

**Seminar on the Regulation of Public
Utilities “Water and Electricity”
(Santiago, Chile, 18-19 October 2005)**



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Abstract

The Seminar on the Regulation of Public Utilities “Water and Electricity” was organized by the ECLAC Natural Resources and Infrastructure Division, together with the Institute of Sciences and Techniques of Equipment and Environment for Development (Institut des Sciences et des Techniques de l'Équipement et de l'Environnement pour le Développement - ISTED) of France and with support from the French Government. The event was held on 18 and 19 October 2005, at ECLAC headquarters in Santiago, Chile. The overall objective of the seminar was to discuss critical regulatory issues in the region in relation to local and international experiences, with a view to suggesting guidelines for dealing with them better in the future. The specific objectives were: (i) to compare different experiences with policies for regulating public services; (ii) to enrich the discussion with different points of view and the perspectives of the local and institutional stakeholders; and (iii) to identify, at the regional level, critical issues requiring further reflection in order to suggest strategies for dealing with them better in the future.

Introduction

Public utilities are basic to the competitiveness of an economy. They have a significant impact on the costs of production and on the standard of living. Public utilities are very capital-intensive requiring a physical infrastructure network that is expensive to establish and to maintain, which is one of the reasons why public services have been defined as natural monopolies.

Beginning in the 1980s and, particularly in the 1990s, consequent on fiscal limitations and the opening of the economies, private participation in investment in utilities has greatly increased. This has been followed by innovative institutional arrangements that have permitted competition in some areas. The industrial reorganization of these economic sectors requires new regulatory policies, to ensure that the goals of social equity and economic balance are maintained. In addition, in the process of extending or ensuring access to services, it is essential to conduct a critical analysis of public and private expansion options, and structure private options in such a way that they do not become a burden on the economy and citizens, and ultimately a regressive factor that hinders growth.

There are a series of critical questions that must be considered in the regulation of public utilities, whether private or public. The Natural Resources and Infrastructure Division of ECLAC, together with the Institute of Sciences and Techniques of Equipment and Environment for Development (ISTED) of France and with the support from the French Government, organized on 18 and 19 October 2005, at ECLAC headquarters in Santiago, Chile, the Seminar on the Regulation of Public Utilities “Water and Electricity”.

The principal objective of the seminar was to discuss the critical issues in regulation in Latin America and the Caribbean in the light of local and international experiences and to outline possible ways for improvement. Specific objectives included: discussion of different regulatory experiences, enrichment of the discussion through the sharing of experiences, and identification of critical issues in the region as a whole so as to outline ways for improvement.

The objectives of the seminar were achieved through the presentations and discussions with the participation of experts from Latin America and the Caribbean, the United States and France (see Annex 1). The seminar confronted the experiences in Latin America and the Caribbean with that of Europe and the United States. Municipalities, regulators and other experts were invited to participate.

The seminar was organized around 5 panels in which 7 principal themes were discussed: forms of privatisation and light-handed regulation; full use of economies of scale and scope; regulation, competition, and public guarantees; essential installations; subsidies; foreign investment protection treaties; and regulatory institutions (see Annex 2). The event was coordinated by Hugo Altomonte, Coordinator of the Natural Resources and Energy Unit of the Natural Resources and Infrastructure Division of ECLAC, and Miguel Solanes, ECLAC Regional Adviser on Water Resources Legislation and Regulation of Public Services.

I. The current debate, experiences, results and conclusions

A. Regulation, competition and public guarantees

1. Background and justification

Some strategies adopted by the region’s countries to attract foreign private investment to public utilities involve a high level of risk in terms of the generation of contingent liabilities for the State. This not only affects service sustainability, but also results in regressive distribution and reduces the possibility of economic growth because payments for services are not adjusted to local conditions. The most common examples of this type of strategy are foreign currency indexed rates, take-or-pay contracts and stabilization clauses prohibiting the amendment of national laws and regulations.

Even if the State is not responsible for non-collectable debt, these practices provide an open door for pressuring governments into offsetting losses. One of the most worrying aspects is that national budgets do not usually take full account of these government decisions whose effects are tantamount to granting subsidies, yet without being submitted to the legislature for review and approval. In extreme cases, when such strategies are combined with foreign investment protection treaties, the system can give rise to hefty foreign claims with little control or concern for the situation of the country affected.

The difference between the rigid approach employed in the region, where profits are specified, and the pragmatic, empirical approach, based on rationality and balance, as used in countries with a long tradition of public utility services being provided by the private sector, such as the United States, is notable. In the region, current legislation relating to water, public utilities and investment protection emphasizes unilateral and contractual security. In this system, some argue, there is confiscation when someone has to accept lower than expected benefits even if profits are still in the blue. Thus, it is not unusual to find that public utilities have guaranteed returns and special exchange rates. This situation prevails despite the fact that such guarantees threaten to undermine the benefits of private participation, reducing incentives for investors to choose financially sound projects and to manage them efficiently.

The persistent practice of granting subsidies and guarantees to foreign investors continues to generate contingent liabilities. In addition, this creates two classes of economic actors: those who benefit from all guarantees irrespective of changes in circumstances, and those (usually ordinary citizens and local investors) who have no such protection. This can give rise to potential regressive effects since maintaining a constant return during a recession increases the relative participation of some sectors to the detriment of others. However, the same cannot be said of all countries. During the 1929 depression in the United States, the courts recognized a nationwide drop in interest rates and company profits during recession, and agreed to accept lower returns for public utility services. This demands a two-fold effort: on the one hand, to adjust the procedures to the nature of the problems, and on the other hand, to adjust the solutions to experience with similar cases.

2. Account of proceedings

a) Regulation

Participants drew attention to the fact that, although regulation is undeniably important, the experience of the last two decades has also demonstrated the significant impact of macroeconomic policy on patterns of sustainability in the use of natural resources and provision of public services. This has shown the difficulty of harmonizing macroeconomic and sectoral policies in order to strengthen trends towards sustainability. All this leads to an urgent need for advances in the inclusion in macroeconomic policy of sustainability considerations and, at the same time, for improved institutional capacities among managers and users of natural resources and public utility services to enable them to assume a more active role in decision-making in this sphere. Thus, referring to foreign investments in the electric industry in the region, Christophe Defeuilley pointed out that the acquisitions in Latin America were particularly disappointing, mainly because of the brutal modifications in macro-economic circumstances in some countries (see page 43). Osvaldo Rosales noted that the principal factors that determine the level of foreign investment in a country are the policies that have been adopted towards direct foreign investment, the overall economic situation, and the business environment (see page 63). Juan Carlos Lerda underlined that sustainable development demands, among many other conditions, macroeconomic, and, therefore, by implication macro-fiscal stability (see page 37). These require the creation and maintenance of effective respect for strict budgetary limits. These are constantly threatened by quasi-fiscal operations leading to the fragility of public finance and fiscal vulnerability.

Frederick Butler said that the issues faced by a regulator whether in France, the United States or in any country of Latin America and the Caribbean are basically the same (see page 28). Of these issues the most important are: security and reliability of supply, sufficiency of supply, and equitable access for all consumers.

Referring to the privatization of energy utilities, that has been a major phenomenon all over the world, Christophe Defeuilley emphasized that the main lesson to draw is that the quality of regulation is a key determinant of performance whether the utility is public or private (see page 31). He added that the European Union does not impose or even encourage privatization. This is a national decision. However, the new European regulatory compact does impose market discipline on publicly-owned companies. In particular, the compact prohibits and punishes cartels, the abuse of dominant industry positions and significantly weakening effective competition. Specifically, the compact prohibits the use of state support through grants, tax and interest relief or any other kind of state guarantees, which might affect trade between member states, give undue competitive advantage, or distort competition. The privatisation process that occurred in many European countries has led to the reduction of public ownership in the energy sector. Nevertheless, the remaining public companies seem to be in a position to effectively

compete with private companies. Ownership matters less to company performance than business models or acquisitions policy.

b) Competition

Jean François Vergès emphasized that the first demand of comparative competition must be the total transparency in the actions of service providers (see page 32). There can be no secrets withheld from the regulator. He added that the best factors to ensure competition are: informed management of operations and investments using international advisers and operators; sound economic, financial, commercial, and social management through private national or international operators; and investment finance through private national or international groups.

In the analysis of recent reforms of the electric sector of the countries of the region, Hector Pistonessi said that, in general, the dogmatic use of “a priori models” has led to the illusion of the existence of competitive markets when this is not the case in fact (see page 48). With this agreed Jean François Vergès emphasized that, in general, the possibilities for competition in electricity markets are very limited (see page 55). Hector Pistonessi explained that there are several reasons for this situation: the small size of many markets resulted in loss of economies of scale and scope and a related increase in transaction costs; market concentration and entrance barriers coupled with inadequate regulation have made it possible for generators to exercise market power, creating oligopolic competition; in some markets with more competition, this was based on the large number of generators using cheap natural gas and an effective independence in transmission; wholesale prices tended to decline in these markets and this decline was not transferred to the residential tariffs; and the high proportion of hydroelectric generation common in Latin America can make spot prices highly volatile with uncertain consequences for investment and, therefore, for the sustainability of the system. Concluded that, for a time, the high degree of dynamism in investment seemed to suggest that government intervention was unnecessary and even inconvenient. Successive crises in supply have shown that this was false. These observations show that the pretension of creating room for markets in electricity systems has not necessarily been a good deal for the population of Latin America, particularly its poorer part.

Edgar Navarro Castro referred to the development of the Central American Electric Interconnection System (SIEPAC) (see page 71). He explained that the specific major issue to be overcome is the need to integrate six different systems developed under separate laws and regulations into one common market.

c) Public guarantees

Juan Carlos Lerda explained that the major sources of fiscal vulnerability come from contingent or conjectural liabilities, that are much greater than those arising from the guarantees given to infrastructure service providers (see page 37). The governments provide guarantees on an enormous scale to many sectors of the economy and society. At the end of the XIX century the French psychologist, Emile Coué, promoted the idea that individual welfare could be improved through positive thinking. However, this method artificially reduced the patient’s perception of risk and so they dedicated less effort to survival and died. Something similar tends to occur in the distribution of risk in public-private investment partnerships and the private provision of public services when excessive public guarantees are offered or obtained. Public guarantees are a major source of fiscal fragility and vulnerability.

B. Full use of economies of scale and scope

1. Background and justification

Which administrative level is best suited for managing water and providing or regulating public utility services is a particularly complex and conflictive matter, given that the resource is not limited either by administrative or by institutional boundaries, and, public services are subject to economies of scale and scope. Water also has a direct impact on commercial activities, on transport, and on services, such as electricity generation, which are managed at a national scale. Problems become more complicated still in federal countries, in those that have chosen to assign responsibility for drinking water supply and sanitation services to the municipal level, and in unitary countries with marked regional differences.

Experiences with centralization and decentralization of activities appear to show that, rather than a problem of radical alternatives, it is more importantly a question of structuring balanced systems, where legal and political powers are assigned to the appropriate level of government and where the roles of the private and public sectors, at the various levels, are complementary. In this respect, it is important to mention that Chile, probably the most successful country in the region in terms of efficiency and coverage of drinking water supply and sanitation services, adopted a model based on regional companies covering a significant area in order to achieve economies of scale and take advantage of the benefits of decentralization. Meanwhile, countries that have adopted models on a fragmented political base at the municipal level show serious difficulties, unable to capitalize on economies of scale and with rich and poor municipalities and non-functional subsidy schemes. On the other hand, the presence of larger units prevents excessive operational fragmentation that would make regulation activities inefficient.

Economies of scale and scope are not limited to the drinking water supply and sanitation industry. For example, the Monopoly Commission of Chile rejected the proposal for vertical disintegration of the central electrical system on the grounds that with this measure economies of scale and scope would be lost, to the detriment of consumers. Instead, it suggested improved regulation. Even in systems that have been vertically and horizontally fragmented, companies tend to consolidate, because of the advantages of size and strategic control resulting from large scales.

2. Account of proceedings

a) Economies of scale

The debate on economies of scale focused mainly on drinking water supply and sanitation services. Jean François Vergès said that water supply, sewerage and waste treatment services are the oldest public utilities, as old as the city in human history (see page 32). They remain almost total natural monopolies in contrast to those of electricity, garbage collection, telecommunications or urban transit. Therefore, it is necessary to have strong regulation to compensate the absence of market competition. He added that water supply, and particularly sewerage and waste treatment, require, along with urban transport, the highest capital investments of all public utilities: about 25 times annual revenues. Our grandparents paid much of the present capital tied up in services in developed countries. Even so, capital costs remain half of total costs. Developing countries are trying to make the same effort in a few decades, perhaps too ambitiously, given inadequate long-term financing. Referring to the horizontal structure of the drinking water supply and sanitation industry in France, he stressed that municipalities are not optimal operating areas. Extreme horizontal desegregation produces serious efficiency problems, when, as in France, it leads to only 3,000 population for each concession contract compared to hundreds of thousands in Chile and millions in England. Moreover, it has led to an oligopoly of

the 3 largest private providers who confront thousands of small public authorities without coordination or technical assistance. He added that the global situation is little better.

Jean-Marie Tétart underlined that economies of scale can be achieved by either choosing an appropriately sized region or by uniting services with management similarities (see page 41). It is essential, in all cases, to serve a region of an appropriate size, which can be obtained through the union of municipal governments. He added that, unfortunately, in France inter-municipal cooperation is still not adapted to economies of scale.

b) Economies of scope

The discussion on economies of scope concentrated mainly on the reforms in the electric industry. In his analysis of the development of European electric industry Christophe Defeuilley said that, fifteen years after the first reforms, the existing utilities did not suffer significant erosion of their market shares in their home markets (see page 43). Their business model, vertical integration, remains the most competitive one. They have consolidated their market positions by making a series of acquisitions in foreign countries. He added that, in Europe, as in the United States, what happened to the electricity companies, involved in deregulated activities, was to enter into a situation that can only be defined as a “speculative bubble”. The market capitalisation of the main companies took off in spite of their high level of indebtedness due to very optimistic expectations of future profits. However, a series of events put an end to this phase of expansion. The decrease of wholesale prices, produced by over-investment in generation, endangered many independent generators. The practices of some companies, discredited energy trading and put into question the credibility of company financial statements. Consequently, investors and the credit rating agencies, became more risk averse, demanding that the companies reduced their indebtedness. The exit of most of the new entrants, the difficulties encountered by the experiments with new business models at the end of the 1990s strengthened the relevance and the efficiency of the ruling business model: vertical integration, with a balance between regulated and unregulated activities. Vertical integration found new virtues with the opening of the industry to competition. It allows the utilities to hedge against the risks of price fluctuation while reducing the volume of electricity that they are committed to buy or to sell on the wholesale markets or through long-term contracts. The insurance against price fluctuations offered by vertical integration is preferred to that which could be given by derivatives on the financial market. Indeed, these instruments, greatly developed in other commodity markets, are not well suited to hedge against long-term evolution of prices. The transaction horizon on futures markets is rarely longer than two or three years. This horizon is not sufficient to secure investments in electricity plants.

Referring to the Energy Policy Act adopted in the United States of America in 2005, Frederick Butler said that this legislation provides for the transfer of important powers in energy policy matters from the states, from regional organisations and from public utilities to the Federal government (see page 28). Any attempt to manipulate the regulations for regional markets contained in the Energy Policy Act has been defined as a criminal offence. The penalties for such offences have been increased.

C. Forms of privatization and light-handed regulation

1. Background and justification

The countries of the region have privatized a significant number of electric utilities as well as some drinking water supply and sanitation services. The privatization process has been in response to various financial and philosophical motivations, and has been carried out since the

mid 1980s at a different pace, breadth, and depth in each country. It is generally accepted that, due to the importance of public utility services, their monopoly characteristics, the disparity between consumers and suppliers, and their many environmental impacts, they require regulation in terms of prices, conditions, and quality of supply, and environmental impacts. It is also accepted that regulation ought to be carried out by independent and stable regulators.

The specific contents of these processes have been determined by various perceptions of the problem, ranging from those where there is a reductionism of criteria that do not necessarily correspond to the nature of the question at hand (tending to emphasize private property rights, minimizing the character of water as a public good) to those that assume conditions of perfect competition, which in practice do not exist (as is sometimes the case with some public utility regulations). In some cases, these restricted or very optimistic visions of public utility regulation and water management have resulted in the monopoly control of water resources and in inadequate regulatory frameworks.

Characteristics of the process of incorporating the private sector include the speed with which privatization programmes have been carried out, prejudices and ideological notions of the regulatory role of the State, the imbalance of power between different sectors of society, the weakness of civil society entities, macroeconomic instability, limited regulatory experience, low rates and the absence of efficient tariff systems. These aspects have given rise to numerous controversies, conflicts, renegotiations and even to a few failures. This has resulted in concerns about issues such as excessively permissive regulatory frameworks, dissatisfaction with consumer protection mechanisms, control of transfer prices in transactions with associated companies, regulators vulnerability to capture, ambiguity concerning their independence, failure to apply the concept of reasonable returns, and also opportunistic behaviour, postponed investments, ignorance of social and environmental interests and, in some cases, technical failures.

The region’s experience confirms that, when competitive conditions cannot be guaranteed, regulatory frameworks and practices need to be improved. Some countries are clearly falling short in this area; in others, new challenges have arisen as markets mature. New avenues are being found to coordinate public services; but regulatory schemes are clearly needed as a response to two basic types of problems posed by these solutions. In the first place, many utilities, by their very nature, are ill-fitted to the mechanisms typical of competitive markets. It therefore becomes necessary to construct a context more hospitable to competition by reorganizing industry structure and introducing institutional and regulatory mechanisms. In the second place, the new private-sector actors make their decisions according to a rationale (profit maximization) that is not necessarily consistent with the overall social purposes expected of the basic public service activities, namely requirements of coverage, quality and affordability.

New options need to be found for seizing the advantages of private investment and management. However, it is equally necessary to ensure that reforms will be sustainable by offering greater efficiency and broader coverage, adapting better to technological change, intensifying competition, improving service quality and offering new services. In such a setting, regulation seems the best way to reconcile public and private interests in areas where differences may arise.

Certain minimum principles need to be respected in the drafting of specific regulatory frameworks, so as to guarantee oversight of the activities and their objectives: service of acceptable quality and quantity, reasonable rates, information, access to essential facilities and natural resources, and obligatory and uniform rules for regulatory accounting, procedural matters and dispute settlement, to ensure transparency and impartiality. Such regulations should be relaxed only if market structures are clearly able to ensure effective competition.

Because the potential for competition varies according to the nature of each activity, it would be a mistake to apply a single general scheme to everything. In a few cases in the region, countries have adopted regulatory systems based on the assumption of competition, when in practice, there was none or it was extremely limited. A useful principle for the countries to adopt would be that of residual regulatory capacity, understood as the authority to remedy regulatory gaps if initial expectations of performance and behaviour are not fulfilled.

