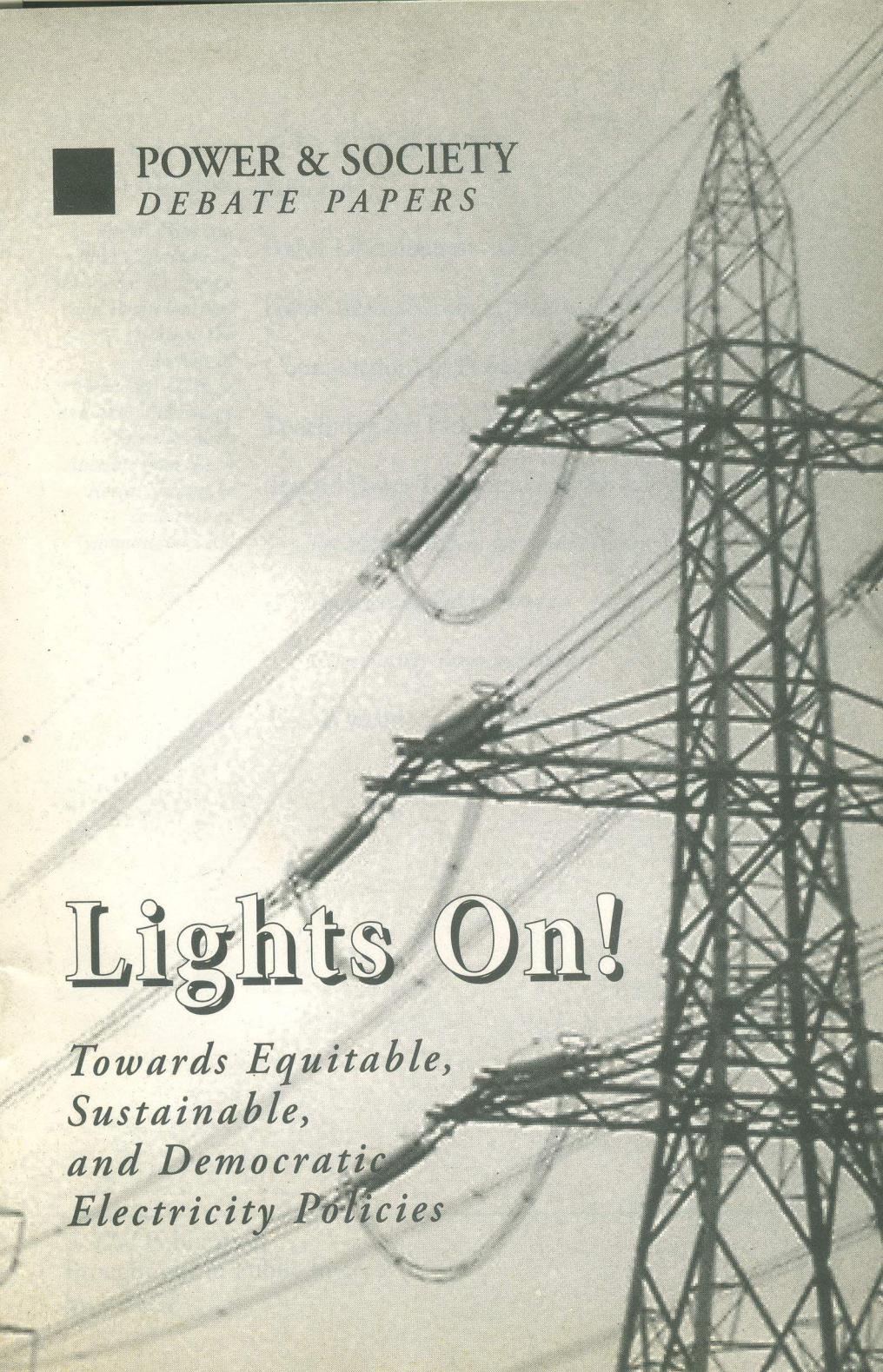
POWER & SOCIETY
DEBATE PAPERS



Lights On!

Towards Equitable, Sustainable, and Democratic Electricity Policies

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EDITORIAL

Power liberalisation is creating a public outcry around the world (e.g. California, India,Indonesia, South Korea, South Africa, Peru, Mexico, and Argentina). Sometimes it is over increased electricity rates and unreliable services, and other times it's about the anti-labour and anti-poor bias of privatised electricity companies. Whatever the case, one thing is clear: the ideology of power liberalisation is increasingly being challenged by the examples of its failures to deliver affordable, reliable and sustainable electricity.

As the myths of power liberalisation are gradually debunked (see the previous briefing paper in this series: Lights Off), people are beginning to examine the global phenomenon of power liberalisation more critically. Key questions being asked are whose interests power liberalisation serve and who are the winners and losers of this institutional change?

While more comprehensive research on the political economy of power liberalisation is yet to be conducted, a number of studies now conclude that the interests of global private capital and the agenda of multilateral financial institutions are the main driving forces of power liberalisation, which in most cases sideline social and environmental concerns as regards to the power sector (Dubash, 2002; Keet, 2000).

The underlying assumption of power liberalisation is that the private sector and competitive market mechanisms are more effective and efficient than regulated monopoly regimes. The experience of the last few years, however, proves that it is hard to create a truly competitive market in the electricity sector. Power liberalisation tends to simply replace regulated public monopoly with unregulated private oligarchy.

The major ramification is that the whole electricity sector could be turned into a profit-generating machine for private interests at seri-

ous public cost. It puts the world's poor, who cannot afford to pay high prices for electricity, in greater danger of being permanently unconnected or practically disconnected. The manipulation of the electricity system for greater profit can also cause serious instability in electricity systems, at the risk of throwing the whole society in disarray. Moreover, there is growing evidence that power liberalisation is bad for the environment.

