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Regulatory Principles for Environmental Services and the General Agreement on Trade in Services



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for Economic Co-operation and Development



International Centre for Trade
and Sustainable Development

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ACRONYMS

CPC	United Nations Central Product Classification
CTS	Council on Trade and Services
EFTA	European Free Trade Association
EMOS	Empresa Metropolitana de Obras Sanitarias
GATS	General Agreement on Trade in Services
MFN	Most-Favoured Nation
OECD	Organisation for Economic Co-operation and Development
PPIAF	Public-Private Infrastructure Advisory Facility
SENDOS	Servicio Nacional de Obras Sanitarias
SSS	Supervisory Board for Health Services
TCS	Tarjeta de Clasificación Social
UNCTAD	United Nations Conference on Trade and Development
WSP	Water and Sanitation Program
WTO	World Trade Organization

FOREWORD

Environmental goods and services (EGS) as a subset of goods and services was signaled out for special attention in the negotiating mandate adopted at the Fourth Ministerial Conference of the World Trade Organisation (WTO) in November 2001 that launched the Doha Round. Specifically, paragraph 31(iii) calls for the “reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services”. Within the Doha Round, negotiations on environmental services are taking place in the Special Sessions of the Committee for Trade in Services (CTS), while negotiations related to environmental goods are primarily negotiated in the Committee on Trade and Environment (CTE) and the Negotiating Group on Market Access (NGMA).

Increasing access to and use of EGS may contribute to a significant number of benefits including facilitating access to essential services such as clean water and basic sanitation, improving energy and resource-efficiency, and reducing air and water pollution. It is generally accepted that gradual trade liberalisation and carefully managed market opening in these sectors can serve as a powerful means for sustainable economic development through generating economic growth and employment, specifically in environmental services through Mode 3 (commercial presence), and enabling the transfer of valuable skills, technology and expertise. In short, well-managed trade liberalisation in EGS can facilitate the achievement of sustainable development goals set out in global mandates such as the Johannesburg Plan of Implementation, the UN Millennium Development Goals (MDGs) and various multilateral environmental agreements.

However, liberalisation must be planned carefully and implemented in an appropriate sequence to ensure that it is compatible with national goals and sustainable development objectives with effective competition and regulatory systems are in place. The existence of these systems may be particularly challenging for developing countries, which frequently have weaker regulatory regimes and limited institutional and negotiating capacities. Thus, the provision of effective technical assistance and the necessary capacity for supporting liberalisation is of particular importance to these countries.

An additional challenge, for both developing and developed countries alike, is in defining environmental services as a coherent sector. Traditionally, environmental services have been defined in terms of infrastructure that address basic needs, including water distribution and wastewater and solid waste management. However, more recently some countries are at a stage of economic and environmental development allowing consideration of non-infrastructure environmental services such as air pollution management, and related support services such as environmental consulting and engineering services. Distinction between the two categories is important within the context of the WTO negotiations given the critical nature of infrastructure environmental services in addressing basic needs while non-infrastructure services provide an increasingly important role because they represent new ways in using resources that will contribute to addressing more stringent environmental standards. Infrastructure services, although in the past frequently provided by the public sector, are increasingly offering opportunities for private sector involvement. As governments open infrastructure environmental services to private sector companies, new regulatory mechanisms are required to address pricing and to create appropriate incentives to ensure universal access and maintain standards. At the same time, there is a need for greater knowledge about non-infrastructure environmental services among negotiators and government officials. This is particularly the case since they can produce offensive interests for many developing countries given that they require less capital than infrastructure environmental services.

This paper seeks to contribute knowledge and stimulate further dialogue on the part of policy-makers and trade negotiators by examining the principles of regulatory and institutional practice in the environmental services sector, both infrastructure and non-infrastructure categories, and the

main issues relating to the regulation of these services within the General Agreement on Trade in Services (GATS). The paper makes clear that GATS can affect governments' regulatory behaviour, particularly when specific commitments are made. The paper argues that given that the GATS allows WTO Members considerable flexibility to accommodate domestic policies, it is critical that negotiators and government officials carefully examine provisions of the GATS and to adjust specific commitments to fit domestic policy objectives. At the same time, specific commitments should only be made once appropriate regulatory systems have been implemented.

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We hope you will find this paper to be stimulating and informative reading.

A handwritten signature in black ink, appearing to read 'R-M-O', with a horizontal line underneath.

Ricardo Meléndez-Ortiz
Chief Executive, ICTSD

I. INTRODUCTION

Today, half of the world's population still lacks basic sanitation and one person out of five has no access to drinking water. In developing countries, more than 90 percent of all wastewater flows directly into rivers, lakes and coastal waters without any treatment, and solid waste generated by approximately half of the urban population is not adequately treated and eliminated. Air pollution is also a growing problem, as urban sprawl and industrialisation have led to an increase in energy consumption.

Strengthening the environmental services sector is therefore of vital importance. It is generally accepted that increasing trade and investment in environmental services can facilitate access to these services in developing countries, with potentially significant environmental and economic benefits. At the international level, this awareness has led to a new mandate to negotiate the liberalisation of environmental goods and services. More precisely, paragraph 31 (iii) of the Doha Ministerial Declaration of the World Trade Organization (WTO) calls for "(iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services". With respect to these services, this mandate is being implemented in the special sessions of the Council for Trade in Services (CTS).

At the same time, opening these markets to foreign competition is not an easy task. It implies a broad system of policies, regulatory instruments and institutions. Liberalisation must be planned carefully to ensure that it is compatible with national goals and development and that the necessary regulations are put in place. This can prove particularly difficult for developing countries, which normally have weaker regulatory regimes and limited administrative and negotiating capacities.

This study examines the principles of regulatory and institutional practice in the environmental services sector and the main issues relating to the regulation of these services under the General Agreement on Trade in Services (GATS). The following section briefly describes the characteristics of these services. Subsequently, section III examines the regulatory principles for infrastructure environmental services. Section IV offers some preliminary ideas on regulatory characteristics and issues relating to non-infrastructure environmental services and environmental support services. Section V considers whether the main GATS provisions can lead to a lasting decline in governments' ability to ensure an adequate supply of these services.

II. CHARACTERISTICS OF ENVIRONMENTAL SERVICES

The environmental services sector is hard to describe as one coherent sector. Traditionally, environmental services have been defined in terms of infrastructure for water and wastewater management, often provided by the public sector. More recently, however, it has been felt that it is necessary to go beyond these infrastructure services, creating a demand for other, non-infrastructure environmental services (for example, air pollution control) and related services (for example, environmental consulting). This is due to various factors, including new regulatory rules for pollution management, growing public awareness of environmental problems and a trend towards privatisation and liberalisation, which have generated private sector demand for a broad range of environmental services.

This tendency is also reflected by current negotiations at the WTO, where Members have submitted various communications aimed at improving the WTO Services Sectoral Classification List (also known as W/120). This list includes the following under environmental services: (1) liquid waste services, (2) refuse disposal services, (3) sanitation and other similar services and (4) other environmental services. Moreover, the European Union has proposed its own classification for environmental services, which includes the following:

- Water for human use and sewage management;
- Management of solid hazardous waste;
- Environmental and climate protection;
- Remediation and clean up of soil and water;
- Noise and vibration abatement;
- Biodiversity and landscape protection;
- Other related environmental services.

The European Union has also proposed that certain related services (such as consulting or engineering) could be included in a “cluster” or “checklist”, that could serve as an *aide-mémoire* during the other sectoral negotiations, the results of which would be included in the corresponding lists for other sectors. In fact, the European Union is proposing a revised classification to better reflect the types of services provided by modern environmental firms. Other countries have also adopted the said classification or a similar version in their offers submitted during the current negotiations.

