
**Committee on Trade and Environment
Special Session
Negotiating Group on Market Access**

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**NEGOTIATIONS ON ENVIRONMENTAL GOODS: EFFICIENT, LOWER-CARBON
AND POLLUTANT-EMITTING FUELS AND TECHNOLOGIES**

Submission by the State of Qatar

Paragraph 31 (iii)

I. INTRODUCTION

1. In view of the structure adopted by the Trade Negotiations Committee and the subsequent responsibilities entrusted with the Committee on Trade and Environment in Special Session (CTESS) and the Negotiating Group on Market Access (NGMA), this paper is submitted for consideration by both the CTESS and the NGMA.

2. In the initial communication by the State of Qatar to the Third Meeting of the CTESS (TN/TE/W/14), we emphasized the necessity of compilation of definitions and classification for environmental goods and services by the CTESS. Although the work conducted by the OECD and APEC is a useful contribution to the negotiation on environmental goods, it must be considered as a basic framework that requires further comprehensive elaboration and coverage.

3. A clear methodology capable of defining and assessing the scope and characteristics of environmental goods and technologies is a fundamental necessity for their compilation and for enhancing the negotiations by the NGMA and the CTESS on the eligibility of the concession list of environmental goods, technologies and services.

II. DEFINITION OF ENVIRONMENTAL GOODS

4. It is essential that the specific environmental protection end-use criteria adopted in selecting particular environmental goods, technologies or services are clearly identified. Inherent environmental and wider sustainable development benefits that warrant the inclusion of these goods and technologies in the concession list subject to negotiation by the CTESS and the NGMA must be demonstrated as accurately as possible. This will lead to better classification and ranking of the environmental goods, technologies and services. Moreover, it will enhance the synergies and mutual supportiveness between MEAs and the WTO and strengthen their complementary benefits to sustainable development particularly for developing countries.

III. EFFICIENT, LOWER-CARBON AND POLLUTANT-EMITTING FUELS AND TECHNOLOGIES

5. Identification and evaluation of the merits of environmental goods, technologies and services in relation to MEAs are important steps in order to define the scope and eligibility of these goods and services for trade liberalization negotiations by the WTO.

6. In the previous submission by the State of Qatar to the third Meeting of the CTESS, we recommended that combined-cycle natural gas fired generation systems and advanced gas-turbines systems, known for their energy efficiency and sustainable development potential, be included in the list of environmental goods.

7. This paper attempts to define and assess the economic and environmental merits of these systems and other related efficient lower-carbon and pollutant-emitting fuels and technologies. Table 1 contains a list of the proposed goods and technologies and their merits. Although the assessments for these systems were made with reference to standard technologies and products, there is no question as to their significance in relation to MEAs and sustainable development. We propose that the list in Table 1 be included in the OECD illustrative categories of environmental goods, Section B relating to cleaner technologies and products.

IV. RATIONALE FOR TRADE LIBERALIZATION

8. Emission of greenhouse gases (GHGs) due to combustion of fossil fuels is believed to be the primary cause of the observed global climate change. A principal target of the United Nations Framework Convention on Climate Change (UNFCCC) is, LIST OF PROPOSALS submitted under paragraph 31 (i) of the Doha declaration therefore, the gradual shifting of global energy systems from carbon intensive energy sources to carbon-free renewable energy sources in order to reduce the emission and build-up of GHGs in the atmosphere. Since renewable energy sources will be unable to meet most of the global energy demand for some time, natural gas and other related cleaner fuels, e.g. cryogenic and chemical gas to liquid fuels derived from natural gas, are an essential bridge to a carbon-free era.

9. Synergism between natural gas and renewable energy sources already exists. Hybrid systems utilizing natural gas fired generating units provide backup power for intermittent renewable technologies such as photovoltaic and wind in order to enhance their value. A simple cycle gas turbine and wind farm achieve a combined capacity factor as high as 75%.

10. Hybrid renewable energy sources and natural gas are also linked through their role in a renewable hydrogen economy. Currently most hydrogen is manufactured using natural gas. Since hydrogen can be stored, it frees intermittent renewable energy technologies from reliance on backup power from conventional energy sources. For similar reasons it provides a clean energy source for the transportation sector. It is anticipated that natural gas will, most likely, provide the initial source for any large-scale penetration of hydrogen into the global energy market.