It is important to add that, although the region has received a significant amount of specially designed international technical assistance on economic matters and *ad hoc* manuals on how to deal with various problems, there has been little information on operational interdisciplinary regulation, particularly on the domestic legal dynamics of regulation in countries with a long tradition of public utility services being provided by the private sector, such as the United States, France and the United Kingdom.

2. Account of proceedings

a) Forms of privatization

In the analysis of private participation in the provision of drinking water supply and sanitation services in the metropolitan area of Buenos Aires, Emilio Lentini said that the government of Argentina at the beginning of the 1990s implemented privatization policies for public utilities, to overcome the financial restrictions at the macroeconomic level and the poor state of public management of service provision (see page 35). For various reasons, a number of the privatization processes suffered from serious errors of implementation in both the tendering processes and in the contracts, as well as in institutional organization to guarantee their efficient performance and to protect the interests of the users and of the State. The preparation and execution of the tenders and the design of the regulation and control system was affected by deficiencies in technical evaluation and the generally poor quality of information available on the systems to be transferred. For these reasons, the new phase must start from a profound and objective auto-criticism of the model applied during the 1990s.

In Chile, as explained Juan Eduardo Saldivia, undeniably, the decision of the government to privatize water supply and sewage utilities followed a global tendency, but the policy does have its own particular aspects (see page 46). These include the fact that for 10 years the government operated companies that had been organized as limited companies of which the Minister of Finance demanded profitability. The companies operated under a tariff regime negotiated with the regulator that was calculated to generate self-financing. The decision to incorporate private capital was not, at least at first, driven by budgetary necessities. Finally, it was important that there had been considerable regulatory experience before the decision was taken to privatize the companies.

b) Light-handed regulation

There was general agreement that it is necessary to improve and perfect regulatory frameworks. Thus, Aude Bodiguel emphasized that under the new regulatory policy in the European Union, the role of the regulators is to be strengthened (see page 26). They must supervise or administer: the management of interconnections and possible congestion, as well as, in more general terms, the way in which network managers do their work; the access to natural monopolies, as well as tariffs and the corresponding contracts; the separation of accounts; conflict resolution; the evaluation of the degree of market transparency and competitiveness; and the publication of a report on their activities.

Emilio Lentini said that an important lesson of the privatization of drinking water supply and sewerage services in Buenos Aires is that it is necessary to impose and improve access to the information of the regulated company (regulatory accounting, control of purchases and contracts, user participation) given that theoretical approaches have not proved effective in practice (see page 35). Something similar can be said about the methods used to control investment, which have generated an apparent conflict between regulation by objectives and by means when reality indicates the need for direct methods of control that adequately respond to existing institutional and contractual weaknesses and the opportunistic behaviour of the concessionaire. Jean François Vergès added that a significant capacity of auditing and benchmarking is required in the regulation (see page 32).

Fernando Sánchez Albavera pointed out that there must be a consensus on the basic principles for the new regulatory phase (see page 25). This should include: neutrality between suppliers and users, equity between those who can pay and the need to subsidise, security in the operation of the services, adaptability and the incorporation of the best available technology, participation by user organisations in regulatory decisions, and environmental harmony and the adoption of new and renewable energy sources.

D. The impact of treaties for the protection of foreign investment

1. Background and justification

Countries in the Americas have signed many trade- and investment-protection agreements. The way these agreements are applied is radically different from the application of agreements concluded in other parts of the world, such as the European Union. The main difference is that the European Union agreements are implemented within a system that takes into account, and attempts to strike a balance between, various perspectives including economic growth, environmental stability and social equity, while similar agreements in the Americas are focused on the sole objective of protecting investment and international trade. Compared with agreements concluded by the European Union, those signed by countries in the Americas are not fully-fledged governance instruments, as their aims and beneficiaries are determined on a much narrower basis than the broad principles of structural governance. This means that issues that could alter social balance and equity are considered outside the framework and guarantees of public and constitutional law.

There is no way of knowing what repercussions the investment protection agreements signed by the region’s countries will eventually have on the economic, social and environmental sustainability of water management and provision and regulation of public utility services. Yet concerns have already been expressed about the use of such agreements to solve disputes. For instance, a considerable number of experts are seriously worried about the way in which international arbitration systems set up under the North American Free-Trade Agreement (NAFTA) and other trade- and investment-protection agreements affect countries’ capacity to regulate public services and manage their natural resources. The reasons for this concern include the secret nature of procedures, the lack of obligatory precedent, the absence of principles of public interest, and the fact that the tribunals are *ad hoc* bodies comprised of members paid by the parties involved. Under constitutional common law (in countries such as the United States and the United Kingdom), there is a centuries-old precedent discrediting courts in which judges are paid on the basis of particular cases and their results.

In terms of concrete experiences, the decisions of international arbitration tribunals tend to restrict the power of government to act in the public interest and in that of local communities. This is clearly relevant for water-related environmental matters, informal local customary

interests and public service issues. Some agreements include stabilization clauses that affect the State’s ability to adopt regulations once the treaty has been signed. The combined effect of stabilization and most-favoured nation clauses can seriously erode public policy and hamper the protection of the public interest.

Serious questions are being raised about the functioning of international arbitration tribunals. However, it is unrealistic to expect international investment protection treaties or arbitration mechanisms to be abolished, as they form an important part of the world economy. It is therefore necessary to think of ways to ensure that their principles and procedures are adjusted to their impact on countries’ governance and on national environmental, social and economic sustainability.

In the drafting of international investment protection agreements and contracts governing activities that can affect or be affected by environmental, social or economic public interest, it is therefore vital to establish the appropriate checks and balances. These include applying the general principles of law accepted by civilized nations or the principles of domestic law applied by the companies’ countries of origin. Contracts could also specify the law to be applied or exceptions to agreements. These agreements could also serve as an important invitation for States and companies to think responsibly by concluding contracts that can be reasonably adhered to. Another option is to introduce appropriate national legislation before agreements are signed. Other possibilities include insisting that certain issues or situations be examined by tribunals with specific specializations (in areas such as administrative law or macroeconomics), or certain qualifications, such as judges of high courts of countries renowned for their legal systems and use of precedents.

2. Account of proceedings

Oswaldo Rosales pointed out that the level of foreign investment in a country depends, among other factors, on the policies that have been adopted towards direct foreign investment (see page 63). Within the context of these policies, the most important considerations are general policies creating political and economic stability, the rules governing access and operations, regulatory policies, especially those related to the overall functioning of markets.

As far as international investment agreements are concerned, Andrés Culagovski explained that there is a basic compromise that an investment must receive just and equal treatment not inferior to the minimum international standard (see page 61). There must be no discrimination compared with other investors whether foreign or national. There must be free transfer of capital and profits, allowing for certain exceptions. The investors, and only the investors, can sue a government directly through international arbitration tribunals. Investments can only be expropriated because of public or national interest under existing laws. There must be no discrimination in the expropriation and a reasonable indemnity must be paid.¹ In some cases, it was considered that any government official in carrying out their public duties commits a government; this is a dangerous precedent.

¹ There are some recent decisions that acknowledge that emergency situations and reasonable exercise of police power are not subject to compensation [comment by Miguel Solanes].

E. Essential facilities

1. Background and justification

Although some facilities or activities may be non-monopolistic, others simply cannot have more than one supplier because the infrastructure is too difficult, expensive or even impossible to reproduce. Such sectors include systems for electrical transmission, telecommunication networks, gas transport, train stations and railroads, and massive dams and aqueducts. For such cases, commonly known as essential facilities, the central issue in regulation is how to ensure access of other service providers. Similar problems of access arise for key natural resources, intellectual rights, airports, and other facilities.

In fact, competitive segments can coexist in a single sector in the form of natural monopolies segmented horizontally by geographic area or by types of service or essential facilities. To the degree that this is true, access to facilities by the different players involved in service provision becomes fundamental. Thus, an important part of the antitrust effort in the United States, Australia and the European Union is based on the doctrine of essential facilities. If this doctrine is to be applicable, the following conditions must exist: (i) control of the essential facility by a monopolist; (ii) a competitor's inability practically or reasonably to duplicate the essential facility; (iii) the denial of the use of the facility to a competitor; and (iv) the feasibility of providing the facility. The doctrine does not suggest that access will be free, but that in the absence of agreement among parties, use rights will be allocated by the regulatory authority, and disagreement on the amount of compensation may not be used to deny access. Final indemnification will ultimately be set by the regulatory authority or by the judge, based on what is considered reasonable. If the dispute compensation were allowed to affect access, a *de facto* barrier to entry would be created.

2. Account of proceedings

Jean François Vergès emphasized that there is an important practical, rather than theoretical, issue in the question of the pricing of provider access to essential facilities (see page 55). The need to ensure availability and transparency of information requires the structural separation in the ownership of essential facilities and the listing of the companies on the stock market. It also requires the application of international accounting standards and openness in annual reports to the regulator and the shareholders. As far as the provision of water-related public services is concerned, the major issue in practice is not access to the essential installations of water supply systems, but access to raw water. When open and transparent water rights markets do not exist then access to the water resource always tends to favour irrigation. The regulation of equal access to the water resource without discrimination is generally not at the same level as that existing for access to the electromagnetic spectrum in telecommunications. River basin agencies tend to favour agriculture and irrigation and discriminate against urban water supply. It is also common to impose inequitable charges or taxes for access to the resource or for water pollution.

F. Subsidies

1. Background and justification

In countries similar to those of Latin America and the Caribbean, it is common to find tensions between the expectations of the population of improving their quality of life and economic limitations. This tension has repercussions on the decision-making process and results in controversy over the application of certain economic criteria and, on occasion, in serious

difficulties regarding effective governance of the public utility sector and the maintenance of social order.

Many Latin American and Caribbean countries face a critical problem in the provision of public services, especially drinking water supply and sanitation, reflected in the chronic underfunding of services, low service penetration in poor areas, and an increasingly expensive supply. In many cases, tariffs adjustments are restricted by the low payment capacity of large groups of the population, which in turn leads to inefficient management and lack of investment. Additionally, when there are subsidies, these are geared towards the supply side, leading to cross-subsidies, with negative consequences for efficiency, fairness and competition. All these elements make up a vicious cycle that pushes towards low service quality.

Chile has successfully implemented subsidies geared towards demand and focused on the poor, yet in many other countries this would be difficult to achieve due to the debilities of the State itself. This is because the national financial, tax and administrative systems must meet certain minimum conditions if such subsidies are to be implemented. These conditions, which are far from being achieved in most countries of the region, include: (i) political will; (ii) a fiscal system capable of generating sufficient resources, even during crises; (iii) administrative capacity in terms of beneficiary identification and subsidy distribution and allocation; and (iv) legal capacity for follow-up and monitoring and possibly accountability and compulsory compliance.

2. Account of proceedings

Subsidies need to be considered in two separate categories: user subsidies, designed to allow low-income sectors to meet their basic needs for reasons of public interest, and explicit or implicit subsidies, whether direct or contingent, to benefit utility companies. According to Jean François Vergès, many publicly-owned providers of public services receive direct or indirect subsidies (see page 55). It is frequent that these are hidden subsidies. There are many examples, including: privileged financing through public guaranteeing of debts, transfer of assets below market values (even at zero cost), and low or zero charges for the use of public capital; a *de jure* or *de facto* privileged tax regime; subsidised labour costs; absence of explicit contracts; and lack of an independent regulator implies minimal economic regulation. There are many examples where the subsidies given to public service providers lead to the subsidy of their employees and, in turn, their unions. In many cases, the users pay for the easy life of the employees through abusive tariffs.

As far as subsidies for low-income groups are concerned, Jean-Marie Tétart underlined that some form of differential subsidy must be considered so as to ensure that the whole population can accede to the services (see page 53). In relation with this, Jean François Vergès said that there is a particular issue when it comes to the question of whether to subsidise the access or consumption of the poor (see page 55). The cost of connection is very high for water supply and even higher for sewerage. This is not true for electricity. If access costs are not paid or subsidised at the time of connection then this raises the fixed costs included in the tariff, which can appear to be abusive. It is easiest to solve this issue through cross-subsidies. Cross-subsidies are not always so anti-economic. There are other justifications of cross-subsidies. In some cases, for example, cross-subsidies are certainly the largest, perhaps the only, means of redistributing income. Moreover, it can be argued that public health externalities justify such arrangements. It is not surprising that in countries with high inequality in the distribution of income, the rich do not oppose the use of cross-subsidies. However, cross-subsidies should be limited to those among residential users. Cross-subsidies are not justified from industrial and commercial users to residential users. It is very difficult to focus subsidies on those that are really poor. In any case, it is not easy to resolve the problems of subsidy policies. They become difficult issues in social engineering. The responsibility for subsidies, whether cross-subsidies or focalised, should lie not with the utility but with the appropriate level of government. The public utilities, whether public

or private, should not have to play a social role. The social policy implications of subsidies are very complex and cannot be safely left to public utilities. In another presentation, Jean François Vergès emphasized that nowhere should more than 1% of the household budget be paid for drinking water supply and sewerage (equivalent to one-third of that paid for electricity or telecommunications) (see page 32).

In the case of the privatization of drinking water supply and sewerage services in Buenos Aires, according to Emilio Lentini, the financial and subsidy policies were based on the principle of long-term self-financing obtained exclusively from tariff income (see page 58). The State excluded itself from any financial liability. It was concluded that direct demand subsidies from public sources were not a viable alternative. In the future, State contributions to financing can be expected, but only for investments in the system. In January 2001, at the time of the first five-year tariff revision, it was agreed, in the context of the growing economic crisis, to create the so-called Social Tariff, which would subsidize demand and bring an end to disconnections.

In Chile, as explained by Juan Eduardo Saldivia, two important pillars that form the basis of the organization of the drinking water supply and sanitation industry, are a tariff structure guaranteeing self-financing, and subsidy for the urban poor, around 16% of clients (see page 46).

G. Regulatory institutions

1. Background and justification

In the majority of Latin American and Caribbean countries, the role of the State in the economy in general, and in the provision of public utility services and water resources management in particular, has changed radically since the recession of the 1980s. The objective has been to reduce and reorient public expenditure in a context of fiscal austerity measures, particularly with regard to capital investments, and increase efficiency in the provision of public utility services. One of the main results of these reforms is that the functions of the State have changed from the direct service provision and infrastructure operation, to the regulation, control and promotion of activities by third parties, whether autonomous public entities, local governments or the private sector.

As a result of these policies, many countries in the region have already reformed the institutional structure of the provision of public services, while in others this process has reached different degrees of development. The reforms invariably involve an explicit institutional separation between the following three functions, which are assigned to different organizations with the rights and obligations clearly defined: (i) definition of sectoral policies and strategic planning; (ii) economic regulation, supervision and monitoring of the service providers; and (iii) provision of services and systems administration. This differentiation, which is the corner stone of the restructuring process and which is observed in all public utility services, represents a significant institutional advance. Experience in the region indicates that this division of functions is essential in those cases where services provision is to be privatized, but is also highly recommendable even when services provision is to remain in public hands.

The functions of sectoral policy-making and strategic planning are usually separated from the regulatory function and are left as the responsibility of the sectoral ministries. The monitoring and economic regulation functions are institutionalized through regulatory commissions and bodies, which are usually assured technical and financial capacity, and independence. The function of service provision is transferred to autonomous public agencies, local governments or the private sector, in order to ensure the non-political administration of the systems in accordance with technical and commercial criteria.

Most of the countries in the region have already created regulatory bodies for the provision of public services, while various others are in the process of doing so. In most of the countries the intention is to regulate each sector of the public services separately, and so specialized bodies have been created for the regulation of each sector, while in others, usually the smaller countries, one regulatory agency is created for all public utility services.

An effort has generally been made in the institutional design of the regulatory entities to provide them with greater degrees of autonomy and independence, mainly with regard to political interferences. In practice, however, the organizations created have in many cases been weak and lacking in any real authority, with very limited degrees of discretionary action and inadequate conflict resolution mechanisms, thus impeding the regulatory function of the State. In short, many of the entities created in the countries of the region still do not have sufficient independence, capacity and resources, nor do they have effective regulatory frameworks, which could, on the one hand, effectively protect the interests of consumers and society in general and ensure efficiency in the provision of public services, and on the other hand, offer guarantees of independence and objectivity in the face of service providers and attract investments to the sector. In general, this aspect continues to be one of the weakest in the regional experience.

One of the important lessons of the reforms of the 1990s is that the definition of the regulatory framework, as well as the design and institutional establishment of the responsible entities, must precede the process of privatization. If this is not done, the reforms may be unstable, may result in unjustified transfers of assets and income, sometimes in very high quantities, and may neither ensure the efficiency in the provision of services nor attract new investments to the sector.

2. Account of proceedings

The participants agreed on the importance of having an independent and autonomous regulator. Thus, Frederick Butler stressed that an independent regulator assures equity for the clients and the public utilities (see page 67). In order to be able to achieve these objectives, it should be independent, competent and transparent. This independence is assured through the nomination process for its members in which the principal political parties participate, through independent financing derived directly from the regulation activities, and through strict and known rules of conduct for its activities. Aude Bodiguel added that financial autonomy shows that the regulator is independent of the government (see page 26).

Juan Legisa emphasized that the majority of the issues faced by regulators require considerable technical and economic specialisation (see page 68). This requires educated permanent personnel and, who are, as far as possible, apolitical. Obviously, any “independence” is relative and only has meaning in the carrying out of daily duties within the responsibilities that have been assigned. In Great Britain and the United States much emphasis is placed on ensuring the independence of the regulator. The greater the autonomy the better regulators can carry out their responsibilities in terms of the necessary efficiency and with the essential rapidity. Regulators tend to possess the following common characteristics: independence; open, transparent procedures based on public hearings; economic regulation; and control over all utilities. However, the specific nature of the regulator varies among countries.

As in many countries there are various regulatory agencies, whether those in charge of different public utility industries or those existing in different jurisdictions as in some federal countries, there is a clear need for close co-operation between them. Facundo Alberti explained that, in the United States, the role of NARUC is to represent the interests of its members before state and federal legislatures and executive agencies (see page 29). It provides information to the United States Congress and federal agencies on regulatory activities and developments. It

communicates the position of the regulatory agencies in discussions of regulatory policies. NARUC organises a major programme of training and education in regulatory issues. One of the major international activities of NARUC is the Regulatory Partnership Program under which a United States regulatory agency is partnered with a regulator in another country. The main topics that have arisen during the partnership exercises have covered a wide ambit including: autonomy, authority and responsibilities; structure, functions and finances; tools for effective economic regulation; the role of the regulator in attracting investments; development and implementation of special tariffs; consumer benefits and protection, and consumer participation in decisions; market design and competition; comparative evaluation and control of energy systems; and relation of the regulator with other government agencies.