The first two categories above could be defined as “infrastructure environmental services”, while the remaining categories and related services could be defined as “non-infrastructure environmental services and support services”.¹ This document follows that distinction with a view to facilitating the discussion of regulatory principles in the environmental services sector.

III. INFRASTRUCTURE ENVIRONMENTAL SERVICES

Private Sector Participation and Competition

In the past, trade in infrastructure environmental services - including water distribution and wastewater and solid waste management - was limited because these services were primarily provided by municipalities. Government intervention was deemed necessary to ensure equitable access to these services or because they constituted a natural monopoly. The opportunity for competition in infrastructure environmental services has traditionally been limited, given that existing infrastructure - water and sewage pipes - has often been too costly for duplication.

In recent years, however, trade in infrastructure environmental services has increased following changes in their delivery, providing new opportunities for the private sector. Above all in developing countries, the participation of the private sector is primarily aimed at increasing investment, improving the functioning of infrastructure and introducing competition wherever possible. In view of the lack of domestic capacity and financing, when governments in developing countries decide to open these services to private participation, they often opt in favour of foreign participation.

In the water sector, although companies sometimes compete in the same market most competition in the market is between water offered through pipes or other means such as vendors (albeit piped water can be sold at a considerably lower price). New technologies have also made it possible to reduce the need for economies of scale in secondary distribution of water and wastewater. Smaller, less expensive pipes and jointly operated sewer drains and septic tanks are increasingly being used to improve access for poor consumers. Opportunities also exist for introducing competition in wastewater treatment.

Experience in many countries suggests that it may not be efficient to promote competition in the market for the collection of solid waste from households and small companies (even though

some countries like Finland have adopted a system allowing competition in this market). Yet competition may be introduced in the collection of solid waste for major refuse producers (producers who regularly generate truckloads of refuse), for the collection of exceptional waste where punctuality is important, or for the collection of refuse requiring special treatment. In both industrialised and developing countries, there is already competition for these services (OECD, 2005).

However, even when competition *in* the market is not possible, it is possible to introduce competition *for* the market with monopoly licences. Many countries have employed innovative strategies to encourage private participation in these services. Various forms of public-private partnerships, for example concessions, have emerged as alternatives to privatisation - where property is transferred permanently to the private sector (see Box 1 on page four). For example, a concession contract grants a private company, typically through a tendering process, the exclusive right to perform a service during a specific period of time either using existing facilities or developing new ones. The concession only requires the transfer over time of the assets (e.g. water pipes) to the private sector. At the end of the concession period, the assets revert back to the public sector (World Bank, 2004).

As a result of these changes, infrastructure environmental services have gradually become included in the market and exposed to international trade. However, even though liberalisation may offer significant benefits in terms of efficiency and service access, experience has shown that reforms must be suitably designed and backed by a solid regulatory system.

If a government decides to encourage private sector companies, including foreign firms, to provide services hitherto supplied solely by the public sector, the government will have to become a regulator for these services. New

regulatory mechanisms will be required with respect to pricing and to creating appropriate incentives to ensure universal access and to maintain standards.

Another important dimension is the establishment of strong and independent regulatory and competition bodies with the capacity to develop and enforce appropriate regulations. When such bodies exist, private sector participation can make it easier to achieve the government's objectives because, for example, state service providers may be reluctant to supervise and fine (other) government agencies - a classic conflict of interest. Transparency as to the government's decisions and the underlying reasons for these decisions is also essential for ensuring accountability, as is the introduction of instruments to encourage consumer involvement in the supervision and

evaluation of service improvements and in the achievement of government objectives.

Experience has also shown that there is no "one-size-fits-all" model when it comes to reforms. Each liberalisation programme must take into consideration the characteristics of the various sub-sectors as well as the economic, institutional, social and political characteristics of the country (World Bank, 2004). Moreover, the elaboration of appropriate regulatory instruments and the establishment of institutions may be a costly process that requires sophisticated skills, posing problems that are more acute in developing countries. The provision of technical assistance and the necessary capacity for backing liberalisation is thus particularly important for these countries.

Box 1. Options for Private Sector Participation

- **Service contracts** enlist the private sector to perform specific tasks. These contracts usually run for short periods, between six months and two years. Their main advantage is that they rely on private-sector expertise to execute technical tasks and open these tasks up to competition. Responsibility for investment remains with the public sector.
- **Management contracts** transfer responsibility for operating and maintaining government business to the private sector. These contracts are generally for three to five years. In their simplest form, private firms are paid a set fee to perform management duties. There are also more sophisticated contracts which introduce greater incentives with a view to enhancing efficiency. Responsibility for capital investment remains with the public sector.
- **Concessions** transfer responsibility to private stakeholders for not only operating and maintaining assets but also for investment. The assets remain the property of the government, which has complete rights over their use, and revert to the government once the contract ends, generally after 25 to 30 years.
- **Construction, operation and transfer contracts** can vary. In general, the private sector builds the facilities and performs the service during a specified period - usually for 20 to 30 years - after which the assets revert to the government.
- **Dispossession** may be partial or complete. Complete dispossession transmits full responsibility for operations, maintenance and investment to the private sector. Unlike with a concession, dispossession transfers ownership of assets to the private sector.

Source: World Bank, 1997.

Regulatory Goals and Instruments

Price regulation

Private sector involvement in the delivery of infrastructure environmental services could lead to price increases for services provided by the government, since prices set with a government monopoly often do not even cover the cost of service delivery. Prices are one of the most problematic aspects of private sector participation, especially in the case of water distribution and wastewater management. These services are capital intensive and someone must pay for this capital investment - if not consumers, then taxpayers or those who provide the support. Prices that reflect costs are necessary to achieve the investment needed to maintain, modernise and expand infrastructure and services². Prices are also essential for promoting the principles of conservation and encouraging changes in the attitudes of individual consumers and commercial firms.

Of course, a decision to have the private sector participate in service delivery does not imply an end to regulation in this fundamental regulatory sphere. Governments continue to play a very important role by regulating prices on liberalised markets. The major challenge is to set prices that strike a reasonable balance

between the interests of investors and consumers by attracting the necessary capital and ensuring fair and reasonable rates, while contributing to the objective of universal access to services (see Box 2 below for the examples of Chile and Argentina).

Here, the point should be made that in these sectors, the poorest consumers in developing countries are often bypassed by utility service networks. Consequently, at least as far as drinking water is concerned, the poor often pay higher unit costs for these services than the wealthiest clients, even though the poor consume fewer units. For example, the cost per litre of drinking water in Nairobi is 10 times higher for customers obtaining their water from vendors than for customers connected to the water piping network. Figures are similar for Latin America and even higher for the Caribbean. Paradoxically, these facts hold out optimistic prospects. The deplorable fact that the urban poor are accustomed to paying very high unit prices suggests that poor consumers have available resources in their current expenditure that could be used more efficiently (Simpson, 2006).

Box 2. Examples of Regulation for Water and Wastewater Prices

Pricing policy in the water and wastewater sectors in Chile

Chile gradually introduced a new pricing formula for its water and wastewater sectors between 1990 and 1995, when it reformed its public utility company in Santiago (Empresa Metropolitana de Obras Sanitarias, or EMOS) via a regulatory tool that was similar to a concession with a private company. The Empresa Metropolitana de Obras Sanitarias continued to be government property but started to operate under private law (privatisation finally came about in 1999) and under the supervision of an independent regulatory agency. The pricing policy was designed to send a signal to potential private investors that the government was committed to not expropriating their returns on capital via excessively low prices while limiting the possibility of abuse of monopoly power. Prices were set every five years to cover the cost of service delivery and investment (allowing a return of at least 7 percent) for a “model” company. Prices were also included in the price index. To reduce the risk of monopoly abuses, the model company was constructed in a “black box” to prevent the firm from manipulating information.