Workers, consumers and some environmentalists are now fighting power liberalisation around the world. An emerging issue in this struggle is the alternatives to power liberalisation. In other words, what we should fight for. This edition of the TNI briefing series is dedicated to this question. It is the hope that this paper can be used as a conceptual map as well as a practical guide for everybody striving to redefine the path for power sector reform based on the principles of social justice and environmental sustainability.

POWER LIBERALISATION: THE BASICS

Power liberalisation refers to a broad range of institutional changes sweeping today's electricity supply industry, which usually involve concurrent shifts in the patterns of ownership and the mode of control (see Figure 1). While the majority of electricity utilities used to be publicly-owned and operated under the regulated monopoly arrangement (type A), many countries are now trying to privatise their electricity utilities and introduce competition into electricity markets (type D). There are some countries that have introduced competition without privatisation (type C), but most

Control	Ownership		
		Public	Private
	Monopoly	Type A	Type B
	Competition	Type C	Type D

Figure 1: A Typology of the Electricity Supply Industry

power liberalisation initiatives are designed to bring about both privatisation and competition. In some rare cases, countries simply privatise national electricity utilities or make management contracts with private companies without introducing competition, but such actions are taken mostly as a step toward an eventual transition to type D.

Where the electricity supply industry is vertically integrated, transitions from type A or B to type D usually involve unbundling the industry into generation, transmission, and distribution businesses since competition can be introduced only into generation businesses and supply function of distribution businesses. The so-called "line business", such as transmission and distribution remain regulated monopolies. In most countries, therefore, the drive for privatisation and liberalisation primarily targets the generation sectors, while thereare also attempts at privatising distribution and transmission businesses (see Brennan et al, 1996 for detail).

Pathways to power liberalisation are not always uniform and are comprised of different stages. For example, the transition from public ownership to private ownership can be set in motion by selling government-owned stocks to the public and introducing commercial principles into the operation of public utilities. The transition to the private power regime can be then further accelerated by the introduction of so-called Independent Power Producers (IPPs) and/or the outright sale of hitherto publicly owned power facilities to private companies (see Keet, 2000, for more information on different means of privatisation).

There are also diverse strategies to introduce competition into the electricity sector. Some countries begin with limited competition based on negotiations between a single buyer (normally a transmission/distribution company or an independent public agency) and multiple generators for long-term power purchase agreements (PPAs). Others jump directly into a one-way wholesale competition stage, where generators bid for short-term and long-term power supply contracts in a

power market. Some of them go further and introduce a two-way wholesale competition, in which multiple distribution companies as well as large industrial and commercial consumers can bid from the demand side in a power exchange or choose their power suppliers through bilateral contracts. In the stage of retail competition, consumer choice is extended to retail customers (see Hunt and Suttleworth 1997 for detail). As can be inferred from the above, public versus private ownership and monopoly versus competition are not just dichotomies but also continua. Power liberalisation, therefore, should be understood as a political and economic current driving an electricity system increasingly toward private and competitive arrangements.

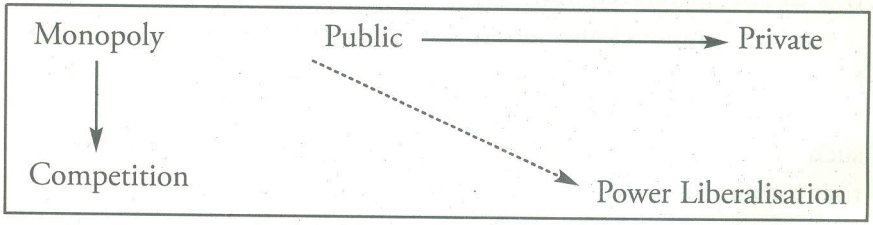

Figure 2 Liberalisation Trends

The process of power liberalisation is also sometimes called deregulation since it aims to break down the regulated monopoly structure, which characterised the institutional framework of the electricity industry for a long time. However, the term is misleading because power liberalisation does not do away with the need for regulation in the electricity sector. First of all, as previously mentioned, transmission and distribution will remain as a monopoly and therefore will be regulated by government. Secondly, while some of the old regulations-especially the ones on price determination and investment planning-may be lifted or relaxed, new regulations are needed to create electricity markets and set rules for their operations. In other words, regulation and competition are not opposing concepts.

POWER LIBERALISATION IN HISTORIC CONTEXTS

While privatisation and liberalisation is presented as an inevitable force nowadays, it is only a recent phenomenon that the private sector and market systems have emerged as an important part of the electricity supply industry. In fact, it was the public sector that was regarded as the most suitable provider of electric services throughout most of the electric era.

The deep involvement of the public sector in the electricity industry has much to do with its technical evolution. As utilities pursued economies of scale, both in supply and in demand, electricity systems evolved into one of the most centralised and large-scale technological networks (see Hughes 1984; Messing et al., 1979 for details). Since rolling out such a network was a highly capital-intensive project with a long payback period but significant society-wide benefits, the public sector had to assume the major responsibility in supplying electricity in many countries. Even where private firms were active in the electricity business (e.g. the U.S., Germany and Japan), governments played an important role in building electric networks-sometimes as a supporter of, and at other times as a competitor to private power (Patterson, 2000).

While the electricity systems built by public and/or private monopolies made possible large-scale production and consumption of electricity in many parts of the world, they created, along the way, serious problems. For example, mega-projects such as large-scale hydro dams, nuclear reactors and coal-fired power plants have become sources of serious environmental pollution and ecological degradation, thereby negatively affecting communities in project areas. Despite such problems, electricity industries together with construction companies and equipment vendors have single-handedly promoted ever-increasing electricity consumption in most industrial countries. As a result, the dependence on electricity in those countries grew to undesirable levels while many develop-

ing countries suffered from "electricity poverty" caused by the lack of financial and technical supports for their needs.

These problems have been exacerbated by the undemocratic mode of governance characterizing electricity decision-making. All too often, a closed circle of technical experts, government bureaucrats and business moguls made important decisions on electricity supply. Such a governance structure, coupled with the monopoly status of electric utilities, has resulted in electricity industries developing into strong interest groups with their own political and economic agendas. In the absence of effective public supervision, moreover, electricity utilities in many countries have become a source of corruption, cronyism and what is known in the U.S. as "pork barrel politics", rather than the guardian of public interests.