Jean-Jacques Rosec said that Chile, like other countries of the region, has confided the operation of public utilities partially or totally to the private sector (see page 26). Parallel with this process, regulatory systems have been established to ensure the proper operation of the utilities so as to conciliate interests of the private operator, the user and the society as a whole. In the specific case of drinking water supply and sanitation services, Juan Eduardo Saldivia emphasized that a particular characteristic was that along with the formation of the regional companies a system of regulation was established, under the Superintendency of Sanitation Services (SISS) (see page 46). The regulatory system was also innovative based on the concept of the model company.² This meant that when the decision was taken to incorporate private capital, the utilities were already managed as autonomous companies also subject to the rules of limited companies. In consequence, they were strictly controlled in their relationship to capital markets,

² Regulation by model company has been adopted in all public utility service sectors in Chile [comment by Andrei Jouravlev]. This approach uses an efficient virtual company known as the “model company” as a standard of comparison. This hypothetical company providing optimum satisfaction of projected demand is created by the regulator from scratch, as if the real utility did not exist. In Chile, there is a consensus that regulation by model company is based on solid microeconomic principles and has made a positive contribution to the development of the sector. At the same time, it is acknowledged, that the system has certain problems and that this form of regulation has not been effective enough to extract rents from regulated utilities. The Chilean experience of regulation by model company has demonstrated the following limitations of the system. Experience has shown that, in practice, this system cannot be applied without information provided by the real company. The idea behind regulation by model company is the complete separation of rates and costs of the regulated utility. Economic theory suggests that such systems do not tend to work well in the face of cost uncertainty and asymmetrical information, and that they increase the ability of regulated companies to take advantage of regulatory ignorance or favourable variations in costs. This approach has led to the design of an excessively detailed model which makes for a very time- and resource-intensive system that places the regulator at a disadvantage compared with the utility, which can easily manipulate information to defend its position. In particular, since rates are based on the design of an efficient company beginning its operations, regulation by model company obliges the regulator to develop a new virtual utility from scratch for every rate-setting process, without being able to take into account the model company designed for the previous rate review. A fundamental aspect of rate setting is valuing existing assets. Chilean legislation establishes the use of replacement costs, which correspond to the current financial cost of acquiring facilities to provide the same service. Although this reflects the opportunity costs of resources, it tends to generate income higher than the actual costs of investors. This is the case, for instance, with water rights, which were mostly granted to companies free of charge. The model company must be designed in compliance with existing norms, whereas, in practice, real utilities are allowed to gradually adjust to them. This can result in problems of income being above normal levels. Although the model company’s maintenance policy is assumed to be efficient in time, real companies (in practice) usually delay maintenance, resulting in higher returns in relation to the lower expenditure actually incurred. What can be concluded from the above analysis is not that the model company approach is intrinsically wrong, but that it fails to resolve or ignores and perhaps aggravates the asymmetry of information.

the rights of minority shareholders, corporate governance, accounting, external auditing of accounts, transparency, etc. Moreover, the companies were self-financing and able to finance investment from income or from loans raised on the capital markets. At the same time, privatization of the industry brought serious new challenges to the SISS. For example, it was essential that the information available reduce the barrier erected by the problem of asymmetrical information. Information had to be adequate for the SISS to improve the model company, to continuously monitor the operations of the sector, for the tariff setting process, and the other studies required to improve regulation.

Finally, Aude Bodiguel explained the organization of regulatory institutions in the energy sector in France (see page 65).

II. Opening session

A. Summary of the presentation by Fernando Sánchez Albavera

Fernando Sánchez Albavera welcomed the participants on behalf of the Executive Secretary of ECLAC, José Luis Machinea and of the Natural Resources and Infrastructure Division. He thanked the Government of France, the ISTED, the NARUC and the United States Agency for International Development (USAID) for their material assistance in the organization of the seminar. This assistance made possible the participation of experts from Europe, North America and Latin America in this event.

The question of the regulation of public utilities is currently very pertinent for countries of Latin America and the Caribbean. The energy systems of various countries are showing signs of increasing strains with electricity blackouts a growing occurrence. It seems to be the moment to reflect on the recent experience in regulation. The countries of the region have now established regulatory systems and there is a need to set an agenda for what can be termed the post-reform phase of regulatory development.

It is generally accepted that regulation is a technical subject with a known technology, which must be correctly and objectively applied. However, there remains a need for innovation. There are various topics that have not yet been considered such as energy efficiency, the role of renewable energy resources and above all in democratic societies the place of the regulator and need for regulators to regularly report their activities and decisions to both the regulated companies and the public in general. The regulator is not a superman above society, but a servant of society.

In the 1990s, little thought was given to the strategic direction of the reforms other than to improve the management of loss-making companies. Now there is a need to develop strategies to direct regulation, for example, in the use of renewable energy sources, in efficiency, and in improved competition.

There must be a consensus on the basic principles for the new regulatory phase. This should include: neutrality between suppliers and users, equity between those who can pay and the need to subsidise, security in the operation of the services, adaptability and the incorporation of

the best available technology, participation by user organisations in regulatory decisions, and environmental harmony and the adoption of new and renewable energy sources.

B. Summary of the presentation by Jean-Jacques Rosec

Jean-Jacques Rosec thanked ECLAC for organising the seminar. He commented that the seminar showed the interest in Latin America and the Caribbean to learn from French experience in regulation. France has a long tradition of the development of a social market economy with strong public participation and has developed systems of regulation considered to be models not only in Europe but in the whole world. Moreover, French companies have participated actively in the process of privatization of public utilities in Latin America in recent decades.

ISTED has coordinated French participation in the seminar. ISTED, a non-profit institution, is a think tank for companies and institutions from the public and private sectors that are involved in public works in France. The international activities of ISTED concentrate on the diffusion of areas of knowledge where French experience provides comparative advantage.

Various participants in this seminar will present the results of the work of ISTED. Undeniably, regulation of public utilities is an important item in the programme of cooperation between the Government of France and ECLAC. The analysis and exchange of ideas on privatization processes and their consequences are of prime importance. Knowledge of the important changes in Latin America and the Caribbean is vital for the formulation of public policies and programmes for the development of public utilities.

Chile, like other countries of the region, has confided the operation of public utilities partially or totally to the private sector. Parallel with this process, regulatory systems have been established to ensure the proper operation of the utilities so as to conciliate interests of the private operator, the user and the society as a whole.

However, there remain problems such as the provision of services in cases where profitability is low, conflicting interests amongst private operators, and the need to ensure that the rules are always clear, stable and understood.

C. Summary of the presentation by Aude Bodiguel

The basic regulatory issue for electricity in the European Union is to bring together electricity markets originally developed within national boundaries into a common set of market rules and regulation. This is not an easy task, as there exists considerable disparity among the countries.

The new regulatory policy in the European Union requires common rules for liberalization of electricity markets and regulation governing international energy exchanges. The principal features of this new legal framework are the following. The establishment of an obligatory timetable for market liberalisation for business clients by July 2004 and for residential clients by July 2007. The separation of network management from distribution. The intention is to avoid cross subsidies. Network managers must be independent, legally, physically and in respect of other activities of the company. The separation must be in effect by July 2004 for networks and by July 2007 for distribution. Separate ownership is not required. The role of the regulators is to be strengthened. They must supervise or administer: the management of interconnections and possible congestion, as well as, in more general terms, the way in which network managers do their work; the access to natural monopolies, as well as tariffs and the corresponding contracts; the separation of accounts; conflict resolution; the evaluation of the degree of market

transparency and competitiveness; and the publication of a report on their activities. The European Union has created the European Regulators Group for Electricity and Gas (EREG) with the purpose of: promoting coordination among national regulators, and guaranteeing the coherent application of the European Union directives among member states.

As well as all the countries of the European Union, regulators from Iceland, Norway, Bosnia, Rumania, Bulgaria and Turkey, are also the members of the EREG. Switzerland remains outside.

1. Similarities and differences among European regulation systems

Regulatory systems are either *ex-ante* or *ex-post*. In the Scandinavian countries *ex-post* regulation prevails. They have created a small wholesale electricity market among themselves. In the other 21 countries the *ex-ante* system applies.

In most countries the regulator is responsible for setting tariffs and for the rules applied to the regulated activities. However, in France and 3 other countries some responsibilities are shared among the regulator, which can only propose the tariff, the central government and other authorities, for example, competition policies.

Tariffs for access to the network are not regulated *ex-ante* in the Scandinavian countries. In some countries the regulator suggests tariffs while in the others the regulator establishes the tariff independently together with the conditions for access to the networks.

All regulators consult before taking important decisions. There is a general acceptance of the need for transparency. However, once taken, the regulators decisions are obligatory. They can be subject to judicial review.

In most countries, competition policy is the responsibility of other public authorities. The regulators of gas and electricity are consulted when these authorities review competition in the respective industries. In a few cases the regulators are directly involved in competition policy. However, in both the United Kingdom and Italy the regulator has responsibility for competition policy in the energy industries.

Financial autonomy shows that the regulator is independent of the government. In most countries, the regulators are financed independently through charges on the sale of electricity.

All regulators are responsible for the regulation of both the gas and electricity industries. In Spain the regulator also oversees the oil industry. All regulators in Europe are members of both the Council of European Energy Regulators (CEER) and EREG.

The regulators regularly exchange information with the European Commission. There are a number of regular regional forums for the exchange of experiences including the Florence Forum, a meeting between regulators, governments and the major consumers established by the European Commission and subregional meetings or mini forums established to encourage energy exchanges. There is also considerable bilateral cooperation to develop common regulations in the absence of a common regulator.

2. There is still a long road to travel towards an integrated European energy market

Despite the important remaining differences in the degree and speed of liberalisation of national energy markets, much progress has been made in the majority of countries of the European Union, including France. However, there remains much to be done to build a truly integrated

European energy market. Due mainly to the lack of interconnections among networks and coordination among network managers, an integrated market is the only way to reach a satisfactory level of competence. In this respect the Energy Regulation Council of France plays an active role in collaboration with the European Commission and other regulators to make integration a reality, not just in France but also in all Europe.

D. Summary of the presentation by Frederick Butler

The issues faced by a regulator whether in France, the United States or in any country of Latin America and the Caribbean are basically the same. Of these issues the most important are: security and reliability of supply, sufficiency of supply, and equitable access for all consumers. It is these considerations that lay behind the first major revision in energy policy in the United States of America since 1992, represented by the Energy Policy Act of 2005. The Act has three major parts dealing with: centralisation, deregulation, and supply incentives.

1. Centralisation

The act provides for the transfer of important powers in energy policy matters from the states, from regional organisations and from public utilities to the Federal government.

The Federal government has imposed standards for reliability in the transmission of electricity. An electric reliability organization has been established to produce or reinforce and put into practice mandatory reliability standards for electricity transmission.

The Federal Energy Regulatory Commission (FERC) must create tariff incentives for transmission, which will be equitably applied independently of the ownership of the transmission network, and also ensure that large municipally-owned public utilities and electricity cooperatives are open to transmission networks. The FERC is to have jurisdiction over all users of the wholesale transmission grid.

Any attempt to manipulate the regulations for regional markets contained in the Energy Policy Act has been defined as a criminal offence. The penalties for such offences have been increased.

The FERC has authority to intervene in decisions on the location of transmission lines in regions where there are transmission problems (transmission corridors of national interest). It can also offer tariff incentives for the construction of transmission lines, especially for cost recovery to ensure the lines meet reliability standards. The FERC also has increased authority over the installations required for imported liquid natural gas.

2. Deregulation

Some specific aspects of the control of the energy sector have been deregulated including the partial abrogation of the Public Utility Regulatory Policies Act of 1978 and the total abrogation of the Public Utility Holding Company Act of 1935 removing restrictions on the ownership of public utility companies.

3. Supply incentives

These are to provide long-term incentives to reduce the pressure of demand on natural gas and provide incentives for alternative energy sources, nuclear, coal and renewable sources, especially wind and biomass.

The act includes measures to ease the import of liquid natural gas by giving the FERC control over the establishment of terminals. It also provides incentives for the increased use of nuclear power through the reduction of risk to the owners from accidents and through an increase in subsidies for their closure.

Overall, the intention of the act is to widen the energy alternatives available and to facilitate their adoption. However, much of the responsibility for the increased use of new and renewable energy sources lies with the states.

E. Summary of the presentation by Facundo Alberti

NARUC is a quasi-government non-profit organization founded in 1889 to bring together the regulatory agencies of all the states and territories of the United States. The FERC and the Federal Communications Commission (FCC) are also members. There are associate members from more than 20 countries. The member agencies of NARUC regulate electricity, natural gas, telecommunications, water supply and, in a few cases, transport and even taxis.

The role of NARUC is to represent the interests of its members before state and federal legislatures and executive agencies. It provides information to the United States Congress and federal agencies on regulatory activities and developments. It communicates the position of the regulatory agencies in discussions of regulatory policies.

NARUC organises a major programme of training and education in regulatory issues, including periodic conferences for the exchange of experiences and information among its members.

In 1996 NARUC established an International Relations Committee to promote information exchange and to diffuse better practices with regulators around the world. NARUC does not act as a consultant, but it does offer technical assistance through many of its activities.

Commissioners and employees of the member agencies participate in technical assistance activities under two agreements signed with USAID. The first of these, signed in 1998, focuses on Eastern Europe and ex-Soviet block countries. The second, signed in 2001, is to provide assistance to the countries of Africa, Asia and Latin America and the Caribbean.

One of the major international activities of NARUC is the Regulatory Partnership Program under which a United States regulatory agency is partnered with a regulator in another country. There are currently 10 active partnerships between state regulatory agencies and regulators in Africa and Eastern Europe.

The purpose of these partnerships is to exchange detailed operational information between partners. The programme provides for periodic exchanges, opportunities for internships, constant intercommunication, and the chance to learn from the experience of all the members of NARUC in seeking solutions to common problems.

There have been noticeable benefits already from this programme including: the direct exchange of experience, avoidance of errors made by others, the joint investigation of specific topics identified in the work programme, the possibility of tailoring activities to the particular country involved, long-term commitment of resources, and networking.

The main topics that have arisen during the partnership exercises have covered a wide ambit including: autonomy, authority and responsibilities; structure, functions and finances; tools for effective economic regulation; the role of the regulator in attracting investments; development and implementation of special tariffs; consumer benefits and protection, and consumer

participation in decisions; market design and competition; comparative evaluation and control of energy systems; and relation of the regulator with other government agencies.

Through its Regulatory Partnership Program, NARUC seeks to create opportunities for collaboration between its members and foreign regulators to share best practices and experiences in public utilities regulation. It is ready to develop joint programmes and offer technical assistance through its current work programme.

III. Regulation, competition and public guarantees

A. Summary of the presentation by Christophe Defeuilley

The privatization of energy utilities has been a major phenomenon all over the world and Europe is no exception. The process reached its peak between 1996 and 2000, then slowed down only to rise again more recently. Energy utilities have been transferred to the private sector in many European countries, but this has been especially the case in Great Britain and in Eastern Europe.

The motives for privatization include: improvements in efficiency through the greater use of market incentives; reduction of political interference; increased financial constraints, particularly the hardening of “soft budgetary” constraints; opening ways for hostile takeovers; creation of new revenue sources; broadening equity ownership; and reduction in the size and scope of government.

It is difficult to assess, as is often claimed, whether private ownership leads to the better performance of energy utilities. This is an empirical question, which can only be answered through specific studies. Even with such studies it can be difficult to show that change in ownership *per se* is the direct cause of performance improvements. The main lesson to draw is that the quality of regulation is a key determinant of performance whether the utility is public or private.

1. Public energy utilities in the new landscape

There are still many large energy companies wholly or partially owned by central governments. In addition, many state and municipal governments own regional and local distribution companies.

The European Union does not impose or even encourage privatization. This is a national decision. However, the new European regulatory compact does impose market discipline on publicly-owned companies. In particular, the compact prohibits and punishes cartels, the abuse of dominant industry positions and significantly weakening effective competition. Specifically, the compact prohibits the use of state support through grants, tax and interest relief or any other kind of state guarantees, which might affect trade between member states of the Union, give undue competitive advantage, or distort competition.

2. Performance of the publicly-owned energy utilities

The publicly-owned energy utilities, when compared with privately held utilities, show very similar financial and operating statistics. The growth of the companies outside their countries of origin has not been impeded.

The forces driving the quality of corporate performance by the publicly held companies include the competitive and efficient nature of the business model that they have adopted, the quality of their generation assets, and the effectiveness of new acquisitions and investment decisions. Nevertheless, in the future, public companies could face some disadvantages in the competitive game. They do not have the same potential to raise additional capital or to make acquisitions through share exchange.

The privatisation process that occurred in many European countries has led to the reduction of public ownership in the energy sector. Nevertheless, the remaining public companies seem to be in a position to effectively compete with private companies. Ownership matters less to company performance than business models or acquisitions policy. The European Union competition rules tend to eliminate some of the inefficiencies often associated with public ownership. If these companies can adapt themselves to these rules and play their role in the competitive game, they will have a future in the European energy sector.

Governments and local authorities are facing opposing incentives regarding their involvement in energy companies. On the one hand, they may consider they have to keep control on their energy companies for strategic purposes to support their security of supply policy or to play a role in the evolution of corporate structures in their country/region. On the other hand, they may be tempted to sell their shares to sustain the business development of their national and local companies and to raise funds that could be allocated in more useful ways.

B. Summary of the presentation by Jean François Vergès

Water supply, sewerage and waste treatment services are the oldest public utilities, as old as the city in human history. They remain almost total natural monopolies in contrast to those of electricity, garbage collection, telecommunications or urban transit. Therefore, it is necessary to have strong regulation to compensate the absence of market competition.

The necessary infrastructure is very costly and has a very long useful life, over a century. In consequence, there is a need to plan for the long-term and for long-term financing. The technical parameters and costs vary tremendously according to the local topography and climate. This requires local management responsibility and specific solutions in order to provide each particular area with adequate service.

As water sources tend to be ever more distant and existing sources suffer pollution they tend to have increasing average and marginal costs, a major difference with other public services. This means pressure to manage demand and maintain open client relationships. There are significant external diseconomies, in common with garbage collection and urban transit. Their solution requires focalised subsidies for the poor.

Traditions, such as free service, obstacles to the cutting of service for non-payment, ancient water rights, etc., are strong. Some particular circumstances: water with almost zero economic cost at the point of capture in some cities; water sources with high costs in other urban areas; conflicts in arid areas between residential and irrigation demands; possible evolution of situation of abundant supply into conditions of scarcity; and variability of supply can be an obstacle to benchmarking.