Box 2. Continued

The price contained characteristics which provided incentives for the company. If EMOS could be more efficient than the model, it would make additional profits, thereby creating incentives to maximise efficiency. At the end of a five-year period, rates could be adjusted downwards to force the company to share its income with consumers. The reforms led to significant benefits for the government in terms of taxes and dividends, whereas the growing demand was virtually 100 percent met, customers enjoyed better water pressure and fewer cut-offs. Consumers did have to pay higher prices, but the impact was offset by direct subsidies.

High prices for two water and wastewater concessions in Argentina

In 1995, private sector participation was introduced in the water and wastewater sector in the province of Tucumán in Argentina. A 30-year concession was granted to a consortium composed of the French firm “Compagnie Générale des Eaux” and a local investor. The contract set various requirements for aggressive investment. This had a significant impact on prices, which increased by as much as 68 percent. In addition, the price rise hit all consumers across the board, severely penalising the poorest consumers. These problems had not been foreseen and were not dealt with early on in the process. The new prices became very unpopular and public disapproval grew after surges of muddy water occurred. A non-payment campaign was organised and a local government that opposed privatisation was elected. The concessionaire’s financial situation continued to deteriorate and various attempts to renegotiate the contract failed. A preferential rate was then proposed but the public had lost confidence and the case was finally decided by international arbitration.

In May 1993, a private company was granted a 30-year concession to supply water and wastewater services in Buenos Aires. Consumers already connected to the system initially benefited from significantly lower rates and better, more reliable service. The contract set requirements for expanding the service by geographical area, with priority given to the poorest areas. As a result, a great many households were connected. However, an unpopular decision to pass the cost of expanding the system onto new consumers, in the form of a high infrastructure rate, was one of the events which led to public disapproval and early renegotiation of the contract. This high connection rate, which the poor were unable to pay, was replaced by a new bimonthly rate called “universal environmental improvement service rate”, which all consumers had to pay regardless of when they were connected to the network. Connection fees were reduced to USD 120 for water and wastewater hook-ups, to be paid over five years in interest-free instalments with an average monthly payment of USD 4. Although the changes led to an average price drop of 74 percent in poor areas, rates were still disproportionately high for the poor to pay, even at this level. In addition, renegotiation led to the scaling-back of plans for expansion, once again to the detriment of the poor, the primary residents of the areas that were not connected.

Sources: Shirley, Xu and Zuluaga, 2000; Estache, Gomez-Lobo and Leipziger, 2000; Haselip, 2004; and Zerah, Graham-Harrison and Brocklehurst, 2001.

Regulation to ensure universal access

In addition to introducing prices to cover costs - a necessary step for attracting investment - governments must craft policies that help to meet the needs of the

population, often in the poorest suburbs, who are unable to pay as much for environmental infrastructure services as wealthier citizens.

Private companies need to invest responsibly and cannot therefore be expected to meet all of the needs of the poorest segments of the population on their own. If left free to choose, private companies will naturally opt for profitable networks and will very probably invest in cities and major urban areas. However, meeting the needs of the poorest should be a priority for governments - in fact, attracting the necessary resources is often the primary motivation for introducing competition in the first place - just as tools to encourage the private sector to invest in covering low-income areas must be an integral part of any reform programme. One common means of expanding access to services is to include obligations in contracts with private companies to extend the networks in question (Gleick, Wolff, Chalecki and Reyes, 2002). As with prices, incentives for investors and consumers must be adequate and contracts must include flexible, innovative means of ensuring access to services.

Governments have used various forms of subsidies and other forms of support to protect the poorest (and the most geographically remote areas of society). As the private sector has entered the water distribution and wastewater management sector, direct subsidies to poor consumers have often replaced cross-subsidies, which generally benefit the wealthiest users who are already connected to the network. In their stead, governments have introduced mechanisms to channel subsidies directly to the poorest and unserved population. Other mechanisms have been used to promote the sustainable use of natural resources while guaranteeing service access to the poorest. In the water sector, one approach consists in supplying a basic minimum quantity of water, free of charge or at a low cost, and charging an additional fee for greater consumption. However, the challenge remains to ensure that subsidies go to the poor. Accordingly, these mechanisms require a solid administrative capacity (see Box 3 for the examples of Chile and Colombia).

Box 3. Examples of Subsidies Channelled to Consumers

Chilean subsidy programme for the water and wastewater sector

In 1989, Chile introduced a subsidy system for the water and wastewater sector which went into effect in 1990. Anyone who holds a social classification card (tarjeta de clasificación social or TCS), whose home is connected to the network and whose water payments are no more than three months late, is eligible for the subsidy. The TCS stipulates eligibility criteria for various subsidies, in addition to water and wastewater, including a general family subsidy, a minimum benefit and housing aid. Households requesting a TCS were visited by a municipal official, who assigned points to families based on their size and composition, on the occupation and educational background of the parents or heads of the household, on assets (for example, car, refrigerator and land) and on income of family members, as well as the characteristics of the household (location, number of rooms, external and internal building materials used, and whether or not the home was connected to the water or electricity network). Families with less than the maximum number of points obtained a TCS while those with fewer points received priority as far as subsidies were concerned. The annual allocation of water and wastewater subsidies was based on biannual surveys of family income in each region. Allocations ensured that no family in the region had to spend more than 5 percent of its income on water and sewer services. For eligible families, the subsidy operated like a "rising block-based rate" that subsidised the first consumption block. The minister for social planning set a ceiling on the consumption covered by the subsidy (at present, 15 cubic metres per month for all regions) and the discount for the first block. Subsidies are paid directly to the water operator, who subtracts the corresponding amount from each family's water bill and is paid the balance directly by the consumer. On average, the subsidy covers 60 percent of the water bill for eligible households, although in regions with high rates the subsidy can cover up to 85 percent.

Box 3. Continued

The number of Chilean households covered by the subsidy grew from 5 percent of eligible consumers in 1992 to 95 percent in 1996. Expansion of coverage was primarily due to a public education campaign by water operators to convince eligible consumers to apply, although easier eligibility conditions also helped. Notwithstanding, a recent survey also showed that a certain amount of subsidies went to high-income groups. Moreover, administrative costs for implementing the system are high and a number of eligible households did not receive the subsidy. In 2002, the government decided to redistribute a substantial number of subsidies following an evaluation revealing that subsidies were not reaching the eligible population.

Difficulties with a geographical system for water subsidies in Colombia

Colombia adopted a cross-subsidies programme for poor families under the 1994 Public Residential Law on Services. The reform was designed to standardise criteria for the use of cross-subsidies by public service companies and to guarantee the rational use of this mechanism throughout the country. A geographical system was used to classify locations of various socio-economic groups with a view to determining which consumers were eligible to receive the subsidy. In each municipality, households with homogenous characteristics were classified into six socio-economic categories. Criteria were determined by the national department of planning, a government entity (dating back to 1936) which designs strategic plans for promoting national economic development. Households in the first and lowest category receive a subsidy covering up to 50 percent of the average cost of the service; those in the second category receive up to 40 percent, while those in the third category receive up to 15 percent. Subsidies are funded by cross-subsidies, which means, in practice, that consumers in the highest categories, industrial and commercial consumers foot the bill. Fees may not exceed 20 percent of the water and wastewater bill and if these are not enough to pay for the subsidies granted to the first three categories, the difference is funded out of general national and provincial tax revenue.