A series of proposals were made during the late 20th century to address the aforementioned issues as well as the economic problems caused by escalating costs of electricity generation after the oil shocks. Some, for example, called for a transition toward small-scale and decentralised energy systems, which were believed to be economically more thrifty, environmentally more friendly and socially more than just the existing systems (see Lovins, 1977). Further, as a way to move toward a new energy path, several regulatory reforms were proposed to make existing electric monopolies more efficient and accountable (e.g. Integrated Resources Planning and Performance-Based Regulation, to be discussed in more detail later).

The growing influence of neo-liberalism, however, as well the trend of economic globalisation put the debate on power sector reform onto a different plane. Based on the assumption that state interventions in economic activities should be minimised, neoliberal reformers strongly promoted privatisation and liberalisation of the electricity sector, arguing that the private sector is more efficient than the public sector and that markets allocate resources more efficiently than states.

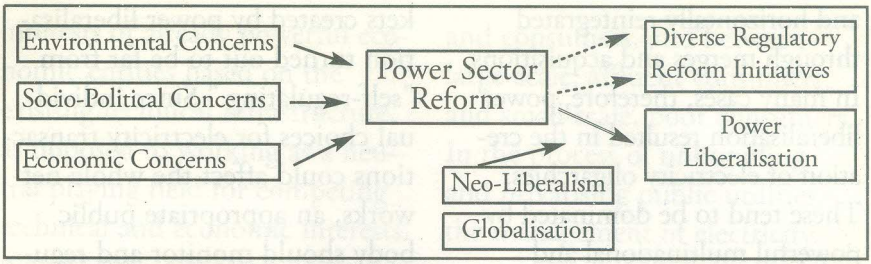

Figure 3 Power Sector Reform and Power Liberalisation

Such a faith in the marketplace was also reflected in and augmented by the policies of international financial institutions. While they used to be major lenders to public utilities, they are now maintaining that opening the hitherto monopoly electricity sectors to global competition is practically the only way to bring capital and technologies to the countries they are needed (Tellam, 2000). Gradually, the debate on reform in the power sector focuses not on "if" but on "how" to liberalise the electricity sector. Subsequently, proposals for regulatory reforms based on public power regimes were rendered increasingly irrelevant.

CONTRADICTIONS OF POWER LIBERALISATION

Central to the paradigm of power liberalisation is the belief that electricity should be treated as a private commodity rather than as a public service. Advocates suggest that it would create conditions for "self-regulating" markets, which would automatically determine optimal supply-demand levels as well as optimal prices. They promise that the price of electricity would eventually decline with liberalisation, because new technology options and more efficient firms were thought to be poised to enter the market and drive out more expensive suppliers. The experience so far has revealed that creating a genuinely competitive electricity market is an extremely difficult task. After initially unbundling electricity monopolies into several firms, many countries saw those companies vertically

and horizontally reintegrated through merges and acquisitions. In many cases, therefore, power liberalisation resulted in the creation of electricity oligarchies. These tend to be dominated by powerful multinational and transnational corporations.

Of course, stricter implementation of antimonopoly laws may prevent electricity markets from being dominated by a few firms. As shown in the California electricity crisis, however, even the generators or traders with moderate market influence can manipulate electricity markets. They can drive up the price of electricity by occasionally withholding their capacities until the system operators scramble to purchase the final MWhs needed to meet the real-time balance of demand and supply, which is critical in the operation of centralised electricity networks (see Byrne and Mun, 2001). Under such circumstances, the claim that competition would restrain the profit maximisation motive of private companies thus driving prices down becomes increasingly tenuous.

Moreover, actual electricity markets created by power liberalisation turned out to be far from "self-regulating." Since individual choices for electricity transactions could affect the whole networks, an appropriate public body should monitor and regulate market activities in order to ensure the reliability of the system. Unfortunately, regulatory measures for the adequate supervision of market activities are much more complex than those needed under the regulated monopoly regime. In countries where institutional capacities are lacking, therefore, liberalizing electricity markets becomes a highly risky business.

In short, power liberalisation simply attempts to impose a market logic onto the centralised technical structure of the electricity system without actually transforming it to make it compatible with decentralised market activities. In many cases, it results in increased level of centralisation both in the technical and economic structures of the electricity sectors. Without regulations protecting public interests, electricity markets will be controlled by and serve the

interests of already powerful economic entities based on the existing technical infrastructure, as opposed to working as a neutral playing field for competing technical and economic interests. Nonetheless, advocates of power liberalisation often delegitimise government interventions in electricity markets arguing that we should "let the market work." By doing so, they effectively diminish the space for public actions and allow the market to be captured by the special interests.

The impacts of power liberalisation are not merely confined to technological and economical realms. By subsuming everything under the failed promise of economic efficiency, power liberalisation does not address existing socio-political and environmental problems. Thus creating new challenges in meeting equity and sustainability goals.

For example, power liberalisation would further entrench the inequality of power in the electricity sector. This would aggravate the inequity between management and workers, producers and consumers, and between large-scale, affluent consumers, and small-scale, poor consumers. In the process of unbundling and privatising public utilities, the management of electricity companies attempts to retrench a large number of workers in the name of the improving efficiency. While it is not a main driving force of power liberalisation, weakening the power of labour unions is sometimes a hidden agenda in the liberalisation schemes (e.g. U.K case).

Since power liberalisation encourages a keen sensitivity to the market potential and profitability of infrastructure provision, electricity companies are now carefully targeting profiled socio-economic groups and places (Guy et al, 1997: 207). Therefore, even if the generation of electricity was made cheaper by improving efficiency, these benefits would not be fairly distributed. The big energy consumers might be able to negotiate the lowest price possible with competitive providers, but it is the residential and small business consumers who will have to pay the high rates for electricity that

the profit margins of the companies dictate (RAGE, 1999).