1. Role of decentralized publicly-owned companies

In most of the world, municipal or regional governments provide water supply and sewerage services. However, it is necessary to treat water as an economic good paid for by users and not as a free good paid for by the community.

It is necessary to adequately plan the three historical steps in the sector, the supply of water, the provision of sewerage, and, finally, waste treatment, still not completed even in richer countries. This requires creating an institutional and operating environment that removes, or at least minimizes, the subsidies paid out of municipal, state, or central government budgets.

For example, in France municipalities are not optimal operating areas. Extreme vertical desegregation produces serious efficiency problems, when, as in France, it leads to only 3,000 population for each concession contract compared to hundreds of thousands in Chile and millions in England. Moreover, it has led to an oligopoly of the 3 largest private providers who confront thousands of small public authorities without coordination or technical assistance (the global situation is little better).

The situation in France also leads to complex financial and institutional structures. For example, in Paris, there is no regulator. A public-private company holds the water supply concession, which is then divided into two distribution companies; sewerage is managed directly by the municipality; a union of municipalities, through two private operators, is responsible for waste treatment; oversight is provided by a river basin agency. All together almost a dozen separate contracts. In contrast in London, with a much larger population, there is one regulated private company, responsible for all services, under one contract.

2. Competition

Comparative competition among utilities is only second or third best to real market competition. Providers say that this competition is not possible due to the unique characteristics of each service area. It is difficult for a regulator to enforce market comparisons. It calls for professionalism, institutional and intellectual independence, international accounting rules, etc. The first demand of comparative competition must be the total transparency in the actions of service providers. There can be no secrets withheld from the regulator.

Contract tendering must take into account the specific challenges arising with the awarding of contracts for natural monopolies. There is considerable theory and even better international experience, which should be considered. The best incentive for market competition is in tenders. Another competitor is a better incentive than more contractual obligations.

The best factors to ensure competition are: informed management of operations and investments using international advisers and operators; sound economic, financial, commercial, and social management through private national or international operators; and investment finance through private national or international groups. These factors do not require the same abilities or types of contracts. The desegregation of the three is practicable and increasing, but not easy. For this, close coordination and strong operational leadership, with decision-making authority and investment control, are needed.

3. Minimizing investment costs

With or without private participation, long-term planning is essential. It is not possible to separate supply and demand planning; they must go hand in hand. Plans should be indicative rather than rigid.

The real economic cost of funds, due to the distortions of tax regimes, is higher in poorer countries.

Nowhere should more than 1% of the household budget be paid for water supply and sewerage (equivalent to one-third of that paid for electricity or telecommunications).

Water supply, and particularly sewerage and waste treatment, requires, along with urban transport, the highest capital investments of all public utilities: about 25 times annual revenues. Our grandparents paid much of the present capital tied up in services in developed countries. Even so, capital costs remain half of total costs. Developing countries are trying to make the same effort in a few decades, perhaps too ambitiously, given inadequate long-term financing. This only leads to underfinanced systems that provide water for only a few hours a day.

Efforts are required to reduce the cost of these onerous capital investments. It helps if local financing is available. This requires, of course, a competitive local capital market and local industry that can produce the required services and equipment.

It is not necessary to fix obligatory levels of investment in concession contracts. There should only be an indicative investment plan. It is contradictory to require at the same time the minimization of prices and obligatory investments. Unnecessary investments are the major cause of price increases. There should be no interference in the service provider, only request for coordination and information. The providers must benefit from incentives to reduce not maximize investment.

4. Reduce the need for public guarantees

Publicly-owned utilities enjoy the maximum of public guarantees, although these are often hidden. They also tend to enjoy subsidies and tax advantages. At least, in the absence of corruption, the guarantees and subsidies given to private utilities are more transparent, lower and less systematic.

The demand for guarantees is often based on the subjective perception of risk. The major factors are related more to country risk than the specific risks of public services. So that private investors think in long-term gains, there is a need for a credible long-term regulatory commitment.

The major problem is not the minimization of risks, as such, but the minimization of total costs, particularly, investment costs, for a given level of service. Maximizing new investment is a frequent but very bad objective. Indicative planning together with total privatization will minimize the risks and costs of investments. However, a significant capacity of auditing and benchmarking is required in the regulation.

When there is a separation between investment finance and service operation, and when the priority is the modernization and recuperation of the technical and administrative capacity of the provider, then 5 to 7 year management contracts with total operational authority can be a better alternative to a concession or lease. The definition and carrying out of the investment programme must be the responsibility of the provider. In this case, the commercial and exchange rate risks are not so significant.

Concessions and leases are more difficult to regulate and any disputes more difficult to resolve. Long-term concessions are more or less the same as privatization, but with poorer maintenance than with complete privatization and with increasing conflicts in the last years of the concession.

There is a need to minimize taxes on water services. In “ultra-liberal” countries, there is no sales tax on water supply and sanitation services. The high level of both direct and indirect taxes was as serious a problem in the concessions in Argentina as were high costs and the exchange rate risk. Frequently private utilities encounter taxes that the publicly-owned utility did not pay. If a government really believes that public services are a priority and in the general interest, then they should reduce taxes, particularly the sales tax.

5. Conclusions

The productivity of water supply and sanitation services is the result of numerous components. Some of these are under the control of the public authorities and others of the service provider. Best practices in public guarantees are not always the same, they must vary as situations change both by country and with the sector or service area.

C. Summary of the presentation by Emilio Lentini

The current crisis faced by the concession contract has underlined the weaknesses, errors and aberrations committed from the beginning of private participation with the awarding of the concession to Aguas Argentinas.

The government of Argentina at the beginning of the 1990s implemented privatization policies for public utilities, to overcome the financial restrictions at the macroeconomic level and the poor state of public management of service provision. For various reasons, a number of the privatization processes suffered from serious errors of implementation in both the tendering processes and in the contracts, as well as in institutional organization to guarantee their efficient performance and to protect the interests of the users and of the State. The preparation and execution of the tenders and the design of the regulation and control system was affected by deficiencies in technical evaluation and the generally poor quality of information available on the systems to be transferred.

1. Regulatory institutions

The regulatory institution, Tripartite Sanitary Works and Services Authority (ETOSS), controlling the concession was created and its responsibilities defined at the same time as the transfer of the services was carried out. Therefore, at the beginning ETOSS did not have the resources or the experience to control and regulate a company of this size. It soon became apparent that the procedures for applying regulatory decisions were weak and easily subject to dilatory action and even capture by the concessionaire. This rendered the actions of the regulator ineffective.

As a result, when certain conditions included in the original contract were to be modified, the discussion deviated into reinterpretation or renegotiation of the original contract, inevitably moving the discussion into the political arena, leaving little room for manoeuvre to the technical experts. In fact, the Government took over the renegotiations of the contract. This is how situations are created which drive the concessionaire to “capture” the conceding authorities and these, in their turn, the regulators, thereby politicising an activity that should be solely technical.

Moreover, by not providing an adequate subsidy system to facilitate universal access to the services, especially by those with lower incomes, the policies put into practice excluded the State from responsibility for applying policies guaranteeing universal service.

2. The tender and the award

Aguas Argentinas took over the provision of water supply and sewerage services in the metropolitan area of Buenos Aires, previously served by a state-owned company. The privatization was made through a concession contract for a period of 30 years, which required a commitment to the investment of around US\$ 4 billion and specific goals for coverage and service quality. It established mechanisms for ordinary and extraordinary tariff revisions. The variable governing the awarding of the contract was the decrease in the base tariff current at the

time of contract award. Aguas Argentinas offered to reduce the base tariff by 29.6%, the second bidder offered a reduction of 26.1% and the third 11.5%.

3. The execution of the concession

The concessionaire has failed to meet a series of obligations, resulting in fines imposed by ETOSS. Aguas Argentinas has systematically appealed the fines imposed by ETOSS, paying only 42% of them. The fines have been imposed for significant failures in meeting the promised investment plan for service expansion and for sewage treatment, for problems with the service quality, and for the failure to provide necessary information.

Aguas Argentinas has not made the investments included in the original contract. Consequently, in 2001, the achievements of the concession were a long way from those stipulated at the time the contract was signed. Part of the deficit in investment was condoned in the renegotiation of the contract undertaken between 1997 and 1999.

By 2001, the provision of water supply reached 79% of the population of the area under concession compared with the 88% stipulated in the original contract, representing a deficit equivalent to 800,000 persons. Similarly, the deficit in sewerage amounted to 1,032,000 persons, given that the coverage was 63% of the population compared to the 74% proposed in the original contract.

There was an even greater shortfall in investments in sewage treatment with serious implications for the environment and public health. The original contract stipulated that by 2001, primary treatment should be provided for 74% of the population, but it was only provided for 7%, while the provision of secondary treatment showed even less fulfilment of the original goals set.

The investment in the renovation and rehabilitation of infrastructure have not served to reduce the levels of losses or of points of contact with the external environment, as agreed in the original contract, either in the water supply or sewerage networks. Such inefficiency has led to problems of low-pressure in almost 70% of the water supply network.

In contrast, between May 1993 and January 2002, the average residential bill for water supply and sewerage increased by 88%. This was far above the consumer price inflation which was only 7,3%.

4. Contract renegotiations

During the first five years, the willingness on the part of the Government to maintain the economic and financial balances of the concession was obvious on reiterated occasions through the process of tariff revision and contract renegotiation. Most of the contractual failures of Aguas Argentinas were accepted.

On the whole, the decisions of the Government accepted the arguments of the concessionaire and this put the company in a favourable position at the time of tariff revisions. It was argued that these modifications had as their objective the financial sustainability of the concession, but behind this argument, the Government evaded seriously examining the responsibility of the concessionaire for its failure to meet contractual obligations. In general, the company promised greater investments that then justified tariff increases to make them possible. In this way, the successive renegotiations added to the contractual obligations at the same time that there was increasing failure to meet them.

A new renegotiation of the concession contract began when, in 2002, the Government adopted the Law of Public Emergency and Reform of the Exchange Regime, which included the modification of the Convertibility Law. This completely revised the exchange system, under which

the exchange rate had been maintained unaltered for 10 years at 1 peso equivalent to US\$ 1. At the same time this law established that public service tariffs would maintain the values existing at this time. This prevented the incorporation of the impact of the devaluation in the tariffs and prohibited any type of indexation of the tariff. The tariff freeze meant suspending the clauses in the concession contract relating to the adjustment of tariffs due to a change in the exchange rate. This led to a new renegotiation process that is still not concluded. During the second half of 2005 the situation worsened when no agreement was reached on continuing the renegotiation. This provoked Aguas Argentinas to demand the abrogation of the contract. The Government rejected the demand so that the dispute is heading towards probable judicial resolution.

5. Conclusions and lessons

The objectives established in the original contract have not been totally reached and the macroeconomic shock at the beginning of 2002 have added new circumstances requiring particular answers. This is why the contract is being renegotiated again. The future is uncertain to the extent that it is not possible to design a legal, technical and economic system which can satisfy the needs of the community and the technical requirements of provision in a sustainable, balanced and equitable manner.

The problems related to provision of water supply and sewerage services cannot be satisfied through the policies and schemes of the 1990s or by the ineffective institutions existing prior to the privatization process. Models of transformation and management based on uniform recipes must be avoided. In the recent past such criteria have been ineffective in that they were designed in ignorance of national and local realities and their institutional and economic limitations and in failing to consider aspects vital for the social, environmental and economic sustainability of the services. For this reason, the new step must start from a profound and objective auto-criticism of the model applied during the 1990s.

It is necessary to impose and improve access to the information of the regulated company (regulatory accounting, control of purchases and contracts, user participation) given that theoretical approaches have not proved effective in practice. Something similar can be said about the methods used to control investment, which have generated an apparent conflict between regulation by objectives and by means when reality indicates the need for direct methods of control that adequately respond to existing institutional and contractual weaknesses and the opportunistic behaviour of the concessionaire.

A rational and efficient tariff regime based on of the metering of consumption must be put in force with the complementary definition of the policy and methodology for determining direct or cross-subsidies through focalized systems which minimize inclusion and exclusion problems.

D. Summary of the presentation by Juan Carlos Lerda

At the end of the XIX century the French psychologist, Emile Coué, promoted the idea that individual welfare could be improved through positive thinking. However, this method artificially reduced the patient's perception of risk and so they dedicated less effort to survival and died. Something similar tends to occur in the distribution of risk in public-private investment partnerships and the private provision of public services when excessive public guarantees are offered or obtained.

The fiscal advantages seen in public-private investment partnerships, particularly by the ministers of finance, include: the direct income from the sale, lease or interest on the assets; savings in resources budgeted for operational and capital costs through the transfer of

responsibility to the private service provider; and increases in tax collections. The latter consideration is especially interesting as all infrastructure services amount to around 10 percent of the GNP and previously were totally provided by the government. If these services were transferred to the private sectors there would be the possibility of increasing tax revenues by 3% of GNP, equivalent to all the funds received from personal income taxes. This perception created a very benevolent attitude towards the granting of public guarantees.

In Latin America the actual fiscal situation reflects the return of economic growth. Growth has been led by a significant increase in both exports and imports. It has led to both primary fiscal surpluses in most countries and the possibility of the pre-payment of public debt. Currently, therefore, any talk of fiscal problems seems to be entirely out of place.

1. All that glitters is not gold

The fiscal situation in many countries remains fragile and vulnerable. Much of the apparent improvement in fiscal balances is due simply to the reduction in inflation rates and the current relatively high economic growth rates. Any change in these variables would drastically modify the fiscal situation in most countries.

2. Sources of fiscal vulnerability

Much of the discussion of fiscal balances concentrates on budgetary balances. This is the visible part of the iceberg. However, the major sources of fiscal vulnerability come from the hidden part of the iceberg, particularly from contingent or conjectural liabilities. These are much greater than those arising from the guarantees given to infrastructure service providers. The governments provide guarantees on an enormous scale to many sectors of the economy and society.

The visible part of the fiscal iceberg is much greater in European-type countries than in the typical Latin American country. When government expenditures are estimated for the typical European country, the visible part of the iceberg is equivalent to 35-40% of GNP, while in Latin America it only represents 15-20% of GNP. The real difference is in the hidden part of the iceberg, which is the size of the quasi-fiscal expenditures and compromises, particularly the quality and quantity of public guarantees.

Private accounting operates at two levels with a profit and loss or operational account and a balance of net worth. However, governments only work with operational accounts. They do not consider the future budgetary risks apart from those visible in the immediate future.

Fiscal liabilities can be classified into explicit (by law or in contracts) and implicit (moral obligations), and direct and contingent. In the case of explicit liabilities, direct ones are public internal and external debt, authorized budgetary expenditures, promised expenditures with a specific destination (such as pensions and interest payments), etc.; while contingent include government guarantees of non-sovereign debt of lower levels of government and the private sector, guarantees of minimum pensions, bank deposits, judicial judgements, contract guarantees in concessions, etc. As for implicit liabilities, direct ones include future recurrent expenditures due to projects of public interest, public health systems, etc., when these are not specified by law, any expenditures considered politically necessary in the future, etc.; while contingent refer to “rescue” of lower level government in moratorium, of insolvent banks, financial institutions or other private companies, extraordinary expenditures after natural or environmental disasters, etc. The implicit contingent liabilities are open-ended and can end in devaluations and major fiscal crises.

3 Public guarantees and contingent liabilities

Public guarantees are a major source of fiscal fragility and vulnerability. They sow the seeds of a problem of inconsistency over time in the substitution of present known expenditures for ill-defined future expenditures. This possibility must be borne in mind in the promotion of public-private investment partnerships if these useful instruments are not to degenerate into bitter and contentious divorces.

4. Conclusions

It is generally accepted that sustainable development demands, among many other conditions, macroeconomic, and, therefore, by implication macro-fiscal stability. These require the creation and maintenance of effective respect for strict budgetary limits. These are constantly threatened by quasi-fiscal operations leading to the fragility of public finance and fiscal vulnerability.

IV. Full use of economies of scale and scope, forms of privatization and light-handed regulation

A. Summary of the presentation by Jean-Marie Tétart

Economies of scale can be achieved by either choosing an appropriately sized region or by uniting services with management similarities. It is essential, in all cases, to serve a region of an appropriate size, which can be obtained through the union of municipal governments. Unfortunately, in France inter-municipal cooperation is still not adapted to economies of scale.

There are in France some 36 thousand municipalities with populations that range from a few dozen to over 3 million. There are inter-municipal cooperation arrangements specific to each public utility. In addition, there are other specific collective arrangements for river basin management, for student transport, for the management of industrial zones, etc.

1. The consequences for the services

There are false economies of scale in management which lead to the inflation of structural costs, to the multiplication of billing costs and to the dispersion of benefits. There are also false economies of scale in investment. These result in the choice of poor technical alternatives through optimization over inappropriate areas, etc. It also means unnecessary expenditures to ensure security of supply for each municipality or area served through interconnections, building of reservoirs, etc.

The municipalities suffer from a significant loss of “know how” by not pooling their experiences: situations that the private operating companies take advantage of. There is also a lack of openness and coherence in municipal decisions and a dispersion of information on costs.

2. Definition of inter-municipal territories suited to the overall management of public services

There are misleading solutions to this problem, such as forming an overall management system without getting rid of individual services areas. This simply increases management costs and

leads to a increase in the lack of transparency. The technical solutions tend to be defined in terms of the interests of the new management structures.

A good solution to this issue in the case of France has been the creation of municipal communities or unions. There are already 2,500 of these, but there are still 4,000 municipalities that are not members of such arrangements. The municipalities that participate in these transfer their authority to the communities or unions. It can be expected that within 5 or 10 years, the majority of the responsibilities and authority of French municipalities will be transferred to communities or unions. There will still be 36,000 municipalities, the democracy of nearness, but through successive fusions there will be 3,000, or perhaps 2,000, communities and unions with the responsibility for projects and management.

3. The type of public-private partnerships suitable for municipal unions

In France, the possibility of private participation in the provision of local public services has existed since the end of the XIX century. This has never taken the form, at least for water supply and sanitation, of the privatization of the systems. Participation has always been in the form of concessions. In concessions, the infrastructure financed by the private provider and paid for by the users through tariffs is returned to the municipality at the end of the contract. When systems are leased the private provider provides operational financing in advance, again paid for by the users through the tariff: community contributions allow the amortization of costs of service optimization over various years. In many cases, the partnership leaves to the private partner the investment costs of system extension and modernization.

Since the end of the XIX century, the history of utility management in France has gone through different periods with different degrees of private participation (by leases or concessions) according to: the political context, the degree of institutional decentralization, and the degree of public information and popular demands.