Some 83 percent of all households fall into the first three categories, which means that the subsidy programme is very costly and difficult to finance on a fee-paying basis. Moreover, studies show that there are a great many inclusion errors and subsidies often go to the wealthiest population groups.

Sources: Shirley, Xu and Zuluaga, 2000; Estache, Gomez-Lobo and Leipziger, 2000; and Gomez-Lobo and Contreras, 2003.

Alternatively, direct subsidies may be channelled to water and wastewater service providers to create incentives for expanding access in areas that would not be unproductive. Given the problems relating to the inclusion errors that are inherent to consumer subsidies, it has become clear that subsidies aimed at connecting

consumers who are not yet hooked up, are the most efficient way of expanding access (Simpson, 2006).

In the solid/hazardous waste management sector, the informal private sector and company groups have gradually become partners in municipalities

in developing countries in a push to improve services in the poorest areas. Various cities around the world have worked together with community leaders in the poorest suburbs to organise community efforts to deposit refuse at communal sites or to use and manage local workers who can provide at-home collection using various low-cost methods. In Curitiba, Brazil, for example, cars cannot reach low-income areas, so community

members are urged to bring their refuse to central pick-up sites. In La Paz, Bolivia, Starco (a Chilean company which the municipality has hired to manage solid waste) has sub-contracted refuse collection in the poorest, least-accessible suburbs (those located on hillsides) to ten small companies which have been collecting refuse on foot or by wagon and delivering it to Starco for a fee (Van de Klundert and Lardinois, 1995).

Regulation to maintain service standards

The government's responsibility goes beyond ensuring that services are available at an affordable price. Service standards in infrastructure environmental services have emerged as a key regulatory sphere because many tasks performed by modern society depend to a large extent on these services. Standards may specify *results*, for example with respect to service quality, reliability, continuity, environmental impact and customer relations (Komives, 1999). Quality standards are essential in the water sector for dealing with long-term, chronic health problems linked to high levels of contaminants.

Another key issue for all infrastructure environmental services is linked to the need to deal with the environmental impact caused by market externalities. Providing these services entails extensive externalities in terms of public health and environmental impact. Excessive water extraction may lead to subsidence, resulting in considerable costs. Inadequate disposal of untreated wastewater contaminates underground water and degrades natural resources such as coastal habitats. Health risks linked to illegal discharge or inadequate treatment of solid or hazardous waste can also be very significant.

Standards may also specify inputs, *inter alia* with respect to materials and to the design and procedures that operators must use (for

example, documents required by the firm and consumers for being hooked up to the service) (Komives, 1999).

Private operators may have few financial incentives to maintain appropriate service standards. Accordingly, service standards must be incorporated into corporate-sector regulations. There are a number of instruments to encourage companies to comply with standards, broadening the mandatory service requirements to include market-based instruments. With mandatory service requirements, regulators set standards which operators must meet, levying fines or cancelling contracts in the case of non-compliance. These regimes give rise to broader social benefits, thereby ensuring that consumers are protected with guaranteed standards. Market-based instruments (for example, taxes or price restrictions), on the other hand, are aimed at encouraging companies to meet targets through greater efficiency.

Particularly in the developing world, where a large share of the population has no access to services, countries are introducing flexible regulations that encourage operators to seek creative means of meeting service standards while ensuring that important goals set by the authorities, such as water quality, are not compromised (see Box 4 for the example of Bolivia).

Box 4. Flexible Standards to Extend Services to the Very Poor

Adjusting service standards to enable cheaper expansion of water and wastewater services in El Alto

In 1997, the independent Bolivian regulatory body that had just been set up (the Water Supervisory Board) approved a key concession contract (headed by the French company Suez) on behalf of Aguas del Illimani to provide water and wastewater services in La Paz and El Alto. The contract included explicit requirements to connect the homes of the very poor but did not provide the operator with adequate financial incentives to meet these requirements. Moreover, the government did not offer support subsidies. The contract indicated that customised connections insides homes were the only acceptable technology, thereby placing the services out of the reach of the poorer homes and essentially guaranteeing that the operator could not meet the ambitious goal of ensuring universal access to services. Recognising this dilemma, the regulator and the operator agreed to test a cheaper technology in order to facilitate new connections. The regulator approved the establishment of jointly owned, low-cost connections for water and wastewater. These systems provide internal connections at a lower cost using smaller pipes in underground trenches under patios and pavements. The technology was accepted by the public, which had no prior access to the services, and has enabled the service to be expanded at an affordable price in the poorest parts of El Alto and La Paz. In 2001, this jointly-owned technology was officially recognised by the Bolivian Institute for Norms and Technical Standards.

Sources: PPIAF and WSP, 2001; and Komives, 1999. Also contained in World Bank, 2004.

Efficient regulatory and competition bodies

As far as the reform process is concerned, it is essential to establish appropriate regulatory agencies and competition authorities that are designed to demonstrate the government's commitment to potential private investors and to protect consumers from abuse. In a situation of natural monopoly, as is often the case with water and wastewater services, private participation often does not lead to a competitive market; rather, a private monopoly replaces a public one. Moreover, large segments of the solid waste industry do not face much competition and some parts of the industry face no competition at all.

Regulatory agencies and competition authorities therefore, need to ensure that consumers' interests are protected against potential abuse by a private company operating in an uncompetitive environment. As these institutions play a crucial role - for example, by setting rates and quality standards and ensuring compliance - considerable skill is required to evaluate market structure and operation. In segments featuring competitive

parts, such as solid waste collection, there may also be concerns as to market concentration and problems with access to essential facilities.

To execute these duties properly, regulatory agencies and competition authorities must follow principles of effective regulation (see Box 5 below for the example of Chile). Among other things, the following principles are important (World Bank, 2004):

- **Coherence.** To ensure regulatory coherence, national regulators, ministries and provincial and municipal regulators must have clearly defined responsibilities, and care must be taken to ensure that the same agency always takes the same decisions involving specific aspects of regulation.
- **Independence.** To work effectively, regulators must by and large, be free of political influence. Agencies must be objective, apolitical executors of statutory policies.

- **Accountability.** There is a need to reconcile regulators' independence with their accountability. Monitoring mechanisms are needed to ensure that standard regulators do not become corrupt or inefficient. Citizens and private companies must be able to find out who takes regulatory decisions and what guides these decisions, voice their concerns and obtain compensation if regulators act arbitrarily or incompetently.
- **Transparency.** All regulatory rules and agreements, along with the principles guiding them, must be open to the public (see next section).
- **Predictability.** Regulatory agencies are reliable if they follow the rule of law, particularly with regard to precedents, which implies that regulators may only reverse past decisions if they have created significant problems. It is also important to ensure that similar cases are dealt with in the same manner.
- **Capacity.** A regulatory agency's responsibilities must match its financial and human resources. Inadequate competence is also a major challenge in many developing countries. Well-honed financial, accounting, engineering and legal skills are needed for regulatory functions.