11. According to the IEA global energy outlook, natural gas is the second fastest growing energy source after non-hydro-renewables (geothermal, solar, wind, tide, wave energy, biomass and waste). Although projected to be the fastest growing primary energy sources over the outlook period, renewable energy sources' share of the global energy market will only be 3% by 2020 compared to the current value of 2%. On the other hand, global demand for natural gas is projected to increase steadily, reaching a share of 26% in 2020 compared to 22% today.

12. Natural gas has been recognized in the Kyoto Protocol negotiations as part of the solution to stabilize greenhouse gases in the atmosphere. Implementation of articles 4.8 and 4.9 of the convention and articles 3.2 and 3.14 of the Kyoto Protocol has the following paragraph: Paragraph (31): *“Encourages Annex-II Parties to promote investment in, and to support and cooperate with, developing country parties in the development, production, distribution and transport of indigenous, less greenhouse gas emitting, environmentally sound, energy sources including natural gas, according to the natural circumstances of each of these parties”*. The IPCC Assessment Reports have recommended increased use of natural gas over other fossil fuels as a way to reduce greenhouse gas emissions.

13. Assessment results of the potential merits of the proposed list of environmental goods and technologies (Table 1) show that their relative merits, compared to standard fuels and technologies, are substantial and broader when viewed within the perspective of multilateral environmental agreements (MEAs). They offer, in addition to climate change mitigation opportunities, a wide range of sustainable development socio-economic benefits including: (i) higher energy efficiency; (ii) reduced toxic air pollution emissions and waste generation; (iii) improved air quality conditions and decreased adverse environmental impacts on human health, human welfare and on biodiversity. The broad range of benefits offered by the combination of lower-carbon and pollution-emitting fuels and technologies are primarily due to the intrinsic chemical and physical characteristics of natural gas and its cryogenic and chemical gas to liquid derivatives which are virtually free of sulphur, nitrogen, aromatics and ash content. These properties, in addition to lower carbon content, result in the superior environmental performance of these fuels when combined in use with available advanced energy technologies.

V. TRADE BARRIERS

14. The reduction or elimination of tariffs on the global trade of efficient lower-carbon and pollutant-emitting fuels and technologies is an important step to lower their cost and enhance their global diffusion. In addition, non-tariff barriers (NTB) are serious impediments to global trade in these goods.

15. The current energy-related fiscal measures and policies concerning imports to developed countries are distorted. They do not clearly reflect the large economic benefit and wider sustainable development merits resulting from enhanced utilization of efficient lower-carbon and pollutant-emitting fuels and technologies such as natural gas. Progressive phasing out of market imperfection e.g. subsidies, fiscal incentives, tax and duty exemptions in all pollution emitting sectors is imperative. Restructuring of the carbon tax to reflect the carbon and pollutant contents of fuels is also important in order to realize the objectives of global environmental protection and sustainable development, particularly for the developing countries.

16. Energy Market Liberalization is economically beneficial through the efficiency gains within the existing systems and through enhanced technological dynamism.

VI. CONCLUSION

17. Efficient, lower-carbon and pollutant-emitting fuels and technologies have wider sustainable development merits that include socio-economic and environmental benefits, climate change mitigation potential, improved fuel efficiency and reduced adverse impacts to human health. An assessment of these advantages, for a selection of environmental goods and technologies, is presented in Table 1.

18. The State of Qatar proposes the inclusion of these items, as summarized below, in the OECD list of environmental goods and technologies, Section B on cleaner technology and goods.