Furthermore, with the gradual removal of cross-subsidies and erosion of the concept of universal service, the poor could be denied access to electricity or receive sub-standard services. Since electricity provides essential services for social and economic development, disconnection or un-connection of unprofitable communities would have disasterous social effects. What may make sense at a microeconomic level, could turn out to be a major blow to the macroeconomic goals a society pursues (see Njeri, 2002).

Power liberalisation is also failing to produce positive environmental results. Treating electricity as a commodity has driven economic actors to focusing on selling more kWh-rather than providing more services with less kWh. For example, Demand-Side Management (DSM) programmes by utilities have been drastically slashed since power liberalisation. The main reason is that competition is all about selling more kWh at whatever prices markets can bear (Union of Concerned Scientists, 1999).

In countries that choose to begin power liberalisation by inviting IPPs, the situation is similar or worse. Since many of them sign power purchase agreements, often including a take-or-pay clause, they have little incentive to improve energy efficiency: whether or not they really need or use the electricity, they have to pay a fixed fee for it. In short, the commodification of electricity further divorces its value from the actu-

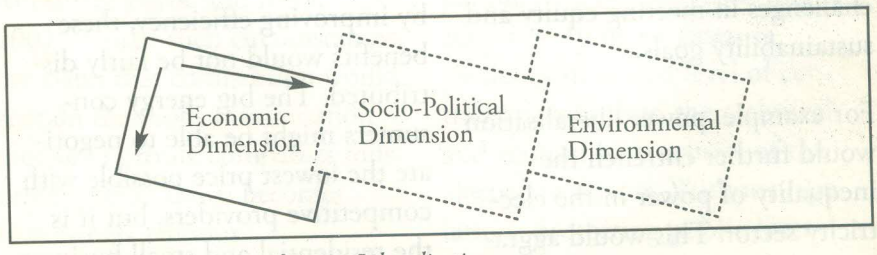

Figure 4: Contradictions of Power Liberalisation

al use to which it is put, thus obstructing the integrated approach to meeting our energy needs at the lowest cost to both the economy and the environment (Prayas, 2000).

If electricity is generated from cleaner resources, the negative impacts of increased electricity consumption could be mitigated. However, electricity commodification tends to speed up, rather than slow down, the "race to the bottom" in terms of the environmental standards of electricity generation. Since prices in electricity markets do not include the full environmental costs, old and dirty power plants can have competitive advantages compared to alternative means of power generation. In the absence of stronger environmental regulations, therefore, liberalised electricity markets will exacerbate environmental harm in their search for the cheapest electrons available.

REDEFINING THE PATH FOR POWER SECTOR REFORM

It is high time we direct our attention to other paths of power sector reform, considering the failures of power liberalisation to deliver on its promises. While private initiatives and competitive pressures can still be a part of multi-pronged strategies to address the fundamental problems of the current electricity industry, it is essential to delink the reform efforts from the neoliberal belief that the market will deliver the optimal outcome for society. Markets will serve us only when clear public preferences are reflected in their operating structures. We have to make markets accommodate our needs, not the other way around: making society accommodate the needs of the current markets.

The most desirable path for power sector reform can be different in country-to-country, depending on its political-economic context as well as the level of technological development. However, some guiding principles can be proposed.

Challenging the logic of energy

commodification, for example, some are now arguing that the electricity system should be operated in the context of an energy commons (see Byrne and Glover, 2002; Byrne and Mun, 2001). Governing the electricity system as an energy commons requires us to recognise the following principles: everybody has a right to services provided by the commons (equity principle); the commons should be managed such that its ecological balance is maintained, so that its reproductive capacity is preserved (sustainability principle); and the commons should be governed by a community in a democratic manner (democratic governance principle).

The transformation of the current electricity system into an energy commons calls for drastic technical shifts toward renewable energy resources. Renewable resources such as solar and wind energy constitute a potential energy commons because they are "energy income" provided by the regenerative capacity of nature, not depletable "energy capital" such as fossil fuels and nuclear energy (Lovins, 1977: 39). The "distributed utility" (Weinberg et al., 1993) or "mini-grid" concepts also embody the efforts to establish an electricity system which can minimise negative environmental impacts as well as economic costs by using locally available resources. Every step taken to reduce our dependence on energy capital (e.g., through efficiency improvement and energy conservation) and to create a space for a distributed network of renewable energy would be a step towards the electricity transformation goal. In turn, such a physical transformation, would make electricity available to more people, meaning that the benefits and costs of electricity generation would be more equitably distributed.

For a new context of an energy commons to be created, the ground rules governing the operation of the electricity system would have to be changed. If equity and sustainability principles are to be reflected in the operation of T&D system, it has to dramaticaly change the way it functions. First in all, only those generators that meet certain

social and environmental criteria should be allowed to have access to T&D networks. Furthermore, generators that produce electricity in a more socially responsible and environmentally friendly way should get priority in using T&D networks (e.g. environmental dispatch). Secondly, every community should be entitled to access T&D networks, but with a certain cap, so that no community overtaxes the common assets. Thirdly, avoiding the use or upgrading of T&D networks should be encouraged wherever feasible. De-linking the revenue of T&D operators from the kWh they pass through and supporting the investment in distributed resources using the fees levied on the use of T&D systems could accelerate the transformation of the current electricity system into a decentralised system based on distributed utilities. This will, in turn, provide a material basis for returning decision-making power to each community. Of course, the transformation discussed above will not occur without significant political changes. In order for power sector reform initiatives to contribute to electricity transformation within an energy commons, democratic principles of transparency, accountability and participation (TAP) should be followed (PRAYAS, 2000, see box 1). This requires changes not only in the policy-making processes but also in the power relationship embedded in the electricity industry. In other words, various civil society actors such as labour unions, consumer groups, environmental NGOs and other community organisations should be empowered to prevent the process of power sector reform from being hijacked by corporate actors. While corporate actors seem invincible at times, civil society groups can effectively challenge their power when they form a strong coalition around the public interest principles as shown in many struggles against privatisation and liberalisation around the world. The alternative to power liberalisation is power transformation-power both in a technical and political sense.

