy goods.

6. Adverse impact on trade in other goods and services:

- ✓ Restrictions in Annex I countries increase production costs and lead to lower demand for goods and services that use energy goods as inputs
- ✓ Deterioration of terms of trade for developing countries as prices increase

3) What types of spillover exist?

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Climate Change mitigation policies will spillover impacts on:

- ✓ International trade in energy goods.
- ✓ International trade in other goods and services.
- ✓ International trade in factors of production
- international capital reallocation
- ✓ International interaction among government policies.

Example of impact on Agriculture sector

- Agriculture & Forestry is a key sector for many developing countries, contributing on average 30% to GDP, 40% to employment, and about 60% of export proceeds. *
- A uniform approach for this sector encourages land intensive mitigation strategies that impact negatively on land productivity and future food supplies that are needed to meet population growth and prosperity in developing countries.
- Due to technology and efficiency differences, a uniform approach for agriculture increases production costs and negatively affects exports and competitiveness of developing countries in agricultural products.

* (Source: World Bank, World Development Indicators, WDI)

Example of impact on Agriculture sector

- Risk of trade protectionism: Agricultural exports of developing countries will be affected by likely increase in non-tariff barriers in sector to implement targets.
- Risk of economic and social effects: income loss, unemployment:
 - ✓ Increased production costs = rise domestic food prices
 - ✓ Increased production costs = decrease in exports
 - ✓ Combined effect: income losses, unemployment and balance of payment difficulties.
- Risk of significant social welfare externalities: food security, health, water availability
 - ✓ Due to changes in global food supply and demand patterns

Example of impact on Iron & Steel sector

- Iron & Steel is a key industry in many developing countries.
- China, India, and South Africa are leading producers and exporters of steel products, with China alone accounting for 34% of global production.
- Large differences in technologies and production processes between developing world and developed countries:*

	Energy intensity GJ/ton	Carbon intensity ton of carbon/ ton of steel
China	36.7	0.87
India	37.3	0.98
South Africa	44.4	1.11
Best Practice	20	0.5

* (Source: OSTI, Price et. Al., 2001)

Example of impact on Iron & Steel sector

- Risk of transformation from exporter to net importer:
 - ✓ Technological disadvantage of developing countries implies greater burden under uniform approach, based on energy intensity or carbon intensity benchmarking
- Risk of loss of comparative advantage and export proceeds:
 - ✓ In turn leads to income losses, unemployment, and macroeconomic imbalances.
- Risk of add-on macro-economic effects on rest of global economy due to key role of iron and steel:
 - ✓ Steel prices impact economy at large

4) What actions are needed to minimize response measures impact?

Three types of actions required:

1. Eliminate "green protectionism" in Annex I countries
 - ✓ The progressive reduction or phasing out of market imperfections, fiscal incentives, tax exemptions and subsidies in all greenhouse gas emitting sectors.
 - ✓ Removal of subsidies associated with environmentally unsound and unsafe technologies.
2. Comprehensive approach in Annex I Countries
 - ✓ All GHGs
 - ✓ All sectors

4) What actions are needed to minimize response measures impact?

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3. Provide support for adaptation by Developing countries

- ✓ Cooperation and support in the technological development of non-energy uses of fossil fuels.
- ✓ Cooperation in the development, diffusion and transfer of less greenhouse-gas-emitting advanced fossil-fuel technologies.
- ✓ Strengthen developing countries capacity to improve efficiency in upstream and downstream activities relating to fossil fuels.
- ✓ Assist developing countries that are highly dependent on the export and consumption of fossil fuels in diversifying their economies.

5) How to enhance compliance?

- ✓ Impose clear guidelines on:
 - ✓ Benchmark methodologies
 - ✓ Reporting requirements
 - ✓ Monitoring and Verification requirements.
- ✓ Assess the adequacy and effectiveness of funding, insurance and technology transfer arrangements to minimize the impacts of spillovers.

6) How to incorporate and action developing country concerns into future regimes?

- ✓ Full Assessment of potential impact of the proposed post-Kyoto policies and measures by Annex I parties on developing country parties.
- ✓ Full assessment of alternative policies and measures available for Annex I countries that achieve the same mitigation effort to minimize spillover impact of response measures on developing country parties.
- ✓ Determine funding, insurance and technology transfer arrangements to be provided by Annex I parties to minimize

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