Box 5. An Independent Regulatory Agency in the Chilean Water Sector

The Chilean water sector significantly upgraded its regulatory supervision, replacing a state body by an independent regulator. Prior to the reform, the Empresa Metropolitana de Obras Sanitarias, or EMOS (Metropolitan Health Services Company) was under the supervision of SENDOS, (Servicio Nacional de Obras Sanitarias), which was part of the ministry of public works. The reform set up an independent regulatory agency, the Supervisory Board for Health Services, or SSS. The organisational structure was laid out in a law that included provisions for a small but highly-qualified staff, paid higher than average salaries for civil servants. By law, the SSS staff may not exceed 45, whereas EMOS had some 300 employees when it was dissolved in 1990. Although civil servants make up the staff of both agencies, salaries for SSS employees are similar to wages for banking or stock-market regulators, and thus more than what SENDOS could pay. All SSS employees have completed university, which was not the case at SENDOS, and most hold engineering degrees. Unlike SENDOS, SSS has no management responsibilities. It focuses on measuring costs and efficiency in the context of pricing policies and ensuring compliance with quality standards and investment plans. In addition, the new regulatory contract for EMOS reflects the government's commitment to reform, including special provisions relating to contracts cancelled by the government. Any water company may lodge a pricing complaint with SSS within 30 days. If SSS and the company are unable to reach an agreement, a panel composed of three arbitrators - one appointed by the company, one designated by the government and one jointly appointed - has 37 days to reach a mutually-acceptable agreement. Decisions may also be appealed at court. The fact that operators may appeal decisions by the regulatory body has enhanced the credibility of the contract.

Source: Shirley, Xu and Zuluaga, 2000.

Many developing countries still lack appropriate regulatory agencies and competition authorities, which can be costly and require sophisticated skills. Some have yet to lay the

foundations for competition. Consequently, developing regulatory capacity in these countries will require significant technical and financial support.

Transparency and consumer involvement

There is evidence that even those in the low-income bracket are prepared to pay for infrastructure environmental services when services are reliable and delivery costs are reasonably transparent and understandable. Experience also suggests that people and companies pay more when they receive new or improved services. In a reform context, this indicates that disseminating detailed information on improved services and the necessary capital investment is essential to guarantee public acceptance of price rises. New or improved services must clearly be described and pricing changes must be introduced in stages, together with public information campaigns that describe the changes and the underlying reasons for them. Such initiatives allow the public and companies to adjust to the new prices, if the framework for the changes introduced is conveyed in advance and if people

believe that it really will be implemented (Gleick *et al*, 2002).

Making information available to consumers may also help to mobilise them to help monitor the functioning of service providers and the application of regulations. A number of instruments have been introduced to increase consumer involvement in the regulatory sphere. For example, so-called citizen report cards have been used to solicit consumers' views on service delivery and their dealings with public agencies. Citizens may provide useful feedback on the quality, efficiency and adequate provision of services and on any problems they have encountered in their dealings with operators (Paul, 2004).³ Another solution has been community-based monitoring and evaluation of services, designed by the community itself or by state agencies.

IV. NON-INFRASTRUCTURE ENVIRONMENTAL SERVICES AND SUPPORT SERVICES

The provision of infrastructure environmental services is still a basic need that is lacking in many developing countries. However, various developing countries are at a stage in their economic and environmental development where they are giving consideration to non-infrastructure environmental services. These services are becoming increasingly important because they represent new ways of using resources and because of societies greater awareness of environmental problems and more stringent environmental standards.

Likewise, changes in ways of tackling regulatory problems and participation in multilateral environmental agreements have created a demand in a number of developing countries, for a series of related environmental services that are needed to deliver infrastructure and non-

infrastructure environmental services. These support services include engineering, analysis and examination, research and development, and consulting (see OECD/Eurostat, 1999 for details). For example, engineering services are necessary to plan a wastewater plant prior to construction. Monitoring of air pollution emissions can be performed by companies specialised in analysis and examination.

Unlike infrastructure environmental services, there is a lack of knowledge about non-infrastructure environmental services, and it would appear useful to provide negotiators and government officials with information on them - the type of activities they imply, who the service providers are, who the clients are, and what types of technologies are used.

Characteristics of Non-Infrastructure Environmental Services⁴

Ambient air and climate protection

This category refers to services for monitoring and controlling emissions of pollutants into the air from mobile and fixed sources. Although independent service providers do not generally operate private facilities to control air pollution, they often monitor emissions and ambient air conditions. As many of the other services are not based on infrastructure, the main private customers for air pollution services emit contaminants themselves - generally, operators of electrical power stations, waste incinerators and petrochemical refineries.

In the case of fixed sources, technical experts usually visit a plant, insert a tube into the exhaust gases and pump a gas sample through a filter or

an aqueous solution. The filter or solution is then sent for analysis to a laboratory, which may be located in the vicinity or even in another country. Monitoring emissions from mobile sources, above all cars and trucks, is typically handled by the police, who use measurement tools on suspect vehicles to measure emissions of air pollutants. Governments are the main customers for this type of service. Techniques used to monitor ambient air quality are similar to those used for fixed sources. State agencies are major consumers of this type of service, as are operators of large-scale polluting facilities - for example, a plant seeking to limit concentrations of pollutants in the air in order to obtain a permit.

Restoring and cleaning up soil and water

Remediation of ground and water generally involves two different types of services, described below. Demand for soil remediation services grew in OECD countries during the 1970s, usually

in response to health-related concerns linked to the (often illegal) discharge of hazardous chemical products into the ground. Over the years, thousands of contaminated sites have been

identified in the various OECD countries, many of them less than one hectare in size. The owners of these sites, who may or may not be responsible for the pollution, are generally unable to sell the land until it has been cleaned up or the hazardous chemical products have been neutralised. The owners may also be held accountable for any damage to persons or property. To help them to deal with this problem, many companies have emerged that are capable of decontaminating or at least of verifying existing pollution levels.

Another form of remediation service is the rehabilitation of mining sites. In OECD countries, companies hired to extract minerals and petroleum are required (or shareholders may so request) to restore to its original state (or as close to it as possible) land that has undergone damage. The most difficult aspects of this undertaking, such as those that entail moving large quantities of earth, are generally carried out by the same mining companies. However,

Noise and vibration abatement

Noise can damage people's hearing and reduce employee productivity. Consequently, companies have an interest in trying to keep the noise from their machinery and factories down to a minimum and to isolate noise where it is inevitable (many

Biodiversity and landscape protection

This service category refers to a wide range of activities relating to the protection and restoration of populations, species or ecosystems. According to the provisional CPC (which is used for the GATS), this category covers services relating to the protection of ecological systems (such as lakes and coastal waters), studies establishing a linkage between environment and climate (greenhouse effect), natural disaster assessment and mitigation and other services relating to landscape protection (<http://unstats.un.org> accessed on 15 April 2007).

Governments are not the only customers for this type of service, and in fact they are often smaller customers than private firms. Golf

restoring biodiversity and landscapes requires special, sometimes local skills, so services related to the selection and dissemination of seeds and plants are often provided by outside companies.

There has been an increase in water protection and remediation services due to the increase in the transportation of petroleum products by sea and government demand for more rapid and more effective responses to oil spills when they occur. Compared with soil remediation, these services use simple technologies which generally consist in placing floating barriers around the oil spill to contain it and prevent it from spreading. Once the spill has been contained, part of the petroleum may be removed by means of various technologies such as pumps connected to tanks. Service providers are usually companies that respond rapidly and fly a team out to the oil spill, generally with all of the necessary equipment to contain and remove the oil.

countries set limits on occupational exposure to noise). Tracing noise-related problems and dealing with them properly can be a major challenge. Consequently, noise monitoring and abatement has become a specialised service.

courses for example, rely increasingly on such services. In America for example, the United States Golf Association supports research to find ways of using native plants to improve the habitat for plants and fauna while reducing irrigation and fertiliser costs. This interest in promoting biodiversity in golf courses has spread to other countries, including developing countries seeking to promote ecotourism. Not all services in this category concern land-related issues. Many hotels and tourist sites built on the coast, near natural beauty, are aware of the importance of restoring and protecting aquatic ecosystems to attract tourists. They also realise that a healthy and stable coast is the best protection against storm damage.