Box 1

Putting TAP into Practice in India

The Maharashtra Electricity Regulatory Commission (MERC) followed the TAP principle to facilitate a hike in electricity tariffs during 1999- 2000. The MERC published the gist of the proposal for tariff hike in scores of newspapers all over the State. It got a total of 468 objections in response, in the form of affidavits or plain letters. At this stage the Commission made a vital move. Instead of internally processing these objections, it launched a process of public hearingsall over Maharashtra - five hearings at divisional headquarters and three in Mumbai.

Prayas and other groups, like the Mumbai Grahak Panchayat, got intensely involved in providing information and pushing for rigorous transparency. The open-to-public proceedings produced a wealth of detailed information, which compelled the Maharashtra State Electricity Board (MSEB) to admit the errors in its own data, projections and analysis. Over a period of six months, the MERC, the MSEB and the public worked together to formulate a tariff hike of 6.5 per cent. The MSEB had originally asked for a tariff hike of 18 percent.

Apart from this direct monetary benefit to the consumers, there are other vital gains from this exercise. According to Shantanu Dixit, this process showed how the MSEB tends to inflate the estimated demand for electricity and create a shortage psychosis. For example, the MSEB had for years maintained that there was a 17 per cent loss in transmission and distribution. The public process compelled the MSEB to accept, however, that these losses were actually around 30 per cent. This amounted to a revenue loss of about Rs. 2,000 crores every year.

These variances were so great that eventually the MSEB was forced back to the drawing board to formulate a whole new proposal. Even this revised tariff hike proposal was thrown open to public scrutiny and only approved in May 2000.

Shirish Deshpande, from the Mumbai Grahak Panchayat, is confident that this process has established valuable precedents for TAP to become a way of life in Maharashtra and in other states. But, he is quick to point out, the picture is not entirely rosy There could be attempts by narrow vested interests to dilute the autonomy of bodies like MERC. These dangers can be warded off only by dogged and rigorous intervention of citizens.

Excerpt from Subodh Wagley, "Tapping Consumer Power," The Hindu–India, September 11, 2000.

TOWARD POWER TRANSFORMATION: DIVERSE INITIATIVES

In directing power sector reform toward power transformation, three areas of action can be identified. First, electricity regulations should be reformed to reflect public interest principles more effectively. Second, publicly owned utilities should be reinvented to serve a real basis for "public power" or "community power." Third, civil society actors should be organised and empowered as a major stakeholder in the process of power transformation. In the following, some examples of actions in each category are discussed.

Regulatory Reform for Power Transformation

Regulatory reform for power liberalisation is designed to remove the barriers to market entry and foster competition among market participants. Those regulations tend to focus on empowering new electricity suppliers and marketers based on the assumption that they would bring efficiency gains and therefore serve the long-term interest of the public.

In some countries, however, regulators try to guide and/or complement markets by adopting specific policy measures to protect public interest. For instance, charges can be imposed on all customers to fund public benefit programs such as low-income customer protection and energy efficiency projects (System Benefit Charge). To promote renewable energy in electricity markets, moreover, regulators can require that a certain percentage of a utility's overall generating capacity or newly installed capacity must be derived from renewable resources by a certain date (Renewable Portfolio Standards) (see CEEP, 2000, for details).

The aforementioned and other policy options might cushion and sometimes reverse the adverse impacts on equity and environment, which can be incurred by power liberalisation. The adoption of such public policies, however, tends to be strongly resisted where private interests play a dominant role in shaping the market. Once markets are allowed to steer the

course of an electricity future, moreover, regulators will have less and less leverage to direct private interests toward public policy goals.

It is in this context that initiatives for "regulation-oriented power sector reform" receive renewed attention. Arguing that electricity supply cannot be left to the whim of markets or residual regulatory measures, proponents of such initiatives contend that the centrality of the regulatory structure should be maintained in the electricity sector. They suggest that countries can improve significantly the economic as well as the environmental performance of the electricity sector by reforming the existing regulatory system-rather than by replacing it with an uncertain market system.

One of the most significant regulatory reform initiatives is Integrated Resource Planning (IRP). It aims to improve electricity regulation by requiring electricity utilities to consider all energy options-small as well as large energy options and demand-side as well as supply-side options-to identify the least-cost mix for the projected energy demand. In some cases, regulators require utilities to consider environmental costs of power generation in determining their least cost resource mix.

IRP, when implemented properly, can help the electricity sectors in both developed and developing countries to reduce the dependence on large-centralised

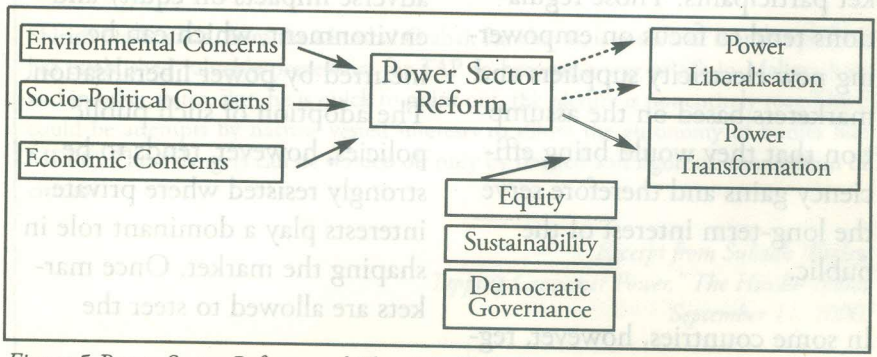

Figure 5 Power Sector Reform and Electricity Transformation

project thereby saving capital and ameliorating the adverse social and environmental impact (PRAYAS, 1999). Since IRP processes often involve extensive public participation processes, moreover, diverse stakeholders can scrutinise utilities' power development plans and propose alternatives.