4. Shared regulation

In France, for public utilities such as water supply, sewerage and electricity, the owner is the municipality or the group of municipalities. Therefore, the municipality holds the key to their regulation. Political intervention in policy can come from the national government (laws, regulations, etc.), but above all policy is decided by the municipalities. There is no national regulator for water supply and sewerage. Regulation is shared among: the central government, regional agencies (such as the river basin agencies), the municipalities, and the users, the taxpayers and their local and national associations.

The central government defines the rules and regulations of contracts, assures transparency, provides cost information and informs the clients on the justification for the kind of partnerships and the forms of competition among companies. It also sets the rules for ensuring the structural and economic autonomy of the providers (very important for knowing the real costs of services). It establishes the ways by which the municipalities and their populations are to be kept informed.

The river basin agencies intervene in water supply and sewerage and act as an indirect means of regulation. They provide a comprehensive view of water management for each major river basin and ensure an overall coherent protection of the water resource. They also ensure that the infrastructure remains in good repair and contribute significantly to investments in new works.

The municipalities define the terms of reference for contracts with service providers, control the services, evaluate the operations and costs, and inform the population. The general

population and users must demand the necessary information showing that the prices, and the quality and costs of the services are fully justified. They also should ask to be included in the process of the evaluation of the services.

5. Municipal practices in regulation of water supply and sewerage

Normally, the municipality limits its control to ensuring that the price of the service is acceptable to the population. This may not always be the lowest price possible. If the situation should change for reasons not foreseen in the contract (for example, changes in standards), the costs fall to the municipality. Different central government agencies assist the municipalities in the negotiation or renegotiation of contracts, such as the associations of mayors and municipalities.

The contract negotiations require on the part of the municipality a detailed knowledge of the infrastructure (technical characteristics, state of conservation, operational characteristics, cost of maintenance, etc.). They also demand knowledge of a precise definition of service quality and of the criteria used to measure it, such as number and duration of breaks in service and time elapsed before these are resolved, and direct discussions with users to ascertain the degree of satisfaction with service quality. Municipalities must also have a detailed and up to date knowledge of the operational accounts of the service provider and of the clients. Finally, the municipality must make periodic comparisons of its provider with those of similar services.

6. Conclusions

With a clear and detailed understanding of the characteristics which the utility should achieve, with a good base for determining costs, with straightforward and transparent agreements whose implementation can be evaluated and with a proper understanding of the risks that could affect these agreements, the involvement of the private operator can be more than a contractual arrangement. Whether the private provider is a local or a multinational company, there can be a form of partnership based on a minimum of reciprocal confidence, which grows with the duration of the relationship. Any guarantee of good execution should be based on light-handed regulation at the local level, the vigilance of the consumers, and a capacity for diagnosis and conflict resolution at the national level.

B. Summary of the presentation by Christophe Defeuilley

Over the past fifteen years, the European electricity industry has experimented considerable mutation. Many observers and analysts expected that the electricity sector, traditionally vertically integrated and organized around a small number of big companies, following the example of the telecom industry, would open up to new competitors, developing new and innovative business models. Fifteen years after the first reforms, the existing utilities did not suffer significant erosion of their market shares in their home markets. Their business model, vertical integration, remains the most competitive one. They have consolidated their market positions by making a series of acquisitions in foreign countries.

1. From monopoly to competition

Until the 1990s the European electricity sector was organized either into national monopolies, as in France and Italy, or regional monopolies, as in England and Germany. These companies were generally vertically integrated, owned, controlled, or closely regulated by public authorities. Their main objectives were to ensure security of supply while meeting ambitious investment plans.

Tariffs, strictly controlled by the governments, were fixed to ensure these objectives could be met. National markets were closed to external suppliers and any interconnections were simply to ensure security of supply

Only in the 1990s, following the pioneer example of England and Wales, did the European Union create a regulatory framework aimed at fostering competition. This involved unbundling companies to open generation and supply to competition, establishing new rules for the transmission monopolies, the progressive elimination of the regulated prices, the development of wholesale markets, and the creation of specialized regulation agencies. It was expected that with these changes the “old” utilities would be challenged by new entrants able to take more proactive decisions focused on a small number of core business activities.

2. The expansion period (1998 - 2002)

Liberalization did introduce a number of important changes, but it did not result in the wholesale change in the electricity industry that had been expected.

In some countries where the electricity industry had been organized on a regional or local basis, large national companies were created. Only in Great Britain, was it decided to divide and privatize the former generation monopoly to form a more atomistic industrial structure.

There was experimentation with several business models essentially developed by new entrants into the industry, but also by some existing companies. These new models included: independent generating plants, diversification into selling packages of service products (electricity, gas, water, telephone and internet) or specific electricity products; and expansion of electricity trading. A number of companies adopted strategies to diversify their activities by either adding new activities or entering new markets. The first led to the creation of multi-utility companies in attempts to develop economies of scale and scope in the common elements in the supply of public services. The second led to companies taking over businesses outside the home market. Many companies, for example, participated in the privatizations in Latin America.

This period of external growth was financed essentially by indebtedness. The forecasts of the profitability of the electric companies were rather optimistic. It was thought that diversification would allow them to increase profitability and to improve margins. In Europe, as in the United States, what happened to the electricity companies, involved in deregulated activities, was to enter into a situation that can only be defined as a “speculative bubble”. The market capitalisation of the main companies took off in spite of their high level of indebtedness due to very optimistic expectations of future profits. The companies were betting on the success of the new business models and of the benefits from the external growth strategies.

A series of events put an end to this phase of expansion. In the first place, after 2001, the independent generators and the United States traders began to face serious difficulties. The decrease of wholesale prices, produced by over-investment in generation, endangered many independent generators. The practices of some companies, discredited energy trading and put into question the credibility of company financial statements. Consequently, investors and the credit rating agencies, became more risk averse, demanding that the companies reduced their indebtedness.

The independent generators and the retail suppliers failed to meet the expected results. These specialized business models faced serious problems, primarily due to their exposure to high price volatility. The non-storability of electricity led to severe fluctuations in price that are not found in other commodity markets, and which could not be transferred entirely to customers. The independent generators tied to long-term contracts find few business opportunities, since industrial customers preferred to renegotiate their contracts with their usual generator. Retail suppliers did not succeed in transplanting to the energy sector the successful solutions used by low cost airlines

and new entrants in the telecommunication markets. Except in the British market, suppliers did not succeed in developing new channels for sales or innovative price formulas.

The multi-utility strategies also failed. The synergies were not sufficient to make companies more profitable. They had to invest in markets that they were unfamiliar with and may have failed to evaluate the difficulties in creating a coherent company from affiliates sharing neither the same history nor the same culture. Moreover, the energy market did not live up to its promise. The volume of activity and the profitability were a lot less than foreseen. The acquisitions in Latin America were particularly disappointing, mainly because of the brutal modifications in macro-economic circumstances in some countries.

3. Towards a financially driven development model?

After 2002, external growth through acquisitions has become less common and driven not by attempts to enter new markets, but to strengthen already established positions. Gradually, as the main companies strengthened their positions in “strategic” markets and sold their assets elsewhere, they built “geographical spheres of influence” through strong market shares. Companies used their free cash flow to reduce their net debt, sell non-core assets, and concentrate their activities on the European market.

After several difficult years, the major European electricity utilities came under pressure from the largest investors and shareholders to allocate any free cash flow primarily to the payment of normal or extraordinary dividends. From that point of view, it can be considered that the European electric sector has adopted a more financial profile.

The exit of most of the new entrants, the difficulties encountered by the experiments with new business models at the end of the 1990s strengthened the relevance and the efficiency of the ruling business model: vertical integration, with a balance between regulated and unregulated activities. Vertical integration found new virtues with the opening of the industry to competition. It allows the utilities to hedge against the risks of price fluctuation while reducing the volume of electricity that they are committed to buy or to sell on the wholesale markets or through long-term contracts.

The insurance against price fluctuations offered by vertical integration is preferred to that which could be given by derivatives on the financial market. Indeed, these instruments, greatly developed in other commodity markets, are not well suited to hedge against long-term evolution of prices. The transaction horizon on futures markets is rarely longer than two or three years. This horizon is not sufficient to secure investments in electricity plants.

The balance between regulated and unregulated activities guarantees a steady revenue stream. The regulated activities (transmission) are subject to regulated pricing schemes and benefit from a rather steady volume of activities. They produce an easily foreseeable revenue stream, smoothing out revenue fluctuations from deregulated activities, sensitive to the evolution of wholesale market prices, fuel prices, etc.

Vertically integrated utilities have turned out to be more profitable than either the specialised or multi-utility companies. They seem also better armed to tackle periodic difficulties or unfavourable periods. They have strong competitive advantages through the generation of huge free cash flows, benefit from more advantageous loan conditions (lower cost of capital), and have stronger capacities for investment and external growth. The superiority of this business model is confirmed by the choices made when major European utilities invest in new markets. Following their first acquisition, they always try to build a vertically integrated position.

This double movement of concentration and vertical integration has had some important effects on competition. First, a wave of acquisitions reduced the number of independent companies. Second, in spite of the concentration process, regional and local utilities remain

numerous and they are expanding their activities by competing for the market shares of the major players. They try to strengthen their positions and to avoid being marginalized in their home markets. They make strategic alliances to build bigger and stronger companies. Third, concentration reduces the possibility of new entrants. Wholesale markets are not deep enough to absorb any major additional demand without this leading to changes in prices. This shallowness accentuates the “natural” fluctuation of electricity prices, increases the cost of entry for companies not having control over physical generation assets or customer portfolios.

In Europe, the market shares of the major electricity utilities are steady and competition is not aggressive. This can be explained in part by the special features of electric supply. Electricity is a sector with weak growth rates, electricity as a commodity cannot be easily differentiated and does not experiment much in the way of technological or commercial innovation. It is also capital intensive, characterized by irreversible investments, creating strong entry and exit barriers. In addition, the recent evolution of the European electricity industry has not contributed to making competition more intense.

4. Conclusions

The electricity industry in Europe has not evolved in the direction expected: there are few new entrants, the traditional business model has not been challenged, competition resists intensification in spite of a new regulatory scheme much more favourable to competition. The creation of the institutional and technical conditions to open the market has not been sufficient to establish a more competitive market. Given the features of the electricity industry, intense competition leading to price decreases would be disadvantageous for the major companies. Besides, the strategic moves made since the end of the 1990s by the major companies can be considered more as the acquisition of market share rather than decisions to attack their competitors on their home markets.

New business models to supplant, or at least to compete advantageously with vertical integration seem marginalized for a long time to come. The capacity of independent distributors and generators to take meaningful market shares from the incumbent companies has been put seriously into question. Such companies are no more than “niche” operators that exercise fringe competition, but are not real alternatives to the major companies. Unless the European electricity industry experiments new and radical innovations or the financial markets succeed in defining derivatives able to hedge against investment risks, this situation should not change drastically in the near future.

C. Summary of the presentation by Juan Eduardo Saldivia

Between 1998 and 2004, Chile implemented, what is perhaps, the most aggressive policy of incorporating private capital into water supply and sanitation services in the world. At the beginning of 1998, 94% of the clients of these services were served by a company controlled by the state. At the end of 2004, privately operated companies served 94% of clients. Along with the incorporation of private capital into water supply and sewerage services, there has been an intensive programme of investment in wastewater treatment. In 1998, only 16% of urban sewage received treatment, while by the end of 2004, more than 71% of sewage was treated. This was done parallel with new investment in water production and distribution and in sewage collection.

Undeniably, the decision of the government to privatize water supply and sewage utilities followed a global tendency, but the policy does have its own particular aspects. These include the fact that for 10 years the government operated companies that had been organized as limited

companies of which the Minister of Finance demanded profitability. The companies operated under a tariff regime negotiated with the regulator that was calculated to generate self-financing.

A further particular characteristic was that along with the formation of the regional companies a system of regulation was established, under the SISS. The regulatory system was also innovative based on the concept of the model company. This meant that when the decision was taken to incorporate private capital, the utilities were already managed as autonomous companies also subject to the rules of limited companies. In consequence, they were strictly controlled in their relationship to capital markets, the rights of minority shareholders, corporate governance, accounting, external auditing of accounts, transparency, etc. Moreover, the companies were self-financing and able to finance investment from income or from loans raised on the capital markets.

The decision to incorporate private capital was not, at least at first, driven by budgetary necessities. However, after the major companies had been privatized, the smaller companies were privatized to alleviate budgetary restrictions at the beginning of this decade.

Finally, it was important that there had been considerable regulatory experience before the decision was taken to privatize the companies.

1. An historical survey

Until 1977, in Chile the sector operated under the responsibility of various institutions. In 1977, it was decided that the institutional system was not functioning well and was not responding to the challenges posed at the time. Consequently, a national sanitary works service was created (SENDOS) to operate all the services; and in the Santiago and Valparaiso metropolitan regions separate companies were formed, EMOS and ESVAL, to operate under the control of SENDOS.

SENDOS was an autonomous decentralized public institution with its own budget and related to the government through the Ministry of Public Works. It was responsible for the operation and maintenance of urban water supply and sewerage systems as well as water supply for the concentrated rural population. It also exercised regulatory functions over EMOS, ESVAL and the few small private companies. SENDOS concentrated both operational and regulatory functions. During this period the provision of services grew rapidly. A tariff system was progressively developed to permit increasing self-financing of the sector and external credits were obtained to finance system expansions. Management of the system was improved, particularly project execution, service operation, financing, etc.

The combination of operational and regulatory responsibilities in one institution led to confusion in its role, with lapses in the regulatory functions, except in respect of water quality and financial control. At the same time, tariffs were not sufficient to cover investment requirements and there were cross-subsidies among clients and even regions. At the end of the 1980s, it was decided, for these reasons among others, to redefine the role of the state in water supply and sewerage services. Based on the principle of the subsidiary state and the free market, the institutional structure of the sector was completely redesigned. The new institutional system allowed the State to concentrate its activities on the regulation of the sector. The new structure of the industry followed the pattern already used in the electricity and telecommunications sectors.

2. The organization of the industry following the reforms of 1988

Four pillars form the basis of the organization of the industry: the separation of regulation and operation through the creation of the SISS; a regime of indefinite concessions with the obligations

and rights of the concessionaire defined by law; a tariff structure guaranteeing self-financing; and subsidy for the urban poor, around 16% of clients.

In 1995, further changes were made in the structure of the industry. It was decided that the necessary technology investments in utilities to obtain complete coverage of the urban population with both water supply and sewerage, to increase wastewater treatment, and to provide rural water supply required participation of the private sector. The government recognized that there also remained deficiencies in the management of the water supply and sewerage companies. The incorporation of new technology, particularly in wastewater treatment, required new management.

3. Privatization and regulation

Privatization of the industry brought serious new challenges to the SISS. For example, it was essential that the information available reduce the barrier erected by the problem of asymmetrical information characteristic of the sector. Information had to be adequate for the SISS to improve the model company, to continuously monitor the operations of the sector, for the tariff setting process, and the other studies required to improve regulation.

The SISS regularly collects information on many aspects of the operation of the companies providing service. This includes information on clients, costs and expenditures, drinking water quality, billings, length of the networks, etc. Information is also collected on the disposal of liquid waste by industries. In addition to this, periodic collection of specific information is demanded from the companies during the tariff setting process through the use of the model company. Tariffs are renegotiated every 5 years for each company. However, much of the necessary information is also collected on a regular basis. The issue of asymmetric information affects particularly the design of the model company used in the tariff calculations. There is an increasing need for more detailed information to make the model better reflect the reality of the operating companies.

Amongst the information regularly collected one of the most important items is information on costs and expenditures, the basic information required for a system of regulatory accounts. The goal is to produce through transparent methods based on common guidelines that oblige the companies to provide their accounts in a homogeneous, standard and detailed format. These accounts can be audited. The purpose of these accounts is to provide reliable and consistent information on sector costs that can be used to construct an objective and realistic model. They are also aimed at preventing the incorporation into the cost estimates of regulated activities of the costs of non-regulated activities or of those subject to separate tariffs systems.

4. Conclusions

The regulatory system for water supply and sewerage services applied in Chile since 1990 has the important characteristic of being defined in a set of laws and regulations that guarantee stability and permanence. It has had satisfactory results, allowing the self-financing of the operating companies, permitting adequate profits and the incorporation of private capital. The basis of this regulation is the concept of the model or efficient company which has been used in Chile for 25 years since it was first applied in the electricity industry. Its application has gradually been improved with the incorporation of real data from the operating companies.

D. Summary of the presentation by Hector Pistonessi

The explicit arguments used by the governments of Latin America in the reform of the electricity industry were the need to improve efficiency and, where possible, to introduce competition. The

real determining reasons were financial. In the 1980s, the countries of the region faced severe financial restraints blocking investment in the industry. Moreover, the return of liquidity to the international financial markets at the beginning of the 1990s coincided with the general adoption of neo-liberal policies that gave renewed vigour to the reform process. The reforms, with certain nuances, were common to all countries and led to the privatization of electricity companies, changes in institutional organization, and the introduction of markets wherever possible. In some countries, as in Argentina and Chile, the privatization process itself was financially driven.

Overall, the reforms were characterized by an uncritical application of ideas and models. The model applied ignored questions of structural efficiency in the organization of production and in the reformulation of regulatory systems. Now, adverse results can be observed affecting the sustainability of energy systems. In the majority of countries, it can be seen that the arguments that justified the reforms have not been verified in practice.

1. Models of reforms and competition in energy markets

The main idea of reforms was to create competition where possible through production and institutional reorganization and the creation of regulatory systems. Given the monopoly characteristics of networks, competition was possible only in generation and commercialization. This made it necessary to promote vertical and horizontal segmentation in the industry and establish rules on the incompatibility of functions and on free access to networks. In general, the reforms concentrated on generation under the supposition that technology had eliminated economies of scale. However, given the size of electricity markets in Latin America, the real possibilities of introducing competition in generation were very restricted. Moreover, there were other barriers to competition such as market power, the dependence on hydroelectricity, etc.

Whatever the real significance of economies of scale, concentration in the industry had been reinforced during the reforms. For example, in Chile, three companies control 90% of the generating capacity. The results of reforms were similar in Peru. In smaller countries, as in El Salvador and Guatemala, the existence of long-term contracts reduced the area in which a market could operate. A contrast is provided by Argentina and Colombia, partially due to the relative size of their industries and because, at the time of reform, there was a greater number of generating companies. Moreover, in both countries there was cheap natural gas permitting the use of more efficient new technologies and, although only partially in Colombia, transmission was separated from other activities. In these countries it was possible to develop, with limitations, competitive generating markets. However, in Argentina there were tied contracts in Buenos Aires, to favour the privatization of the distributing companies. In addition, despite the vertical segregation put into practice, there was significant common ownership among companies in different segments of the industry as well as in the oil and gas industries.