Other environmental and auxiliary services

This category covers environmental services not included in any of the other categories. Some examples given in the provisional CPC are services to monitor, control and assess damage from the deposition of acidic compounds in the atmosphere (acid rain), on the ground, in water or on buildings. International conventions, including the 1979 Convention on Long-Range Transboundary Air Pollution, have been instrumental in dealing with the problem of acid precipitation and encouraging the development of related services.

Regulatory issues: preliminary considerations

Based on the above discussion, a few preliminary ideas on regulatory issues concerning these services may be put forward. These are merely preliminary considerations since these services are relatively recent and there is a lack of relevant information. They should therefore, be taken as a basis for stimulating discussion, sharing information and experience and improving understanding of the regulatory topics involved.

From the viewpoint of defensive interest, it appears that regulatory concerns linked to the liberalisation of these services may be less significant for developing countries. The reason being that whereas for environmental infrastructure services company-to-consumer activities are very important (even though company-to-company activities may also be significant), non-infrastructure environmental services and support services are primarily suited to company-to-company (or company-to-government) business. This seems to perceptibly diminish the risk that the market will fail to reach the social objectives for these services. Notwithstanding, some regulatory spheres, such as service standards, continue to play an important role. For example, inadequate air pollution monitoring and control may have serious consequences in terms of public health and damage to the environment.

Emissions of acidification compounds are monitored using techniques similar to those used for monitoring emissions of other gases from fixed sources; the only thing that differs is the chemistry and naturally, the necessary reagents. Controlling the deposition of acid rain basically implies instruments that measure the pH of precipitation and analyse the concentration of various acids.

At the same time, these services can produce offensive interests for many developing countries (in the medium- to high-income bracket), given that they are often offered by SMEs and require much less capital than infrastructure environmental services. As these countries have the skilled labour forces needed to deliver these services, they are increasingly becoming exporters of the said services, not only to other developing countries or at the regional level - as is the case with infrastructure environmental services - but also to industrialised countries.

Yet, seizing opportunities to offer these services will require an emphasis on efficient regulation and mutual recognition of skills. A lack of mutual recognition can affect Modes 1, 2 and 4 which, as we saw in the previous section, may all be involved in the provision of these services.⁵ For example, in the case of air pollution control, air quality monitors are often installed by the service supplier, while samples are collected by the client and then sent to the service supplier's laboratory for analysis. Moreover, lack of recognition in such services can also be very important for Mode 3 in terms of the accreditation companies need to establish a commercial presence and provide services in other countries.

V. REGULATING ENVIRONMENTAL SERVICES AND THE GATS

The GATS and Policy Control over Infrastructure Environmental Services

It can be seen from the above discussion that environmental services, particularly infrastructure environmental services, feature certain characteristics of public services and therefore require a solid regulatory framework to ensure that the authorities' objectives are met. Within the framework of the WTO, these questions have given rise to concerns as to the potential impact of the GATS on governments' ability to maintain control over the supply of these services.

In practice, these concerns refer to the agreement's possible impact on governments' right to deliver these services via public monopolies or by virtue of "exclusive rights" granted to private operators and to establish the necessary regulations, if private-sector participation is allowed. These problems are aggravated by the fact that the GATS is a relatively new agreement, and some of its provisions have not been tried out in practice. Given the importance of these services for society and the fact that they are highly regulated, governments are understandably wary when it comes to agreeing to bind themselves by common rules. The GATS, like other WTO agreements (and other international treaties), can affect governments' regulatory behaviour. At the same time, the agreement allows WTO Members considerable leeway in this respect.

The GATS explicitly recognises in its preamble "the right of Members to regulate and to introduce new regulations, on the supply of services within their territories in order to meet

their national policy objectives...". Market access (Article XVI) and national treatment (Article XVII) must be granted only in sectors that a Member includes in its schedule of specific commitments. Members also have considerable flexibility in making commitments, given that they are free to choose and define sectors and to select modes of supply. Commitments may further be qualified according to various types of limitations, allowing Members to adjust them to fit their national policy objectives.

In the absence of specific commitments, the GATS imposes only limited obligations. The most important one is most-favoured nation (MFN) treatment, a ban on distinguishing between foreign operators who provide similar services. Each Member had an opportunity to claim exemptions from the obligation for MFN treatment when the agreement entered into force (countries that accede to the agreement at a later date also have this opportunity).

Even if regulations constitute breaches of obligations under the GATS, they may still be permitted under the provisions of Article XIV on exceptions. These provisions may be invoked to protect important public interests, including security, the life and health of persons, animals and plants, morals and public order. However, measures must not be applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination between countries where like conditions prevail, or a disguised restriction on trade in services.

Exclusion of "services supplied in the exercise of governmental authority"

The GATS applies to any service in any sector with two main exclusions, the most important of which, in conjunction with environmental services, is the exclusion of services supplied in the exercise of governmental authority.⁶ Article I:3 (b) of the GATS states that, for the agreement, "services" include "any service in any sector except services supplied in the

exercise of governmental authority". This exception is defined in greater detail in Article I:3 (c), which stipulates that "a service supplied in the exercise of government authority" means "any service which is supplied neither on a commercial basis, nor in competition with one or more service suppliers".

In practice, there is no single model for governments supplying these services in WTO Member countries, given that the concept varies according to the sector, national traditions and legal terms. Accordingly, coverage of exclusion varies depending on the country and service in question. However, there are uncertainties as to its exact purview (see Krajewski, 2003; Cossy, 2005; and Adlung, 2005). This general definition does not enable us to determine clearly if and under what circumstances infrastructure environmental services provided by the public sector fall outside the purview of the GATS.

For example, there are doubts as to the exact meaning of the definition of “services not

supplied on a commercial basis”. Whereas services provided free of charge satisfy this condition, the same cannot be said with certainty for prices that cover costs. Even equating “commercial” with profit-making would leave doubts as to what specific concepts of profits are relevant. And what would be the status of an activity that fails to yield the profits expected by the service provider? Or a service that ends up making a profit unintentionally? Similar questions arise with regard to the exact definition of the word “competition”. Moreover, most infrastructure environmental services continue to operate as natural monopolies, which means that there may be only a single service provider in a given market.

Infrastructure environmental services and government procurement

Another key question concerning the scope of the GATS has to do with government procurement. Government procurement of services - defined as the “procurement by governmental agencies of services for governmental purposes and not with a view to commercial resale or with a view to use in the supply of services for commercial sale” - is exempted from obligations concerning MFN treatment, market access and national treatment (Article XIII:1). Since the conclusion of the Uruguay Round, all Members have been negotiating the establishment of disciplines for government procurement of services. To date, however, the only comprehensive WTO disciplines in this area are contained in the multilateral Government Procurement Agreement.

One important question that arises in conjunction with government procurement of services is whether public-private partnerships, for example contracts of concessions or construction, operation and transfer, fall under the definition of Article XIII on government procurement. If this is indeed the case, these instruments do not lie within the purview of the main GATS disciplines. As discussed above, public-private partnerships may play a key role in the provision of infrastructure environmental services. Recent discussions at the WTO show

that Member countries have various visions in this respect and that even the definition of various classes of public-private partnerships varies between countries.

Cossy (2005) has presented some preliminary ideas on the complex issue of public-private partnerships and government procurement. With respect to concession contracts, it would appear that the majority may not be viewed as a form of government procurement. This is because the said contracts do not generally require the purchase of a service by the government and the service is not intended for direct use by the government, inasmuch as it is supplied to consumers. Equating other forms of public-private partnerships like management contracts with government procurement appears more suitable, given that the government clearly purchases the service. The status of construction, operation and transfer contracts must be clarified, given that they combine a government procurement component (construction of a public facility) with a concession-based system (granting of an exclusive right to supply a service to the public). The situation is further complicated by the fact that in practice, contracts combine elements of the various types of public-private partnerships.