While the IRP method is usually adopted in a regulated monopoly system, the introduction of IRP does not exclude the opportunity to employ market competition. Using its own integrated resource plan as a benchmark, for example, a utility or a regulatory agency can initiate a competitive bidding process to see if any market entity can offer projects that lower the costs to provide electricity. Such projects can be incorporated in the final plan for electricity supply (Regulatory Assistance Project, 2002). In this way, technology and capital that lie beyond the boundary of the electricity utility industry can be tapped without completely surrendering the electricity sector to the marketplace.

Another important initiative for regulatory reform is Performance-Based Regulation (PBR). It is a "regulatory approach that relies on financial incentives and disincentives to induce desired behaviour by a regulated firm" (Regulatory Assistance Project, 1998). It was adopted in the electricity sector to counteract a muchcriticised tendency of regulated utilities to develop in-built inefficiency. For example, when the utility profits are determined by their capital assets, as in the case of rate-of-return regulation, utilities tend to prefer capital-intensive and large-scale power plants to other means meeting a given electricity demand with less capital. Under a price regulation system, inefficiency also arises because profits are tied to the total kWh sold and therefore utilities try to maximise their electricity sales even if they can provide the same electric services with less electricity.

Various forms of PBRs aim to delink utilities' profits from their electricity sales or total capital assets. While PBR is not a panacea, well-designed PBRs can

"replace existing disincentives for investment in improved efficiency with positive rewards for superior performance" (Regulatory Assistance Project, 2002b).

One of the most common PBR is revenue-cap regulation, which limits the maximum revenue a utility can earn. Under such a regulatory system, utilities will have more incentives to minimise the cost of power generation and focus on delivering needed electric services most efficiently. Of course, it is possible that utilities simply embark on labor retrenchment in an effort to cut costs. However, if combined with other regulatory incentives for technical innovations, PBR could motivate utilities to act in a socially desirable way.

Reinventing Public Power

In the power liberalisation debates some argue that retaining or establishing new publicly owned electric utilities is the key to ensuring the reliability, affordability, and sustainability of electricity supply. Advocates of public power argue that thanks to their not-for-profit nature public utilities, can provide electricity at lower costs to consumers and execute various public benefit programmes, which are not easily implemented by profit-driven private companies (see www.APPAnet.org for details).

While public utilities around the world are often characterised as a symbol of managerial inefficiency or organisational stagnation, in many cases those problems arise from a regulatory structure-as discussed in the previous section-rather than the ownership pattern per se. When subjected to smart regulation and effective public supervision, public power can indeed become the best tool to provide electric services to citizens based on public interest principles. Renewed attention to public power after the California electricity crisis illustrates the fact that public power can be reinvented to face the new challenges of the 21st century (see Box 2).

There are many forms of public power, but municipal utilities and electricity cooperatives constitute most of them. Municipal utilities are created as part of the

formal structures of local governments and are often formed in urban areas, whereas cooperatives are usually rooted in community organisations, which tend to be stronger in rural areas.

When electricity networks were first established in leading industrialised countries such as U.S., U.K. and Germany, municipalities played an important role in governing the system-either through granting a company franchise or establishing their own utility companies. While the number of municipal electricity utilities (munies) dropped drastically because of the merges and acquisitions wave during the mid 20th century, some are still active in delivering affordable energy to their citizens. In the U.S., for example, there exist 2,009 publicly owned utilities, most of which are munies, and they serve 15% of the total electricity customers (U.S. EIA, 2002). On national average, those munies charge much lower rates than private utility companies (APPA, 2002).

Munies are governed by their "consumerowners" through locally elected or appointed officials. The majority of communities with munies vest governing authority in their city councils, but some communities further institutionalise the democratic control of munies by having utility board members directly elected by citizens. While the leadership of munies can make bad investment decisions hurting the interest of citizens, they are more easily held accountable for their mistakes than their counterparts in private-owned or state-owned utilities. Using the utility board election mechanism, for example, citizens in Sacramento, California, successfully ousted the leadership that drove the muni-Sacramento Municipal Utility District (SMUD)-toward the edge of bankruptcy by heavily investing in expensive nuclear power projects. Today, SMUD is one of the most robust electric utilities in the U.S. and a significant leader in energy efficiency and renewable energy investments (see Smeloff and Asmus, 1997 for details or visit SMUD website at www.smud.com).

The muni model is attracting

Box 2

Post-Crisis California and Public Power

After experiencing a dramatic electricity crisis during 2000-2001, the state government of California finally decided to end its grand deregulation experiment. As of January 2001, it abolished the California Power Exchange, its wholesale electricity market, and authorised the Department of Water Resources to assume responsibility for purchasing electricity on behalf of the customers of three distributioncompanies (Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric) (check www.water.ca.gov for details).

The wholesale electricity prices soon stabilised because power generators were more willing to sell electricity to the state government than they were to the state's beleaguered utility companies. Recent analyses, however, show that the prices could have been much lower if the Department of Water Resources had not rushed into so many electricity contracts. Currently, investigations are under way to determine whether power generators did extract too high prices from the state government. Depending on the results of the investigations, the terms of contracts are likely to be adjusted (see the website of The Utility Reform Network (TURN), www.turn.org, for an NGO proposal for contract renegotiations).

In an effort to improve electricity reliability and enhance environmental quality in the long term, California also established a public power agency called Consumer Power and Conservation Financing Authority (Power Authority). It is charged with the responsibility of ensuring sufficient surplus of electricity (electricity reserve) so that Californians "never again" face electricity shortages or outrageous prices. In order to meet this goal, the Power Authority is to "develop renewable energy sources, finance energy-saving conservation efforts and build energy generating facilities that will provide a strategic reserve to protect Californians against private market price gouging." (CPCFA, 2001; check www.capowerauthority.ca.gov for details).