It is not clear from the literature that economies of scale related to vertical integration are irrelevant or, if they are not, that their absence is compensated by the benefits of competition. Moreover segmentation imposes a coordination requirement, which can be resolved through the creation of an independent coordinator also responsible for the wholesale market. This requirement, together with the other necessary regulations, imposes significant transaction costs. If these when added the loss of the economies of vertical integration are greater than the benefits of competition then there is a loss in structural efficiencies resulting in higher costs for the consumers.

A number of empirical studies show that there are considerable economies of scope in the integration of generation and distribution. This could be expected as, for generators, the lack of integration means uncertainty, leading to an increase in the probability of shortages.

The existence of economies of scale and scope is not a definitive argument against the introduction of competition, but, in general, in Latin America there is ample evidence that there is little real competition. Moreover, the attempts of the industry to reintegrate activities must be taken into account. For example, the control of the grid in Chile by the largest generator until 2000 was a barrier to new entrants.

The reforms of the electricity industry in Latin America were originally based on the British model. However, there are important technical differences. In England and Wales, generation is almost entirely thermal, whereas in Latin America, hydroelectricity is predominant. The consequent, hydraulic uncertainties, introduce considerable volatility in prices. Both Chile and Brazil experienced considerable difficulties in dry years due to the predominance of hydroelectricity in the generating mix and the lack of incentives to develop thermal plants. The successful case of Norway is often cited as an example of a competitive electricity industry based on hydroelectricity, but it has the other Scandinavian countries as backup in times of power shortage.

2. The impact of competition on prices and investment

Unless attempts to privatize the energy industry result in higher productivity in operations and investment and translate into lower prices, then the result will be to increase the rates of return of the new investors beyond those that usually apply. This is why market liberalization requires adequate regulation.

The examples of Argentina and Colombia, where the markets are more competitive, are illustrative of what actually occurred. In Argentina by 2001 the electricity industry had become competitive. There were 30 generating companies, 11 large self-generators and 3 co-generators, 58 distributors, 364 large consumers and 1828 minor large consumers in the wholesale electricity market (MEM). The management of this market was one among many factors, including the increasing share of hydroelectricity, which led to a 50% decline in the spot price between 1998 and 2001. The decline in the spot price was not reflected in consumer electricity prices. This seems to have been largely due to the base costs used both federally and in the provinces in the calculation of the “value added” in distribution. The reform also established a tariff system, which, for no apparent reason, penalised lower consumption and, therefore, the poor.

In Colombia, wholesale electricity prices are very volatile. The explanation lies in the proportion of hydroelectric generating capacity in the system, 76% in 1995. Before the reform, the wholesale price had tended to increase in line with log run marginal costs. This was an attempt by the public sector to encourage thermal generation. Prices peaked with drought of 1998 and then there were abundant hydraulic years and a drastic decline in price. However, a certain proportion of production had to be sold through contracts so the contract prices and the residential price of electricity did not reflect the fluctuations in the wholesale price. Final user prices were stable and driven by regulatory decisions on tariff structure. This led to an increase in residential tariffs, but the consumption of the poor was subsidised.

Investment in the industry in Argentina after the reform was dynamic and at the end of the 1990s led to an installed capacity of some 53% above maximum demand. This contributed to the decline in the spot price in the wholesale electricity market, which was claimed to be one of the indicators of the success of the reform. However, the expansion in generation was not accompanied by a corresponding increase in transmission facilities. The system that had been established for new investment in transmission was complex and considerably slowed investment.

In Colombia, following the reform, there was also a considerable expansion in generating capacity even though demand only grew at 1% per year between 1995 and 2002. The investment contributed to greater security in supply and reduced the volatility in the wholesale prices. The investment did not seem to have occurred for these reasons, but because of the potential profit

given the irregularity of supply from the hydroelectric plants. When the supply became more regular, many thermal plants were shut down and investment ceased.

3. Some comments on distribution

Normally, distributor companies are subject to periodic tariff revision to ensure that some of the economies in costs reach the consumers. The problem is in defining “costs in conditions of efficient production” which are not obvious for networks. The costs of distributors are formed from investment in the network and its operation and maintenance and in commercialization.

In the case of the network, it is not clear which costs should be used, long run incremental cost (marginal cost) or the value of replacement (average cost). Most distribution systems show increasing returns to scale. If replacement cost is used, the problem is that tariffs could provide windfall profits to the companies. The regulatory authorities do not seem to be aware of this problem.

4. Conclusions

In general, the dogmatic use of “a priori models” has led to the illusion of the existence of competitive markets when this is not the case in fact. It is not the case because: the small size of many markets resulted in loss of economies of scale and scope and a related increase in transaction costs; market concentration and entrance barriers coupled with inadequate regulation have made it possible for generators to exercise market power, creating oligopolistic competition; in some markets with more competition, this was based on the large number of generators using cheap natural gas and an effective independence in transmission; wholesale prices tended to decline in these markets and this decline was not transferred to the residential tariffs; and the high proportion of hydroelectric generation common in Latin America can make spot prices highly volatile with uncertain consequences for investment and, therefore, for the sustainability of the system.

For a time, the high degree of dynamism in investment seemed to suggest that government intervention was unnecessary and even inconvenient. Successive crises in supply have shown that this was false. These observations show that the pretension of creating room for markets in electricity systems has not necessarily been a good deal for the population of Latin America, particularly its poorer part.

V. Essential facilities and subsidies

A. Summary of the presentation by Jean-Marie Tétart

The universal provision of essential services is a long-term process. Many years were required in the industrial societies for the basic public utilities to be made accessible to the whole population. The experience acquired in these societies suggests that there are 10 basic principles that must be followed in attempts to provide universal access to basic public utilities. These principles are: it is a long-term process, it is dynamic, it must proceed in steps, partners must have clearly defined responsibilities, types of partnership must be flexible according to the service needs and the capacity of the public authorities, public financing, solidarity measures, tariffs must allow for the recuperation of short-run costs, variable tariffs, and factors encouraging continuity and providing incentives.

1. A dynamic long-term phased process

The experience of the developed countries underlines the fact that achieving universal access to public utilities must be seen as a long-term process. The provision of service must grow in harmony with the economic development and the availability of resources. Neither sanitary, nor economic, nor environmental emergencies can be allowed to interfere in the objective perception of reality. Universal access to public utilities is not an objective that can be reached in one human lifetime.

It must be a dynamic process, which is not limited solely to the commitment of financial resources. The achievement of universal provision requires a committed political context and committed agencies, the basis for “good governance”. Economic development and improvements in the standard of living provide a favourable context for mass access to essential services, but cannot replace social commitment. Once the process is underway then access to public utilities has its own virtuous cycle, as the provision of improved services is related to the overall accumulation of capital.

The provision must be done in a stepped process to ensure that equity of access prevails. This means different levels of service so that service can be guaranteed no matter how it is delivered. Equity is a function of various factors, including the wealth of a given population or territory, political priorities, etc. The evolution of the level of service, particularly the change

from collective to individual services, must be carefully programmed and subject to a truly realistic timetable.

All the participants in the process of provision of universal basic services must have their responsibilities clearly defined. The partnerships must be developed on the basis of formal agreements among all those involved. The partners in these agreements must include the public authorities concerned, public or private utility operators, investors, users and the communities. The partners must be linked by a contractual arrangement that clearly defines their responsibilities. They must be organized to achieve specific goals, directed towards realizing them, so that they all meet their respective responsibilities.

The partners must be selected, in concert with all the involved parties, according to their ability to meet the challenges of each locality. It is essential to avoid “the Ferrari with a Deux Chevaux engine syndrome”. Partners must be chosen at the local level. However, the choice of partners should not depend on the magnitude of the challenges posed but should be rigorous and specific to whatever the objectives of the provision of a particular service are at the precise point in time.

2. Long-term commitment of resources, sometimes without counterpart funds

It is necessary to distinguish distinct categories of investments. The primary investments in services are frequently in works with long useful lives, which cannot be financed in the short-run and are dependent on long-term low-cost public financing. The public sector has access to long-term loans at low rates of interest, sometimes with international assistance, that allows the spreading of the investment efforts over several generations.

However, under certain conditions with proper loan guarantees, the private sector can participate in the provision of long-term credits. Moreover, there is evidence that not enough use is made of local private sources of finance. Often recourse is made to foreign loans in situations when the bulk of expenditures and the revenues generated are in local currencies. This underlines the necessity to classify investment by type, distinguishing those that require long-term credits from minor complementary works and maintenance that can be financed in the short-run from local funds.

The local authorities are the most competent to decide on investment needs and should be able to access sources of long-term credit through backing from higher levels of government. Use should also be made of small-scale savings mechanisms, raising funds from the populations to be served.

In the financing of basic infrastructure services there should be elements of solidarity. The charging of these investments to the public purse through the amortization of the loans or through investment subsidies is a form of fiscal solidarity. The individual contribution should be proportional to the income levels of the populations served.

Solidarity may be economic (between social classes), or geographic (urban/rural, developed/poor regions, rich/poor countries), or generational (the transfer of costs in time through debt). Depending on the size of the project there must be commitment of higher authorities with the agencies responsible for the construction and operations of the utilities.

3. Tariffs that recover short-run costs

Within the variety of different investments, some such as final distribution networks, household connections, and other equipment related to the final distribution to the consumer, should be financed directly by users through the tariff.

The tariffs should allow the recovery all the costs of distribution, plant, maintenance and replacement of essential equipment. If this is not practicable then the operator should receive a subsidy from the government. Otherwise the service will only deteriorate.

There should be differentiation in the tariff. It should depend on the level of service, in turn dependent of the level of income of the users. At the same time, the tariff should be considered as a means of rationalizing consumption. It is a way of protecting the environment given that basic infrastructure services are based on scarce natural resources.

Some form of differential subsidy must be considered so as to ensure that the whole population can accede to the services.

4. Ensuring continuity

The legal basis of public utilities must allow the clear determination of the responsibilities of each entity involved. Equally, it must establish the rules of access to essential services.

There is a need to legally establish basic compromises to ensure continuity in the delivery and improvement of services. This means the creation of a rational and objective basis for cooperation among all those involved. One possibility is to promulgate service charters with which each group involved in the provision and use of public utilities agrees to certain basic operational principles and to discuss the on-going operation and level of provision. These charters must be adapted to the characteristics of each utility and for each locality.

The choices must be made locally as to the appropriate solution for service provision. These decisions can benefit from expert advice, from the research and experience of other countries, but there are no universal models, only local solutions.

B. Summary of the presentation by Jean François Vergès

Essential facilities and subsidies, are two very different, but important, issues in service provision.

The question to be asked is what infrastructure can be considered to be essential? In general, the answer is that most of it is essential. In water supply and sanitation everything can be considered essential and the major issue is the competition with other uses for access to the water resource. The same kind of competition occurs in telecommunications over access to the electromagnetic spectrum. In electricity and gas only the production can be considered inessential and only then when the market is of sufficient size to allow a real and sustainable competition between different energy sources. In both electricity and gas the distribution networks can also be considered essential in the retail market. Wholesale energy commodity markets can also be considered to be essential.

1. Examples of discrimination in access to or provision of essential services

There are examples of discrimination in all services. For example, in telecommunications, in nearly all countries, the original incumbent company controls the local urban loop. Privileged access to airport landing slots is often granted to national airlines.

In general, the possibilities for competition in electricity markets are very limited. In fact, it is all but impossible in distribution networks and very difficult in transmission unless the market is very large. In many countries in Europe, the best generation alternatives are in neighbouring countries but nationalism does not seek the efficient solution. In small countries, without sufficient economies of scale, international interconnections between networks are sometimes the only possible means of introducing competition into generation markets and, therefore, into electricity markets as a whole. It is also the only solution for the abolition of “take or pay” clauses obliging the buyer to pay for a certain minimum quantity of electricity, whether or not the buyer actually takes that quantity during the contract period.

These international network connections require long-term subsidised public financing and a total structural separation among generators, distributors, and retailers.

However, there is a further practical, rather than theoretical, issue in the question of the pricing of provider access to essential facilities. The need to ensure availability and transparency of information requires the structural separation in the ownership of essential facilities and the listing of the companies on the stock market. It also requires the application of international accounting standards and openness in annual reports to the regulator and the shareholders.

For water supply, the major issue in practice is not access to the essential installations of water supply systems, but access to raw water. When open and transparent water rights markets do not exist then access to the water resource always tends to favour irrigation. This means that the opportunity costs of nearby water resources can be very high for urban water supply service providers. This situation often means that they are forced into overinvestment in pumps and costly treatment processes. It can also result in the contamination of groundwater and other types of major economic inefficiencies.

The regulation of equal access to the water resource without discrimination is generally not at the same level as that existing for access to the electromagnetic spectrum in telecommunications. River basin agencies tend to favour agriculture and irrigation and discriminate against urban water supply. It is also common to impose inequitable charges or taxes for access to the resource or for water pollution.

2. Subsidies

Many publicly-owned providers of public services receive direct or indirect subsidies. It is frequent that these are hidden subsidies. There are many examples, including: privileged financing through public guaranteeing of debts, transfer of assets below market values (even at zero cost), and low or zero charges for the use of public capital; a *de jure* or *de facto* privileged tax regime; subsidised labour costs; absence of explicit contracts; and lack of an independent regulator implies minimal economic regulation.

There are many examples where the subsidies given to public service providers lead to the subsidy of their employees and, in turn, their unions. In many cases, the users pay for the easy life of the employees through abusive tariffs.

There is a particular issue when it comes to the question of whether to subsidise the access or consumption of the poor. This is often the significant factor in the awarding of public utility contracts in poor countries. The cost of connection is very high for water supply and even higher for sewerage. This is not true for electricity. If access costs are not paid or subsidised at the time of connection then this raises the fixed costs included in the tariff, which can appear to be abusive. In addition, there are other problems related to the question of connections for “illegal” housing.

Moreover, illegal connections, or non-payers, have given themselves zero prices for the use of the service. In many cases such people are not poor. The question of charging all consumers is a major element in achieving greater social equity. It is better, therefore, to achieve 98% payment levels with subsidies than lower levels without. However, not all the commercial losses of the utilities are necessarily losses for everyone. Sometimes they merely signify cross-subsidies.

A further issue is whether to subsidise the actual consumer or the owner of the house. In many cases the owners of houses pay, by a small charge related to the value of the property, for the connection over long periods of time. If the people who rent the house are poor then subsidies for connection are subsidies to owners not consumers. It is better to subsidise the poor directly through the municipality.

These issues also arise, and in the same way, when subsidies are provided to poor districts on the urban fringes. The wealthier inhabitants also benefit. In rural areas the need for subsidies can be even greater and the most equitable and logical solution is the extension of urban services beyond the city into its economic hinterland.

3. Cross-subsidies

Cross-subsidies are not always so anti-economic. Classical economic theory says that cross-subsidies cause distortions in economic efficiency and in the optimal allocation of resources. Jean-Jacques Laffont showed that this effect might not hold when the supposition of an optimum taxation system is not correct.

There are other justifications of cross-subsidies. In some cases, for example, cross-subsidies are certainly the largest, perhaps the only, means of redistributing income. Moreover, it can be argued that public health externalities justify such arrangements. Increasing block tariffs encourage economies in water use and act as an instrument of peak pricing. This is particularly the case when there are extreme inequalities in income distribution.

The issue of creaming off the top end of the market does not arise in water supply and sewerage. There is only one monopoly provider for each service area. This situation favours the creation of a universal access fund financed by equal payments from all utilities.

Much is made of a pernicious myth that paradoxically the poor who are not connected to the public water supply network pay much more for water than those connected. This is not necessarily true except in specific cases of unsustainable free service with abusively low tariffs. They do tend to pay much more for each litre, but much less for the average daily consumption than users connected to the public network. Users with median incomes who drink bottled water pay even more for a litre while rich consumers only use low price water to irrigate their lawns and fill their swimming pools.

If in fact the paradox was true and the unconnected poor pay more for their water then why do the drinking water and sewerage companies, whether private or public, not rush to provide connections to poor with such a high capacity to pay. The truth is that there is no paradox. The poor are poor and cannot pay as much as the population with connections. Especially they cannot pay the cost of connection and other fixed charges.

Increasing income inequality, and consequently incapacity to pay for services is a major challenge increasingly common in cities in rich just as much as in poor countries.

It is easiest to solve this issue through cross-subsidies. This can be seen in the case of Casablanca, Morocco, where 20% of the residential users (mainly rich living in houses with gardens) consume 60% of the water billed, while 40% of residential users consume only 11%. Ignoring the

effect of price elasticity, a 20% surcharge on the 20% highest consumers allows a subsidy of 12% of consumption, or equal to the consumption of the 40% population with lowest incomes.

It is not surprising that in countries with high inequality in the distribution of income, the rich do not oppose the use of cross-subsidies. However, cross-subsidies should be limited to those among residential users. Cross-subsidies are not justified from industrial and commercial users to residential users.

It is very difficult to focus subsidies on those that are really poor. In South Africa, the majority of users who receive the first 8 cubic metres free never pay for consumption beyond that. In Senegal, the cost of access for all users, even the richest, is zero, there are no fixed charges and the first cubic metres of consumption are priced below the cost of water from public standpipes (used by the poor).

Increasing block tariffs produce inequities for large families. It is not necessarily true that per capita consumption varies greatly between the rich and the poor. Moreover, there is always the problem of fixed charges. Subsidies to areas, for rural water supply, for example, can result in subsidies for the providers not the consumers.

It is not easy to resolve the problems of subsidy policies. They become difficult issues in social engineering.

4. Conclusions

Most of the developed countries use cross-subsidies, but they are prohibited in France. Latin America provides various examples of cross-subsidies by income group as in Colombia, and increasing block tariffs as in Brazil and Panama.

The responsibility for subsidies, whether cross-subsidies or focalised, should lie not with the utility but with the appropriate level of government. The public utilities, whether public or private, should not have to play a social role. The social policy implications of subsidies are very complex and cannot be safely left to public utilities.

C. Summary of the presentation by Emilio Lentini

The financial and subsidy policies adopted for the Buenos Aires water supply and sewerage concession were based on the principle of long-term self-financing obtained exclusively from tariff income. The State excluded itself from any financial liability. The tariff system was inherited from the previous system and based not on consumption, but on the area of the house and other parameters. The system was characterized by cross-subsidies that lacked focus and had no particular rationale. In general, subsidies were from the older consolidated areas of the metropolitan area to areas of residential expansion. It was concluded that direct demand subsidies from public sources were not a viable alternative. In the future, State contributions to financing can be expected, but only for investments in the system.