Implications of misinterpreting the scope of the GATS

The above-mentioned uncertainties have affected the discussions on the impact of the GATS on infrastructure environmental services, possibly influencing decisions by WTO Members to take on commitments with regard to these services. However, as mentioned by Adlung (2005), the most important question is whether misinterpreting the scope of the GATS provisions can lead to a loss of control over policies regarding the supply of these services. According to the above, if no commitments are made in a particular sector, only limited disciplines apply, the most important of which is the principle of MFN treatment (provided that countries have not included the sector in their list of exemptions). Most-favoured-nation treatment does not appear to affect governments' ability to maintain control over infrastructure environmental services, given that they retain the right to exclude any foreign participation in these services.

If a country negotiates commitments, other, more significant obligations must be respected, especially market access and national treatment. Even though the commitments imply various levels of access depending on the limitations set out in schedules, misinterpreting the provisions of the GATS can have more important implications in such cases. For example, if a country wishes to introduce new monopoly rights in an area where it had previously negotiated market access commitments without suitable limitations (and if the objectives to achieve this goal were different from the ones contained as exceptions in Article XIV), the country would have to modify its commitments under Article XXI (Article VIII:4 on Monopolies and Exclusive Service Suppliers). This would require payment of compensation through commercial concessions or retaliatory measures that would have an equal commercial impact. These concerns may be particularly significant in the case of infrastructure environmental services since, as considered previously, the liberalisation process has encountered various difficulties.

There may be similar ramifications with the national treatment obligation. If unexpectedly included in an agreement, measures granted to public service providers may lead to equal treatment for similar foreign services and foreign service providers. In the absence of any limitations exempting subsidies from the national treatment obligation, governments would then be required to broaden subsidies and other advantages to include the services and/or suppliers in question; otherwise, they could find themselves subject to Article XXI. As stated above, subsidies and other incentives are frequently used to achieve the objective of universal access to infrastructure environmental services. Likewise, if certain classes of public-private partnerships do not suddenly become a form of government procurement, and thus come under specific commitments, the said country would have to grant foreign service suppliers the right to bid for government contracts and then treat their offers just like offers from domestic service providers. Although it is difficult to see how foreign service suppliers would be less well-suited than their domestic counterparts to achieving sectoral goals and competing for government service-providing contracts, governments should be aware of involuntary consequences.

Negotiating commitments on infrastructure environmental services thus raises a number of important questions. Yet failure to negotiate commitments may entail costs. Recent empirical evidence confirms that GATS commitments could lead some private sectors to considerably step up their investments in segments that are open to competition (Bressie, Kende and Williams, 2004; also referred to in Adlung, 2005). Moreover, in commercial negotiations, a willingness to negotiate commitments under the GATS could facilitate the adoption of commitments by other Members in other service sectors or export modes of interest or in other areas of the WTO agenda.

Limitations on commitments to infrastructure environmental services

Until WTO Members have clarified the GATS provisions, it is possible to reduce these concerns and facilitate the commitments to infrastructure environmental services by including appropriate limitations on commitments to services.

A look at schedules of commitments reveals that various WTO Members made use of such limitations during the Uruguay Round. Table 1 on page 20 indicates that a number of Members have incorporated horizontal limitations that define the scope of their commitments. Some Members have completely excluded certain sectors viewed as “public monopolies”. Others do not completely exclude public networks but clearly state that the public sector plays a key role in providing certain services and that decision-making can be decentralised. Accordingly, these options do not entirely rule out participation by the private sector but allow governments considerable leeway for maintaining control over domestic policies and for regulating these services.

Various Members have also incorporated sectoral limitations, which sometimes complement or strengthen horizontal limitations (see Table 2 on page 21). Various limitations have been included in environmental services - in particular in wastewater treatment and management of solid/hazardous wastes - which exclude services viewed as “part of public works” at various levels of government. This option has primarily been adopted by the member countries of the European Free Trade Association (EFTA). As with horizontal limitations, some countries do not totally exclude public networks from commitments but state that the public sector plays a key role in providing the services. Another possibility that emerges from the schedules is to only include services purchased by private industry in commitments. United States’ commitments cover wastewater treatment activities that “have been subcontracted out by private industry”. In practice, polluting companies often subcontract their wastewater treatment activities.

Table 1. Horizontal Limitations on Commitments by WTO Members

MEMBER	MODE	LIMIT**	HORIZONTAL LIMITATIONS
Bulgaria*	3	Market access	“Without consolidation for participation in privatisation by means of public external debt bonds and for service sectors and service suppliers not subject to privatisation under the annual privatisation programme”
Dominican Republic	3	Market access	“The registry of foreign investment is limited pursuant to the following provisions: a) total exclusion of public services, such as clean water, sewerage systems, mail and any area that the Directorate declares closed...”
European Community	3	Market access	“In all EU Member States, services deemed to be public services at the national or local level may be subject to a public monopoly or exclusive rights granted to private companies. There are public services in sectors such as R&D services in the social sciences and humanities, testing and technical analysis services, environmental services, health services, transportation services and auxiliary services related to all means of transport. Governments often grant private companies exclusive rights to these services, for example by means of concessions issued by the authorities that are subject to specific obligations. As public services often exist on a decentralised level as well, it is not practical to draw up detailed and exhaustive lists by sector”
Jordan*	3	Market access	“In general, all investments in public services are subject to concessions. In sectors where the supply of services constitutes the purpose of the concession, commercial establishments must set themselves up as joint stock companies”
Slovenia	3	Market access	“Services which in the Republic of Slovenia are deemed to be public service companies at the national or local level may be subject to official monopoly or the granting of concessions to private agents, as indicated in commitments relating to specific sectors”
Turkey	3	Market access	“The following sectors are not open to private investment due to public sector monopolies: postal and telecommunications services; railways; administration of ports and docks; lotteries with cash prizes; football pool and public services”

Notes: *Country which acceded to WTO after the Uruguay Round. **Market access: Limitations included in the market access section of the schedule of commitments.

Table 2. Limitations on Environmental Services in Commitments by WTO Members

MEMBER	MODE	LIMIT**	LIMITATIONS ON ENVIRONMENTAL SERVICES
Bulgaria*	1,2,3,4	Annotation	“Commitments do not include environmental services supplied in the exercise of governmental authority”
Croatia*	3	Market access	“From a legal standpoint, these services are deemed municipal activities, primarily carried out by the local authorities’ own entities. Private operators may be authorised to supply these services on the basis of concessions granted by the local authorities”
Liechtenstein	1,2,3,4	Note	“Nothing contained in this commitment may be construed to include the public works function, given that it is the property of and operated by municipalities or the Government of Liechtenstein, or contracted by them”
Norway	1,2,3,4	Annotation	“These commitments do not include public services owned by local, regional or central authorities, or contracted by them”
Slovenia	1,2,3,4	Note	“There is a public service; concession rights may be granted to private operators established in the Republic of Slovenia”
Switzerland	1,2,3,4	Note	“No part of this commitment may be interpreted to cover public works functions, regardless of whether they are owned and operated by the municipalities, cantons or federal government or are the subject of a concession granted by them”
United States	1,2,3,4	Annotation	Commitments limited to services “contracted by the private sector”

Notes: *Countries that acceded to WTO after the Uruguay Round. **Market access: Limitation included in the market access section of the schedule of commitments; Annotation: Annotation included in the classification sector or sub-sector included in the schedule of commitments; Note: Joint note on the classification sector or sub-sector included in the schedule of commitments.