The post-crisis measures taken by California are not intended to supplant the electricity market entirely, but rather aim at supplementing and complementing private investments in electricity generation by empowering organisations with public interest mandates. Whether they are sufficient to fix the problems in California's electricity system is yet to be seen (see the website of the Foundation of Taxpayers and Consumer Right, www.consumerwatchdog.org, for a more drastic proposal toward public power in California). In any case, the evolution of the relationship between the government, private power generators and consumers in post-crisis California is worth close observation—specially for those countries dealing with the same private power generators as those active in the California market.

increasing interest after the California electricity crisis since California's munies were shielded from the price volatility. Not subject to the mandatory deregulation drive, munies were allowed to own generating facilities and/or maintain the long-term power purchase agreements. As a result, the state's munies paid only $30/MWh on average while the wholesale price in California shot to $377/MWh. Now many communities around the U.S. are inquiring about the option of creating their own munies. The City of San Francisco, for example, is trying to buy distribution and transmission assets from the current owner, PG&E, in an effort to establish a muni. It also decided to build world's largest solar power network (50 MW). This local power project will be financed by Solar Bond Authority approved by voters in 2001 (see www.powertothepeople.org and www.local.org for details).

In developing countries and countries in transition some local governments are also deeply involved in providing electricity to their citizens as part of municipal services. While some have been successful in delivering electricity, others have got bogged down in financial troubles often caused by non-payment or under-payment for their services. In many cases those local governments are pressured to privatise their municipal utilities or to follow commercial principles in their provision of electricity services, which usually means the cut-off of electricity services to the poor. Some municipal workers and other members of communities, however, propose to "reinvent" their munies through overall reform of local governments as well as increased efforts to deliver electricity efficiently (see Box 3). Their proposal deserves greater attention considering the importance of public-service orientated operations of the electricity system in developing countries and countries in transition.

The model of electric cooperatives can be an important part of the effort at power transformation, especially in the rural electrification context. According to the International Energy Agency (IEA), about one quarter of the world population, which

amounts to 1.6 billion people, live without electricity. The highest concentration of people living without electricity is found in sub-Saharan Africa, South Asia and Southeast Asia, and 80% of them live in rural areas (IEA, 2002). While other forms of energy may be more urgently needed, the lack of access to electric services also constitutes an important barrier to sustainable development since electricity is critical to providing adequate health care, education, and other social services. Rural electrification has been delayed in many parts of the world partly because of the high costs of connecting the sparsely populated rural areas to centralised power facilities. Despite the hope that the opening of electricity markets would bring in the additional capital needed for rural electrification, power liberalisation so far has not accelerated rural electrification, because private investors in the electricity industry tend to target lucrative urban and industrial consumers. Without special public policies to address the need of unserved rural populations, the electricity gap would grow further.

In some countries, a concession model is being tried, in which a monopoly right is given to the concessionaire with the lowest cost/subsidy bid to serve rural communities. While this model usually aims to attract foreign private capital with the carrot of government subsidies, non-profit local organisations can be also deployed successfully for rural electrification. In fact, consumer-owned electric cooperatives have been an important tool for rural electrification in many parts of the world. Rural electricity coops in the U.S., for example, played a critical role in connecting the rural area with federally-funded power facilities, built to provide affordable electricity to the public (see the website of the National Rural Electric Cooperative Association, www.nrecea.org for details).

While rural electricity coops focused on connections to the grid system in the past, they are now turning their attention to off-grid or mini-grid electricity technologies, which are often based on renewable energy resources such as solar, wind and biomass energy. In fact, renew-

able-based off-grid systems are now considered one of the most viable options for providing electricity services to the rural population in many developing countries (see Byrne et al, 1998).

While the initial costs of installing such systems are still quite high, rural coops or other community organisations can finance them with a combination of user fees, public subsidies and micro/mini credit finance. As shown in some successful cases, moreover, the economic as well as the environmental sustainability of village-scale electric systems can be enhanced greatly when they are designed to provide critical energy services to communities (e.g. irrigation, refrigeration of medicine, lighting of community facilities, etc.). It goes without saying that community ownership or management would increase the likelihood that the design of a given electric system best reflects the needs of communities.

Civil Society Empowerment

Shifting the path of power sector reform is an uphill battle in many countries. There exist ideological, financial and political barriers, which obstruct the efforts to create a new consensus on the socially desirable way to reforme the electricity system. The interlocking processes of liberalisation and globalisation, moreover, pose a serious structural challenge to those who resist market-oriented power sector reform in their own countries.

All too often, for example, international financial institutions impose the liberalisation and privatisation agenda on borrowing countries. In some cases, multilateral development banks such as the World Bank and the Asian Development Bank provide loans to promote privatisation and liberalisation policies in some countries, notably India and Indonesia respectively. Moreover, the General Agreement on Trade in Service (GATS), which is being negotiated currently, could preclude the opportunity to create municipal utilities, since municipal service provision might be subjected to competition under the new agreement (Cohen, 2002). Also, as revealed in the discus-

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sions at the Johannesburg summit, even the UN system is seduced by the language of neoliberalism and through the so-called "type II partnerships" promotes private sector solutions to power sector problems rather than presenting a broad range of reform options.

Civil society groups around the world are expressing dissent from the market-oriented power sector reform positions. Their voices, however, are not always harmonious: consumer groups, labour unions and environmental organisations sometimes find their interests conflicting. For example, consumer groups tend to focus on keeping the electricity price low, a proposal which environmentalists often reject in most developed countries. Labour unions tend to perceive any attempt at privatisation and liberalisation as a serious threat to the power of the public sector unions, often representing the largest unionised workers in many countries, whilst environmentalists sometimes find this a new window of opportunity for the promotion of environmentally-friendly energy sources-especially when existing public power regimes are heavily bound by the politics of coal and nuclear energy.