In January 2001, at the time of the first five-year tariff revision, it was agreed, in the context of the growing economic crisis, to create the so-called Social Tariff, which would subsidize demand and bring an end to disconnections. There had already been experience with cross-subsidies to cover the cost of new connections. It was estimated that this tariff would cost US\$ 4 million a year, obtained from a cross-subsidy equivalent to 0.7% of the total income or 1.1% of the income from the residential billings. At the same time, up to the end of 2003 the concessionaire would not disconnect residential users with critical financial difficulties.

The objective of the programme was to reduce the bills of poor users. The system was to be focalised, explicit, and transparent, with minimum errors of inclusion or exclusion, and to have low costs of administration and control. The beneficiaries were chosen through questionnaires using a participative methodology based as a first stage on assemblies including, as well as the public, the Committee of Users of ETOSS (the regulator), the Sub-secretary of Water Resources, the Province of Buenos Aires, the Municipal Government of the City of Buenos Aires, 17 municipalities of Greater Buenos Aires, ETOSS, and the concessionaire.

The objective population of the programme were families below the poverty line with incomes under US\$ 200-250. At one moment the number of people below the poverty line reached 50% of the population in Greater Buenos Aires. The median bill was around US\$ 10 a month and the minimum around US\$ 6 (since the devaluation of 2002 equivalent to one-third of that).

A major factor in the design of the programme was the impossibility of measuring consumption. The programme was based on an estimated capacity of payment inferred from international experience. A maximum of 4% family income was established as a limit.

The specific benefits of the programme, which was to last a year but could be renewed, included: a reduction in the water bill, the lifting of disconnection processes, suspension of claims for debt payment, and a reprogramming of debt payments according to the capacity of the debtor to pay. The amount of the benefit was specified in the bill as the social tariff discount, and the benefit was granted in fixed amounts at a time so as to facilitate the transfers among municipalities and to avoid any conflicts over the distribution of the funds.

Once the programme was established, little attempt was made to publicize it. This was basically because it was thought the funds assigned were insufficient. Moreover, the census of poor families was incomplete and inadequate due to the growing poverty. The programme depended on the potential beneficiaries applying for the subsidy. Then municipal officials determined the size of the family, income, occupation, housing, and other conditions. On the basis of this information an evaluation was made and a subsidy granted on average for six weeks.

A number of institutions were involved in this process: the municipalities identified and selected the majority of the potential beneficiaries; the Users Commission of ETOSS together with similar associations also aided in the identification of potential beneficiaries; ETOSS, itself, also participated in the identification and selection process and supervised the work of the other institutions; and Aguas Argentinas was responsible for the application of the discount in the bills of the families selected.

The administration of the programme is organised through an executive commission consisting of 3 members from ETOSS (one acted as chair), 3 members from the Users Commission of ETOSS, and a representative of each municipality whose situation the commission was discussing. There is a specialized group within ETOSS that directly administers the programme. The popular assemblies originally contemplated in the programme have not functioned.

The programme came into full operation very slowly. The municipalities adopted various strategies to implement the programme. Some processed applicants in one central office, while others opened offices throughout the municipality. Some municipalities worked closely with non-governmental organisations. There were also variations in the manner of assigning benefits. Some municipalities established a maximum limit to the benefit received; others did not. Some municipalities emphasised assistance to particular groups of the population: the old, the unemployed, the disabled, etc. Other municipalities gave priority to certain districts with specific problems, such as the “new poor” and multi-family dwellings.

By September 2005, 103,000 users received benefits under the Social Tariff programme, equivalent to 4% of the total users served by the water supply and sewerage system. The total

annual cost was 5.4 million pesos, which exceeded the amount originally conceived but it was only equivalent to 0.8% of the total annual billing income.

The average benefit or discount was equivalent to 43% of the bimonthly bill. The average bill paid for both water supply and sewerage was 14 pesos. This was 2.7% of the average monthly income of 260 pesos. Moreover, the programme reduced the number of users with debts from 70% to 18%.

It was decided to extend the Social Tariff to charity institutions providing assistance to population below the poverty line under strict conditionality. A 50% reduction in the bill could be granted up to a maximum of 400 pesos for each billing period. The municipalities were authorized to dedicate up to half the funds received under the programme for this purpose.

IV. The impact of treaties for the protection of foreign investment

A. Summary of the presentation by Andrés Culagovski

The International Centre for the Settlement of Investment Disputes (ICSID) was created under the Washington Convention of 1965. It establishes no substantive regulations. However, the ICSID has settled 94 disputes since 1965 and there are 100 cases pending at the moment, over half against countries of Latin America and concentrated in Argentina. Most of the cases have been brought since 1995.

The substantive rules and regulations are contained in international investment agreements. It is such agreements that all investors use to sue governments. There are more than 2000 international investment agreements today in the world. Chile has signed 52 agreements, but only 38 of these are in force. Argentina has signed more than 100. Similar agreements are included in the free trade agreements of which Chile has signed 8 with most of its major trading partners and various others are under negotiation.

1. Treatment of investments under international investment agreements

In an international investment agreement, there is a basic compromise that an investment must receive just and equal treatment not inferior to the minimum international standard. There must be no discrimination compared with other investors whether foreign or national. There must be free transfer of capital and profits, allowing for certain exceptions. The investors, and only the investors, can sue a government directly through the ICSID. Investments can only be expropriated because of public or national interest under existing laws. There must be no discrimination in the expropriation and a reasonable indemnity must be paid.

2. Expropriation

In the case *Amco Asia Corporation and others v. Republic of Indonesia*, the ICSID clearly established the principle that a government has the obligation to protect foreigners and foreign

investors from illegal acts committed by its citizens. In that case the illegal acts were committed with active government assistance and clearly constituted a violation of international law.

The vast majority of investment agreements include compensation in the case that expropriation of the investment occurs. Expropriation can be direct as when a government nationalises a property outright or it can be indirect. In an indirect expropriation the legal title to the property remains with the investor but his or her rights to use the property are restricted through government interference. Such interference can be due to the use of the government’s “police powers”. These include the application of national environmental, health, moral, cultural, or economic regulations. In general, until now, the courts and ICSID have allowed claims for compensation, for indirect expropriation, when governments have imposed environmental regulations limiting the expected profits of the investor. However, in cases of indirect expropriation the courts have established terms and conditions, which can justify an expropriation. For an indirect expropriation to be justified it must meet four requirements: there must be a clear public purpose, there can be no discrimination, there must be adequate compensation, and there must be due process.

Despite these advances, the question of indirect expropriation remains a very controversial matter in the international courts. Controversy arises principally in cases of indirect expropriation because it is customary in international law to demonstrate a specific public purpose in order not to recognise the need to pay compensation. However, the majority of investment agreements do require compensation if a foreign investment is expropriated and the court must decide whether to recognise the existence of justifiable public purpose or not.

The decisions of the ICSID have, in many ways, been contradictory, in that there has been no uniform definition of what is indirect expropriation. It has been defined as “measures tantamount to expropriation”, “creeping expropriation”, “regulatory takings” or “de facto expropriation”. For example, in the case *Generation Ukraine versus Ukraine* a series of government acts were considered to be leading up to complete expropriation. In *Metalclad Corporation versus Mexico* indirect expropriation was considered to consist in interference in the use of property to the extent that it deprived the owners of all or a significant part of their profits even if there was no corresponding benefit to the government.

The question has been raised as to whether in determining cases of indirect expropriation the court should take account only when the expropriation is the expressed purpose of government action or to also consider the impact of government measures on the interests of the investor. There are two tendencies in judgements on this issue: on the one hand, there is no expropriation, and compensation is not required, when the action has been taken for legitimate public purposes; on the other, if any government action deprives the owner of the control of his or her property or substantially affects its value then compensation should be paid whatever the purpose of the action. For expropriation to occur any government interference must be permanent. The decisions have been unanimous on this point. Administrative acts that have been considered by ICSID to be expropriations have included the impact of an environmental protection decree, unreasonable taxes, and prohibition of imports.

It can be concluded from the various decisions that the following acts are considered to constitute indirect expropriation: the cancellation of licences, expropriation of property (really direct expropriation), confiscatory taxes, refusal of access to infrastructure, refusal of access to necessary raw materials, and arbitrary regulation. What is not considered expropriation is simple declaration of intent, property seized by citizens without government approval, bad management, or failure to comply with a contract. In general, as in the trade agreement between Chile and the United States, security, environmental or health regulations are not considered as expropriation.

3. Chile and MTD

A Malaysian development company bought a large parcel of land on the outskirts of Santiago with the intention of building a satellite town. The land was zoned for agricultural use, but the seller advised the company, MTD, that there would be no problem in getting the land reclassified for urban uses. The government denied the change in land use and, in consequence, blocked the investment. In 2002, MTD sued Chile for US\$ 28 million in damages, alleging violation of investment treaties and foreign investment contracts. In 2004, in a mixed if not contradictory decision, the ICSID arbitration tribunal awarded the company US\$ 6 million in damages. The government of Chile has requested the annulment of the decision.

What is interesting is that the company invoked all the grounds for indirect expropriation, but the arbitration tribunal rejected them all but one, that the MTD did not receive just and equitable treatment. The tribunal concluded that in approving the investment the government should have warned the company that the land was zoned for agricultural use, even though foreign investment contracts do not relieve the investor of investigating whether other laws apply. In sum, the tribunal found that any government official in carrying out their public duties commits a government. In the view of the government of Chile this is a dangerous precedent.

B. Summary of the presentation by Osvaldo Rosales

The principal factors that determine the level of foreign investment in a country are the policies that have been adopted towards direct foreign investment, the overall economic situation, and the business environment. Within the context of policies towards foreign direct investment, the most important considerations are general policies creating political and economic stability, the rules governing access and operations, regulatory policies, especially those related to the overall functioning of markets.

Countries that adhere more to international agreements on investments, treaties on double taxation, and that are signatories to global organisations, such as the World Trade Organisation (WTO), are viewed more favourably. Investors tend to give importance to the extent of state interference in the markets, particularly if it affects competition and the general environment for operating in a given market.

Overall commercial policies are also significant, particularly as these determine the size of market. For example, in the case of Chile the sheer number of trade agreements makes for a potential market much larger than its population. Obviously, tax policies can have a determining influence and need to be stable, equitable, and transparent. Also, there are advantages in location and of access to natural resources, the availability of a skilled labour force, advanced technology, and the possession of adequate and competitive infrastructure. The business environment is a further factor determining the extent of foreign investment both in terms of the promotion and the facilitating of investments. Incentives encouraging foreign investment include: institutional quality of a country, in the sense of efficiency, transparency and the lack of corruption; quality of life, particularly urban life, environmental quality, and the crime level; and business support services.

1. International agreements governing foreign investments

Since 1948, more than 160 agreements have been negotiated dealing with direct foreign investments. The agreements cover a huge variety of questions and it is difficult to make comparisons among them. There are many negotiating forums, as well as regional and bilateral agreements all with heterogeneous membership from both developed and developing countries. The number of international agreements governing foreign investment has grown markedly since

1980. However, the development was initiated after the Second World War through attempts to reach multi-lateral agreements. The first attempt to create an International Trade Organisation, the Havana Accord, failed. This was followed by the Multi-Lateral Investment Agreement, which again failed, mainly due to the boycott of non-government organisations in developed countries. The most successful path has been through bilateral rather than multi-lateral agreements and through arrangements included within trade agreements.

2. Clauses commonly included in investment agreements

There are always general definitions of which investments are to be covered by the agreement. The kinds of treatment to be given to investments are also commonly defined, including: minimum conditions such as conformity with international consuetudinary law, and just and equal treatment, implying access to national courts, regulations, etc, under the same conditions as national investors; the principle of the same treatment as a national investor; favoured nation treatment or no discrimination towards foreign investors; dispositions on operations, such as the prohibition of special rules on performance, free transfers of resources, and on direct and indirect expropriation and compensation; rules on the solution of controversies, which can be either between governments or between companies and governments; and there are general exceptions for differences arising due to regulations on health, welfare and the environment.

3. Policy implications

There is an impact of investment and free trade agreements on policies to the extent that these cannot be discriminatory either in form or interpretation. The actual results depend very much on the particular agreement and there is much variation. It is possible to extract some general conclusions but these must be tested against specific cases. For example, no discrimination means ensuring the impact of policies is neutral, equally affecting national and foreign investors. This can be limited if in the agreement there are exceptions for some measures or sectors. Policies must also be neutral in their effect on operations, which limits the possibility of any direction of the investment by the government.

Originally investment treaties put considerable stress on the protection of investors from direct expropriation. Now there is also emphasis on protection from indirect expropriation resulting from regulatory actions by governments. These provisions are generating considerable controversy. Indirect expropriation brings up the question of a delicate balance between the interests of investors and governments. It is very difficult to find general principles that protect the right of governments to regulate without affecting the whole basis for investment treaties. Judicial solutions have to be developed case by case. However, there are some criteria to permit the evaluation of the impact of government policy decisions. First, the general acceptance in international law that no compensation is required for economic losses when a government has exercised in good faith its right to impose non-discriminatory regulations. Second, the development of evaluation criteria for specific situations based on: the degree of interference in property rights, such as severe economic losses and the duration of the regulation; whether the regulation promote social benefits or general welfare; the type of actions taken by a government to ensure the regulation is enforced; and the degree of interference with the reasonable and identifiable expectations of the investor.

VII. Regulatory institutions

A. Summary of the presentation by Aude Bodiguel

Commission of Energy Regulation (CRE) in France consists of 7 members. Two, including the Chair, are appointed by the President and the government, two appointed by the Chamber of Deputies, two appointed by the Senate, and 1 appointed by the Social and Economic Council. They are appointed for a non-renewable six-year period and, to maintain their independence, cannot be removed from office. The members of the CRE must abide by strict restrictions on incompatible activities. The CRE meets twice a week to approve all the formal actions taken by its secretariat. It organises public hearings and meetings on important matters before taking its decisions. Its own decisions are normally taken by consensus and votes are very unusual. The secretariat, under the President and the Director General, is organised into 3 sectoral directorates, two for electricity and one for gas, and 3 technical directorates, legal, financial, and international. The staff is gradually increasing, and in 2005 there were 120 employees, with the budget around 16.5 millions euros (US\$ 21 million).

1. Functions of the CRE

The CRE is charged with monitoring the market (prices, company market share, etc.) and of guaranteeing access without discrimination to the distribution networks through: proposing the tariffs for the transport and distribution of gas and electricity; and resolution of controversies. The CRE also controls the authority responsible for the transport and electricity networks (RTE) through the approval of its annual investment budget, the approval of the agreements between RTE and EDF, and by advising on the appointments to its board of directors.

The CRE ensures that there are no cross subsidies among the different activities within integrated companies. To this end, it defines the rules for the separation of accounts and has unrestricted access to company accounts for auditing for this purpose. The CRE also estimates the costs of the public service obligations of the energy companies and advises on the use of renewable resources, and social tariffs. The CRE has authority to determine the rules governing connections to the transmission and distribution networks. The government must consult the CRE on any laws affecting energy or energy pricing. It also has the authority to collect data and, even more, the right to undertake investigations into the activities of all those participating in the

energy markets. The CRE possesses quasi-judicial authority for the settlement of controversies and litigation. It can sanction fines equivalent to 3% of billings of the companies. The CRE must prepare and publish an annual report on its activities for the Government and Parliament. Through its president, it must answer to parliamentary commissions and its management is subject to the control of the Auditor General.

2. Activities of the CRE

The work of the CRE and its secretariat is defined by law. However, because it is possible to appeal its decisions in the courts, the CRE has to have a detailed internal set of regulations to govern its daily activities. It is very important that the operations of the CRE are seen to be independent and impartial, that it demonstrates its ability to react to events effectively, that its decisions are taken transparently, and in consultation with those affected. Consequently, the CRE provides comprehensive information on its recommendations and decisions through its annual report, press conferences, its web site (<http://www.cre.fr>), etc.

The CRE collaborates closely with the other authorities responsible for the regulation of market competition, such as the Competition and Prevention of Fraud Directorate, the competition council, and other regulators in telecommunications, etc. The CRE maintains close contacts with all the participants in the energy market both in France and the rest of Europe through the Florence Forum, with the regulators in other European countries through the CEER and the ERGEG, and with the European Commission.

3. The Florence Forum, CEER and ERGEG

There are 3 forums for coordinating energy policies in Europe, two of these, CEER and ERGEG, are restricted to regulatory bodies, but the Florence Forum is open to all who participate in energy markets. The Florence Forum was created by the European Commission following the adoption of the electricity directive of 1996 opening up the European electricity market to competition. Participation in the forum is open to the governments of the member countries of the European Union, to regulators, suppliers, traders, consumers, network users, and electricity markets. Since 1998, the Forum has met once or twice a year under the auspices of the European Commission. Regional mini forums have also met under the auspices of the Florence Forum. The matters discussed in the Forum are varied and have covered, among other themes, tariff setting for international trading in electricity, the assigning and management of interconnection capacities, and the technical and commercial obstacles to the creation of a permanently operating electricity market in Europe.

The CEER was established in 2000 and progressively all the regulators of European Union countries have joined with the exception of Luxembourg. CEER became a private non-profit corporation in 2003, with headquarters in Brussels. Every year it adopts a budget and a work programme. The budget funds the activities of five working groups covering many aspects of the operations of energy markets.

Following its second directive on competition on European energy markets, the European Commission established the ERGEG to “facilitate consultation, coordination, and cooperation between the regulatory bodies in Member States, and between these bodies and the Commission, with a view to consolidating the internal market and ensuring the consistent application in all Member States” of respective directives and regulation.

4. Conclusions

The creation of the CRE as an autonomous administrative authority, a type of agency even now little used in France, is directly related to the policy of the European Union to create a single electricity and gas market. Although the CRE is conceived as a strictly national authority, its role is seen as one part of the activities of all the European energy regulators and of the European Commission.

B. Summary of the presentation by Frederick Butler

1. The New Jersey Board of Public Utilities: legislative base, functions and responsibilities

The Board has general powers of supervision, regulation, jurisdiction, and control over all public utilities. The Board can require from all public utilities: compliance with all pertinent laws and ordinances, periodic presentation of accounts, periodic reports, and notification of all accidents.

The Board was founded in 1911. It is the oldest consumer protection agency in New Jersey. It is empowered to set rates, approve financing, to set standards for utilities, and to regulate the operations of the utility market. Originally, the Board had responsibility over railways, bus lines, canals, pipelines, gas, electricity, light, oil, sewage and waste disposal, and telephone and telegraph companies. Today the authority of the Board is limited to electricity, natural gas, telecommunications, cable television, drinking water supply and sewerage. The mission of the Board is: to ensure the provision of safe, adequate and proper utility and regulated service at reasonable rates, while enhancing the quality of life for the citizens of New Jersey and performing these public duties with integrity, responsiveness, and efficiency. The Board has quasi-legislative and judicial powers and obligations. Its quasi-legislative authority includes: setting rates and making the rules governing utility operations, establishing the rate base, and guaranteeing and maintaining a competitive and level playing field that protects consumers and maintains economically viable utilities. The quasi-judicial powers include: hearing complaints and resolving cases, and issuing written orders.