19. The merits of this proposal are sound. It is sincerely hoped that the discussions by the CTESS and NGMA will lead to trade liberalization of these efficient lower-carbon and pollutant-emitting fuels and technologies, leading to subsequent improvements in the availability and affordability of these products in the global energy market.

| Category | | Environmental Goods & Technology | |
|----------|--|--|---|
| I | Gas Turbines Combined Cycle Power Generation | 1. 2. 3. | Liquefied Natural Gas (LNG) (HS 2711.11.00) Natural gas (Gas) (HS 2711.21.00) Natural gas driven turbines and associated parts used (HS codes) |
| II | Chemical Gas to Liquid (GTL) Fuels | 1. 2. 3. 4. 5. 6. 7. | GTL LPG (HS Code) GTL Diesel (HS Code) GTL Naphtha (HS Code) GTL Jet Fuel (HS Code) GTL Lube Oils (HS Code) GTL Methanol (HS Code) GTL Dimethyl Ether (HS Code) |
| III | Natural Gas Fuel Cell Technologies | 1. 2. 3. | Fuel Cell Power Plants (HS Code) Residential Fuel Cells (HS Code) Commercial Fuel Cells (HS Code) |

Table 1. Efficient, Lower Carbon and Pollutant Emitting Fuels and Technologies: Environmental Merits Relative to MEAs

| I. GAS TURBINES COMBINED CYCLE POWER GENERATION | | | |
|--|--|---|--|
| 1. | Environmental Good HS | Liquefied Natural Gas (LNG) Heading 2711.11.00 (USA) | |
| | Environmental Good HS | Natural Gas (Gas) Heading 2711.21.00 (USA) | |
| 2. | Environmental Technologies HS | Natural Gas driven Turbines and Associated Parts used in CC generation. HS Codes | |
| 3. | Sustainable Development Merits • Range of IRCE Compared to other Fossil fuels of Higher Carbon Content | Increased Relative Conversion Efficiency (IRCE) 23% - 37% | |

| | | | |
|---|---|---|--|
| 4. | Climate Change Mitigation Merits (UNFCCC) <ul style="list-style-type: none"> • Range of Estimated LRGE compared to other Fossil Fuels Higher Carbon Content. CO ₂ / kwh CH ₄ / kwh N ₂ O / kwh | Lower Relative GHG Emissions (LRGE) 35% - 55% 25% - 75% 90% - 95% | |
| 5. | Wider Sustainable Development Merits <ul style="list-style-type: none"> • Range of Estimated LRTPE compared to other Fossil Fuels of Higher in Carbon Content • SO₂ / kwh • PM / kwh • NO_x / kwh • NMVOC / kwh | Lower Relative Toxic Pollutant Emissions (LRTPE), Reduced Toxic Waste Generation, Reduced Human Health Impact. 100% 100% 50% - 70% 20% - 30% | |
| 6 | Reference | FCCC/SBSTA/2002/MISC.3 P 16-35 (UNFCCC document) | |
| II. CHEMICAL GAS TO LIQUID FUELS | | | |
| 7. | Environmental Good | GTL LPG (HS Code) GTL Diesel (HS Code) GTL Naphtha (HS Code) GTL Jet Fuel (HS Code) GTL Lube Oils (HS Code) GTL Methanol (HS Code) GTL Dimethyl Ether (HS Code) | |
| 8. | Wider sustainable Development Merits | Ultra-clean transportation fuels, oils and feedstock with lower toxic pollutant emissions and no aromatic content. Reduced human health impact | |
| 9. | Emission Reductions Relative to Low sulfur petroleum Diesel | HC (45%) CO (45%) PM (30%) NO _x (9%) | |

| | | | |
|--|---|---|--|
| | Reference | <ul style="list-style-type: none"> • US Dept. of Energy • Energy and Transport Sector Outlook to 2020. Commonwealth Scientific and Industrial Research Organization (CSIRO), September 2002 | |
| III. NATURAL GAS FUEL CELL TECHNOLOGIES | | | |
| 10. | Environmental Technology | Fuel Cell Power Plants (HS Codes) Residential Fuel Cells (HS Codes) Commercial Fuel Cells (HS Codes) | |
| 11. | Wider Sustainable Development Merits Range of IRCE | Increased Relative Conversion Efficiency (IRCE) 70% - 85% (using waste heat) Significantly lower relative toxic pollutant emissions, toxic waste generation and negligible human health impact. | |
| 12. | Climate Change Mitigation Merits (UNFCCC) | Significantly lower GHG Emissions (CO ₂ , CH ₄ , N ₂ O) | |
| | Reference | <ul style="list-style-type: none"> • US Dept. of Energy • IEA | |