This flexibility can allow countries that so desire to move gradually from a public monopoly to the introduction of private-sector participation and competition. Provided that the national reforms and the regulatory framework established are successful and sustainable - and provided there are advantages to commitments - these initially limited commitments could perhaps be

consolidated in future negotiating rounds. This could include an agreement on terminating the provision of the monopoly or exclusive rights to provide services (in segments where this is feasible) at a future date (as various countries did for example, in the case of telecommunications services during or after the Uruguay Round).

Additional disciplines on regulatory measures

Once specific commitments have been made in a particular sector, in addition to the market access and national treatment obligations (in accordance with limitations included in schedules of commitments), other disciplines also apply. The most significant are related to regulatory measures and are contained in Article VI, in particular, paragraphs 1 and 5. The main question is whether these disciplines can limit

governments’ ability to regulate infrastructure environmental services.

Article VI:1 requires Members to ensure that regulatory measures “are administered in a reasonable, objective and impartial manner”. Article VI:5 is aimed at ensuring that prescriptions with regard to licensing, qualification requirements and technical standards are based

inter alia on “objective and transparent criteria” (the examples given are competence and the ability to supply the service) and are “not more burdensome than necessary to ensure quality of the service”. These criteria are based on Article VI:4, which provides for a negotiating mandate to develop and strengthen disciplines on these measures. The use of Article VI:5 is subject to the following limitation: the measures in question must nullify or impair such specific commitments in a manner which could not reasonably have been expected of that Member at the time the specific commitments in those sectors were made. This limitation appears to exclude from Article VI:5 at least those measures that were already in place in 1995 (WTO, 1999).

The scope of the two paragraphs may differ, but the examples of measures covered in infrastructure environmental services could include those considered previously, such as requirements to expand service to high-cost or remote areas, or prices that are progressive or differentiated according to income bracket (in both cases when measures are also applied to domestic and foreign service providers).

As Adlung (2005) notes, it is difficult to see how the provisions of Article VI:1 can affect governments’ right to regulate, given that they are only related to the way measures are “administered”, not their substantive aspects. Article VI:6 can have

Commitments in non-infrastructure environmental services and support services

At the same time, consideration could be given in current negotiations to making commitments in non-infrastructure environmental services and support services. As we have seen above, these services are becoming increasingly important from an economic and environmental point of view, and the regulatory risks associated with liberalisation are less significant.

Commitments could include all modes of supply, as they are all quite important when it comes to providing these services. In particular, a recurrent question for negotiators is whether it would be preferable to take on sectoral commitments rather than horizontal commitments in these

a broader impact on regulatory capacity, given that, according to what we have seen before, the article contains substantive obligations. In this context, concerns arise due to the fact that the proof of “*more burdensome than necessary*” set out in Article VI:4 is only linked to service quality (see also Trachtman, 2003). A narrow interpretation of the “service quality” goal could exclude measures referring to other important goals considered previously, for example universal access to the service. In practice, however, the potential effects of Article VI:5 appear to be limited, given that it is used in conformity with the limitations considered above. In addition, present discussions on the mandate of Article VI:4 show that any discipline developed in this area will be broad enough to accommodate a vast range of national goals. In the Disciplines on Domestic Regulation in the Accounting Sector⁷, the first area where negotiations were concluded under the mandate, the service quality objective has been replaced by a broader range of goals, including consumer protection, professional capacity and the integrity of the profession.

It is also important to recall that even if a Member infringes upon its obligations under Article VI:5 (and other provisions of the GATS such as those which must be developed under the mandate of Article VI:4), it may still be regulated by provisions of Article XIV on exceptions.

services, especially in Mode 4, since existing commitments are mainly horizontal. For these services, intra-corporate transferees are naturally very important, but so are suppliers under contract (including independent service providers). Considering that these services are primarily provided by persons with a high educational level and specialised skills, it would appear easier from a political point of view, to take on this type of commitment.

In the case of support services, it is also important to ensure that commitments undertaken in the environmental services sector are not infringed upon due to a lack of complementary treatment

in other sectors. As seen above, support services operate reciprocally with infrastructure and non-infrastructure environmental services. If for example, a country makes commitments in the field of air and climate protection services, these commitments may yield only marginal benefits

if corresponding commitments are not made in analysis and examination services. The proposal (discussed above) for a “cluster” or “checklist” of environmental services that could serve as an *aide-mémoire* during negotiations could be a useful tool for reducing potential associated problems.

VI. CONCLUSION

This study has looked into regulatory principles with regard to environmental services. Even though the benefits of liberalising these services may be very significant in terms of efficiency and access to service, reforms, particularly those concerning infrastructure environmental services, must be backed by a solid regulatory system. For the authorities to achieve their goals under the new scenario, new regulatory mechanisms and efficient regulatory institutions are needed. Developing countries will require technical and financial assistance to design these mechanisms and establish institutions.

The GATS can affect governments' regulatory behaviour, above all when specific commitments are made. These problems are aggravated by the fact that the GATS is a relatively new agreement, some of whose provisions have not been tried

out in practice. At the same time, this agreement allows WTO Members considerable leeway to accommodate national policies. It is therefore crucial to examine its provisions carefully and to adjust specific commitments, especially with regard to infrastructure environmental services, to fit national policy goals. In addition, such specific commitments should only be made when an adequate regulatory framework has been put in place.

The risk that the market will fail to achieve the authorities' goals appears less important for non-infrastructure environmental services and support services. At the same time, these services can produce offensive interests by many developing countries. Consideration could thus be given to negotiating commitments in these services during the present round of negotiations.

ENDNOTES

- 1 This distinction stems from a similar differentiation developed recently by UNCTAD.
- 2 Prices that reflect costs are also very important in the solid waste management sector. User fees are generally employed to defray part of the cost of service delivery. Unit fees (for solid refuse collected) can also create incentives to reduce refuse and to recycle. Even though user fees may be charged at various stages in the management of solid waste (collection and disposal), they often fail to cover the full cost of solid waste management activities. Whereas citizens and companies are generally prepared to pay for the collection of solid waste (generally a private good), they are frequently reluctant to dispose of refuse in a sanitary manner (a public interest). Moreover, even though the largest commercial refuse producers may be charged per refuse unit, most countries do not apply such charges to households and small companies. Experience in many countries has shown that unit refuse charges or charges that cover the full cost of disposal can create incentives to discharge refuse illegally, especially if regulatory standards are not applied stringently (OECD, 2000).
- 3 The Water and Sanitation Programme is currently using citizen report cards in Africa, in conjunction with the Indian Public Affairs Centre. See www.pacindia.org.
- 4 This section is based on OECD, 2005.
- 5 The GATS defines the four Modes of supply in services as follows: 1) service delivered within the territory of the Member from the territory of another Member; 2) service delivered outside the territory of the Member, in the territory of another Member, to a service consumer of the Member; 3) service delivered within the territory of the Member, through the commercial presence of the supplier; 4) service delivered within the territory of the Member, with supplier present as a natural person.
- 6 The other exclusion concerns measures that affect air transport rights or services directly related to the exercise of air transport rights.
- 7 The Disciplines on Domestic Regulation in the Accounting Sector were adopted in December 1998 and were to be incorporated into the GATS upon the conclusion of the current negotiations. They are only applicable if a Member has made commitments in the accounting sector and their scope is limited to measures not covered by Articles XVI and XVII.

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- Identify and clarify key sustainable development issues and prospects in relation to the agenda on trade in services;
- Assess systemic issues of interest for developing country policy makers and influencers in the GATS legal architecture;
- Facilitate interaction among negotiators, policy makers, policy influencers, civil society and business communities on GATS discussions and negotiations.

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