2. The importance of an independent regulator

An independent regulator assures equity for the clients and the public utilities. The Board was established so that it would be independent, competent and transparent. This independence is assured through the nomination process for the members of the Board in which both the principal political parties participate, through independent financing derived directly from the regulation activities, and through strict and known rules of conduct for its activities.

The Board has 5 members designated by the Governor and confirmed by the State Senate. They serve for 6 year periods. The President assumes responsibility for the management of the Board and supervises its day-to-day activities. The law establishing the Board requires that there be multi-party representation. No more than 3 of the 5 Commissioners can come from one party. The duration of the mandates of the Commissioners is fixed and staggered over time to ensure continuity and independence. A Commissioner cannot be removed except for serious offences. To ensure the integrity of the Commissioners, the Board must abide by strict rules of conduct, including conflict of interest laws, oversight by the Executive Commission on ethical standards, and restrictions on employment at the end of their terms.

The financing of the Board is not through the general State budget. If it were then any independence would be hypothetical. The Board's budget is based on a charge on the gross receipts of all the regulated utilities. It is now around US\$ 25 million a year.

The competence of the Board is ensured by the coherence of its decisions, the possibility that its decision can be appealed to higher courts, the original nomination of competent persons as Commissioners, and the correlation between independence and openness.

The organisational procedures of the Board have been conceived so as to be responsive to the public and to safeguard the interests of the different communities. Public meetings are held to discuss regulation affairs. The meetings are announced in a publicised schedule and the key points are discussed in an open meeting. The Board is open to the comments of the public and takes these into account when decisions have to be made. Closed sessions of the executive Board are limited to discussions involving litigation, when the privilege of a lawyer’s client is involved or for the discussion of personnel matters.

3. The structure of the Board

The main officers of the Board are the Executive Director, the Chief of Staff, the Secretary to the Board, and the Economist. The Executive Director is responsible for ensuring that all work submitted from the divisions is technically correct and in compliance with established policy and regulations. The Director is also responsible for coordinating the Board’s agenda, meetings and briefings.

The Chief of Staff reports directly to the President of the Board, and assists in the supervision and management of day-to-day activities and operations. The Chief of Staff oversees several functional divisions, briefs and advises the President on important organisational and industry issues, and directs staff work on these issues. In general, the Chief of Staff oversees the work of the Board’s senior and technical staff, and advises the Board on policy issues, technical matters, and regulatory questions.

The Secretary to the Board is responsible for keeping a public record of all the proceedings of the Board. The Secretary serves as a policy adviser to the President, acts as the liaison between the Board and the State Attorney-General’s office, and compiles the Agenda for the Board’s bi-monthly public meetings. The Secretary also oversees the legal staff and law library, manages cases brought before the board, and controls the agendas for meetings.

The Economist is the key adviser on policy issues and financial matters, including the evaluation and recommendation for action on utility finances, corporate mergers, acquisitions and reorganisation, and the costs of capital issues. The Economist provides the Board with overviews of activity in the financial, capital, and credit markets and their impact on matters before the Board. The Economist evaluates and analyses the financial performance of utilities, issues of regulatory reform, utility restructuring, and expanding competition. The Economist oversees the Division of Audits.

The Board places considerable emphasis and importance on customer relations and within the organisational structure priority is given to the Divisions of Media Access and Communications and Customer Relations. This is necessary because of the public interest in the prices of utility services, problems of reliability and quality of service, and mergers and acquisitions among utilities. The Board has a major programme to keep the customers informed and also educational programmes in energy use. This concern for involving the public carries over into the decision making process, which is based on public hearings and allows for appeals to all decisions up to the State Supreme Court.

C. Summary of the presentation by Juan Legisa

The purpose of public utility regulation is the protection of the public interest, that is, the protection of the consumer. However, it is not just the consumer of today that must be protected

and it is not just the sum of private interests. Regulation requires the harmonisation of the interests of the whole society and consequently it must be very carefully done and take into account those requiring more than average services and those willing to take less at lower prices. Regulation must also conciliate quality and quantity over time, taking account of the price for society as a whole. It must be dynamic and evolve along with the increasing development of society, technological change, and changing priorities. In the exercise of their functions regulators must act with discretion and this means they must be viewed with a high degree of confidence. The majority of the issues faced by regulators require considerable technical and economic specialisation. This requires educated permanent personnel and, who are, as far as possible, apolitical. Independence in thinking and decisions is particularly needed for two basic reasons: first, there is a tendency for politicians to delay confronting problems and, second, many decisions affect the rights and freedoms of the population.

1. Institutional design

In the case of natural monopolies, the objective of regulation is to replicate a competitive market environment. Usually, the regulator is an institution within the public sector, either within the public service structure, or, preferably, independent from it. Independence from the public service seems to be the better option in Argentina. Obviously, any “independence” is relative and only has meaning in the carrying out of daily duties within the responsibilities that have been assigned. It is specifically the limits of independence that must be defined in the legislation establishing the regulator.

It does not seem to be appropriate that the public is represented within the regulatory institutions, something that has been repeatedly requested in Argentina. The public as users, along with the utilities, are part of the regulated universe. This does not mean that the public should not participate, but the best way is through the transparency of the regulatory process. The role of the regulator is not to mediate between the utilities and the users, but to interpret the law and the contracts, which should be designed to protect the users. The regulator must be capable of interpreting the laws and contracts intelligently and applying them competently, and be given the space to do this.

In federal countries there is the further consideration of the appropriate level of government. When regulation occurs at the state or provincial level then it is logical to have one regulator for all sectors. Moreover, when regulation is at the state level then comparisons can be made among different regulatory systems.

The discretion granted to the regulator varies significantly. In Great Britain and the United States much emphasis is placed on ensuring the independence of the regulator. The greater the autonomy the better regulators can carry out their responsibilities in terms of the necessary efficiency and with the essential rapidity.

International experience shows that the organisational structure and the legal framework of the regulated industries must be congruent. If this is not the case, it is difficult for a regulator to correct the deficiencies. The structure of the regulator must be sufficiently flexible to meet the changing challenges of the electricity sector.

Regulators tend to possess the following common characteristics: independence; open, transparent procedures based on public hearings; economic regulation; and control over all utilities. However, the specific nature of the regulator varies among countries and in many countries there are greater demands for control of the utilities rather than for economic regulation.

2. Regulatory institutions

Typical institutions include: the regulatory agency itself, the exercise of legal functions, the control of the price and quality of services, and the permissions allowing the operation of a public utility. In England, the regulatory institutions are government departments, but with considerable independence as they contract their own staff and manage their own finances. In the United States, as in Argentina, the regulators are independent entities separated from politics and the public administration. In all cases, the regulators are characterised by: having as their prime task public utility regulation; being autonomous; having their own budget, usually financed by a levy on the regulated utilities; their decisions can be appealed to the courts; the employees are under formal contracts; and resolve controversies among the regulated utilities through obligatory decisions.

3. Bases of regulatory autonomy

Regulators combine three typical basic functions of the State in their regulation of public utilities, the legislative when the regulator issues rules and regulations, executive when these are enforced, and judicial in the solution of regulatory controversies. The creation of autonomous regulators is based on the principle that the authority that grants concessions should not control them. They are part of the basic division of powers in modern constitutions. The independence of the regulator is also a guarantee of stability and predictability both for the utility and its users.

In Argentina, some regulators were created through laws, providing independent judicial status, the requirement to report to a ministry, the authority to collect charges from utilities and users, and administrative independence although their decisions can be revised both administratively, in the first instance, and then by appeal to the courts. Others were created as part of the public administration and lack independent legal status and their autonomy is much more limited. In Argentina, this difference in the manner of creation of the regulator is crucial. In the case of regulators created by law, the government can only evaluate whether a questioned action is legal or not. In those created by decree the opportunity, merit, and convenience can also be judged. In those created as decentralised agencies within the administration all actions are subject to revision. Evaluating the legality of acts seems a reasonable control over the regulators, but more control than that aborts the regulators independence.

To be independent regulatory agencies must also be independent economically, having their own independent sources of funds. The manner in which the directors of regulatory institutions are chosen and the terms of their appointment is another factor affecting the independence of the regulator. In Argentina in the case the electricity regulator, the Federal Government designates the 5 members of the directorate, although 2 are proposed by the industry. They are appointed for 5 year terms, can be reappointed without limit, and can only be removed from office for serious offences. The congress can pass opinion on the appointments. Members of the board of the gas regulator are appointed in a similar manner.

In sum, the independence of the regulators is relative and is not, and should not be, the same as the independence of judges. Nevertheless, the regulators must be able to exercise the necessary technical and legal authority free from interference. The autonomy of the regulators is absolutely fundamental when they exercise judicial authority in the resolution of controversies. The regulator must be able to exercise discretion, although the freedom to do so varies among countries. In some countries the discretionary authority of regulators is very wide while in others it is strictly defined.

4. System scale and type of regulation

Many countries copy changes that are being made elsewhere, particularly in the privatisation of utilities, without taking into account the implications of possible differences. An important factor to take into account is the scale of the system. In small or even medium size electricity systems there can only be limited competition among generators. Sometimes this problem can be overcome through interconnection with other systems, but this is not always possible. Where there are few companies a strong regulator is required. Rather than to encourage competition the role of this regulator in this situation is to ensure efficiency.

In the design of regulatory systems, regulators can either be specialized or cover a broader range of activities. There can be differences within a country: at the federal level in Argentina there are specialized regulators, but in many provinces regulators cover various services. The reasons for choosing one over the other seem simply to be of convenience and practicality.

The design of the regulatory system must attempt to block the capture of the regulator by the regulated companies. Regulatory capture is an ever-present issue. Designing a system to prevent capture is perhaps impossible but there are ways of reducing the possibility. First, the regulators must have a clear mandate to protect the interests of the consumers; second, the regulator must report on these activities, and third, all regulatory activities should be as transparent as possible.

It is important that the regulatory bodies have access to well-trained staff, and the universities, as they have in Argentina, should accept the challenge of educating students to enter the regulatory profession.

5. Competition in the electricity industry in Argentina

In the decision to privatize the electricity industry, it was decided to separate the activities vertically into production, transmission, and distribution. Generation was made competitive, while transmission and distribution were regulated as natural monopolies. In sum: competition in generation, competition to supply large consumers, competition in the extension of the transmission system, and simulation of competition in the regulated activities. The results were immediately favourable with a reduction of prices of 45% in the wholesale electricity market, increased efficiency, reduction in pollution and an expansion of the networks. The system has undergone some adaptation after the economic crisis of 2002, but continues to function effectively.

D. Summary of the presentation by Edgar Navarro Castro

Traditionally, the electricity industry in Central America was made up of individual national systems characterized by vertically integrated State-owned companies. However, in general, the governments lacked the resources to properly invest in the industry and the price of electricity was heavily subsidised. There was no specific legal framework to govern the operations of the industry in any country. This situation has been changing. The first step in this direction was the opening of the industry to private investment. The opening was brought about by the need to provide back-up facilities for generation to guard against the contingency of system failure (blackouts were very common) and the need to establish standards for improvements in the quality of service. The introduction of the possibility of private investment required both a reconsideration of pricing and subsidy policies and a new legal framework, particularly to govern contracts among the different players in the reformed industry.

The second step was the building of electricity interconnections among neighbouring countries, and the development of the necessary contractual instruments or, at least, agreement to govern electricity trading. This was accompanied by a liberalization of the electricity market, which led to a major increase in investment. The third step began with the project to develop the Central American Electric Interconnection System (SIEPAC). This project consisted in the creation of a Central American wholesale electricity market and the development of the first regional transmission system. The market was created in the context of national efforts to reconstruct the industry in each of the countries and will gradually permit any qualified agent to sell or buy electricity, regardless of their location in the region. SIEPAC followed the signing of a framework treaty that created an open, regional electricity market. Under the treaty two international agencies and one regional company were created: the Regional Electricity Interconnection Commission, the Regional Operating Agency, and the company owning the transmission network (ERP), which is a private company, with the shares owned by the governments of Central America and two private companies. This set the stage for the creation and operation of the Central American wholesale electricity market. The market was created by the completion of the interconnection between El Salvador and Honduras, integrating all the 6 national networks, and by the approval of the governments to the provisional regulations for the operation of the market.

In Central America there are six countries, speaking the same language, having the same origins, with almost identical problems and the same needs. However, there are six independent countries with frontiers, conceiving different solutions to their problems and with distinct institutions and laws. But, there is only one real solution in the electricity industry and that is integration. The legal basis for the creation of a system for integration of electricity markets in Central America is the Protocol of Tegucigalpa, signed in December 1991. Under this protocol, the countries of the region agreed to establish the Central America Integration System (SICA). SICA is charged, among other objectives, with: achieving an economic union among the countries of Central America, strengthening the region as an economic block, and achieving sustainable regional integration through an agreed institutional and legal basis.

The objectives of the SIEPAC are: to set the common rules for regional trading among the different agents located in the member countries of SICA; to establish and operate the two regional electricity institutions; and to build a transmission line. Among the common rules for the members of SICA is the creation of a seventh electricity market on top of the six national markets. The seventh market will be an integrated Central American electricity market. The specific major issue to be overcome is the need to integrate six different systems developed under separate laws and regulations into one common market. As a first step, the countries have agreed to adjust their existing laws and regulations to make them compatible with a regional market. It has also been agreed that the regulations in the regional market will prevail in any conflict with national regulations. This ensures that, when the utilities or the national regulators face a conflict in regulations, the regulations of the regional market will always prevail.

Regional electricity integration in Central America has been made possible through: the political decision of the governments, the translation of these decisions into international law, and the development of the necessary institutions to carry out the decisions contained in the law. The Central American electricity market is made up not by governments, but by utilities and consumers. The objectives of the market are to open up business opportunities for investors and to offer better services to the consumers.

Annexes

Annex 1

List of participants

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Annex 2

Agenda

18 October 2005

09:00 - 09:15 Registration

09:15 - 10:30 Opening session

“Introductory remarks” by Fernando Sánchez Albavera, Director, Natural Resources and Infrastructure Division, ECLAC (see page 25).

“Introductory remarks” by Jean Jacques Rosec, Chief, Economic Mission, French Embassy, Chile (see page 26).

“The regulatory challenge in Europe” by Aude Bodiguel, Commission of Energy Regulation (CRE), France (see page 26).

“The regulatory challenge in the United States of America” by Frederick Butler, Commissioner, New Jersey Board of Public Utilities, United States of America (see page 28).

“The regulatory policy of NARUC/USAID” by Facundo Alberdi, International Programmes Manager, National Association of Regulatory Utility Commissioners (NARUC), United States of America (see page 29).

10:30 - 10:45 Coffee break

10:45 - 12:30 Panel 1: “Regulation, competition and public guarantees”

Moderator: Fernando Sánchez Albavera, Director, Natural Resources and Infrastructure Division, ECLAC.

“Public energy companies in the new competitive landscape in Europe” by Christophe Defeuilley, Electricité de France (EDF), France (see page 31).

“Water supply, sewerage and waste treatment” by Jean François Vergès, consultant, ISTED, France (see page 32).

“The Buenos Aires water supply and sewerage concession: analysis of the principal issues in the contract crisis” by Emilio Lentini, Tripartite Sanitary Works and Services Authority (ETOSS), Argentina (see page 35).

“Public guarantees and contingent liabilities” by Juan Carlos Lerda, Consultant, ECLAC (see page 37)

12:30 - 13:30 Discussion. Participation by companies and regulatory institutions

13:30 - 15:00 Lunch break

15:00 - 16:30 Panel 2: “Full use of economies of scale and scope: forms of privatization and light-handed regulation”

Moderator: Hugo Altamonte, Coordinator, Natural Resources and Energy Unit, Natural Resources and Infrastructure Division, ECLAC.

“Full use of economies of scale and scope: forms of privatization and light-handed regulation” by Jean-Marie Tetart, Mayor of Houdon, France (see page 41).

“Strategic moves and business models of electric utilities in Europe” by Christophe Defeuilley, EDF, France (see page 43).

“The privatization of water supply and sewerage services in Chile” by Juan Eduardo Saldivia, Superintendency of Sanitation Services (SISS), Chile (see page 46).

“Building competitive markets in the electricity systems of Latin America: expectations and realities” by Hector Pistonessi, Energy Economy Institute (IDEE) associated with the Bariloche Foundation, Argentina (see page 48).

16:30 - 17:00 Coffee break

17:00 - 18:00 Discussion. Participation by companies and regulatory institutions

19 October 2005

09:00 - 10:30 Panel 3: “Essential facilities and subsidies”

Moderator: Andrei Jouravlev, Economic Affairs Officer, Natural Resources and Infrastructure Division, ECLAC.

“Partnerships and the economic and financial management of essential services” by Jean-Marie Tétart, Mayor of Houdon, France (see page 53).

“Essential facilities and subsidies in water supply, sewerage and electricity” by Jean François Vergès, consultant, ISTED, France (see page 55).

“The social tariff programme in the water supply and sewerage concession of Buenos Aires” by Emilio Lentini, ETOSS, Argentina (see page 58).

10:30 - 11:00 Discussion. Participation by companies and regulatory institutions

11:00 - 11:30 Coffee break

11:30 - 12:30 Panel 4: “The impact of treaties for the protection of foreign investment”

Moderator: Miguel Solanes, ECLAC Regional Adviser on Water Legislation and Public Service Regulation.

“Indirect expropriation in the view of the International Centre for the Settlement of Investment Disputes” by Andrés Culagovski, Committee of Foreign Investment, Ministry of Economy, Chile (see page 61).

“Investment agreements” by Osvaldo Rosales, Director, International Trade and Integration Division, ECLAC (see page 63).

12:30 - 13:30 Discussion. Participation by companies and regulatory institutions

13.30 - 15.00 Lunch break

15:00 - 16:30 Panel 5: “Regulatory institutions”

Moderator: Véronica Rengifo, ISTED, France.

“Regulatory institutions in France and international regulatory cooperation in Europe” by Aude Bodiguel, Commission of Energy Regulation (CRE), France (see page 65).

“The organisation of the New Jersey Board of Public Utilities” by Frederick Butler, New Jersey Board of Public Utilities, United States of America (see page 67).

“A review of institutional systems for energy regulation” by Juan Legisa, National Electricity Regulatory Entity (ENRE), Argentina (see page 68).

“The electricity market in Central America” by Edgar Navarro Castro, Regional Interconnection Commission (CRIE), Central America (see page 71).

16:30 - 17:00 Coffee break

17:00 - 18:00 Discussions and conclusions