In an attempt to bridge the views of different civil society groups on power sector reform or power liberalisation, some groups successfully forged a broad-based coalition involving major civil society organisations, public power associations and sustainable energy industries. In Minnesota, USA, for example, an alliance of electric cooperatives, municipal utilities, low-income energy advocates and clean energy advocates was formed in mid-1995 to work together in the debate over how to restructure the electricity industry. These groups, often opponents on many energy issues, have joined together to ensure that the future of the electric industry is shaped with the public interest firmly in mind. The principles they laid out include maintaining such public interest objectives as safety, reliability and customer service standards; protection of residential ratepayers and low-and fixed- income customers; stewardship of the environment through cost-effective conserva-

tion and renewables; and continued regulatory oversight such as integrated resource planning (see www.justenergy.org for details).

In South Korea, similar initiatives are underway. While there remain some differences in opinion, continued dialogue between labour groups and environmental NGOs over the last few years helped them to find a common ground on the issue of privatisation and liberalisation of the electricity sector. Labour unions now stress the need to democratise the governance of the sector and incorporate environmental considerations into power sector reforms. Environmental groups, on the other hand, acknowledge the danger that reform could create ungovernable private oligarchs rather than efficient and sustainable electricity markets. As a result of enhanced mutual understanding major South Korean NGOs working on environment, women's issues, and political reform made a joint statement with labour unions during the month-long strike of power workers in 2002, urging the government to scrap the planned sale of generation companies. Instead, they demanded that the government should start a genuine dialogue with civil society groups for environmentally friendly and socially equitable electricity restructuring (see Mun, 2002 for details).

In South Africa, municipal workers are trying to go beyond the usual job security issues and put forward alternative plans for public sector restructuring including power sector reforms. Through various union-sponsored activities, the South African Municipal Worker's Union (SAMWU) get their members to reflect on how to transform services to the benefit of the communities (see Box 3).

One of the blockages for the effective involvement of civil society groups in the power sector reform debate is the lack of institutional capacity of NGOs. NGOs in many part of the world do not have sufficient expertise and experience in electricity policy and planning issues because such issues have been discussed for so long only within a select circle of experts.

Box 3
SOUTH AFRICA'S MUNICIPAL WORKERS ARE GOING BEYOND THE JOB ISSUE

The South Africa Municipal Workers Union (SAMWU) has tried to put forward alternative plans for public sector restructuring. From April to June 2001, for example, a round of two-day workshops was held in all provinces except Gauteng on public sector alternatives to privatisation. The main aims were to examine the form and extent of restructuring service delivery and to develop proposals for SAMWU's strategy for advancing public sector delivery in each province.

The workshop was designed to encourage participants to reflect on how to transform services to the benefit of the communities. This was done through two activities. The first involved groups reading and analysing cases of successful public sector restructuring. Two international examples were used: the participatory local government budgeting process in Porto Alegre, Brazil, and a union-led internal restructuring of local government departments in Malung, Sweden. The third case study dealt with SAMWU's own public-public partnership for water services in Odi.The second activity involved simulation and roleplaying. Participants were given the details of the water service in an imaginary municipality with various technical and financial problems. Participants had to draw up a restructuring plan and present it to the "management". The facilitator played the role of the CEO, with other participants being 'co-opted' into the management. The plans were then presented and aggressively questioned by the municipality's management. Once this was completed, the participants discussed and analysed the role-play in terms of how it related to the union experience of such processes.

Generally, participants took a little while to shiftfrom thinking about the employment-related aspects of restructuring and focus on service delivery. Once the hurdle was crossed, participants began to relate content to key strategic questions. While this represents progress, it is far from adequate to deal with the onslaught against public sector service delivery. The issues and debates covered in these workshops need to filter down to the shopfloor Also, the union must build stronger ties with communities. Said DJKhoza, North West provincial chairperson: 'We have distanced ourselves from the community...we are right to say every struggle of SAMWU is a struggle of the community.'

SAMWU has tried to forge links with communities in a number of ways, including participating in antiprivatisation forums in the Western Cape and Gauteng. Several other provinces spoke of setting up such structures. While such forums may be important, the real challenge is to extend the their influence beyond a narrow circle of dedicated activists.

Excerpt from John Pape, "Public Sector Alternative, SAMWU's Effort," South African Labour Bulletin, Volume 25, Number 4, August 2001 pp. 45-50

Demanding open access to information and participatory decision-making could open up a whole new opportunity for NGO involvement in the power sector reform debate. It is urgently needed, however, for groups in different sectors and different countries to share knowledge and exchange views if the new opportunity arising from open debate is to be maximised. Further, considering the global nature of the power liberalisation drive and its connection with the policy of major international financial institutions, the efforts to tackle the issue at a regional and international level cannot be postponed any further.

RELEVANT WEBSITES

American Local Power Project:
www.local.org

AIDC-Alternative Information & Development Centre:
http://aidc.org.za/

APPA-American Public Power Association:
www.APPAnet.org

Canadian Center for Policy Alternatives:
www.policyalternatives.ca

Center for Energy and Environmental Policy:
www.udel.edu/ceep

Citizen power-Public Policy Research, Education and Advocacy:
www.citizenpower.org

CUPE-Canadian Union of Public Employees:
www.cupe.ca

CNES-Citizens' Network on Essential Services:
www.ServicesForAll.org

GATSwatch.org-Critical Info on GATS:
www.gatswatch.org

ICEM-International Federation of Chemical, Energy, Mine and General Workers' Unions:
www.icem.org

Just Energy Project for People and the Environment:
www.justenergy.org

Municipal Services Project:
www.queensu.ca/msp

Power to the People campaign (Global Exchange):
www.powertothepeople.org

Public Services Interntaional Research Unit:
www.psiru.org

Public Citizen's Critical Mass Energy and Environment Program:
www.citizen.org/cmep

Regulatory Assistance Project:
www.rapmaine.org

SPENA-Sustainable and Peaceful Energy Network Asia:
www.ne.jp/asahi/spena/energy-net/

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The underlying assumption of power liberalisation is that the private sector and competitive market mechanisms are more effective and efficient than regulated monopoly regimes. The experience of the last few years, however, proves that it is hard to create a truly competitive market in the electricity sector. Power liberalisation tends to simply replace regulated public monopoly with unregulated private oligarchy.

The major ramification is that the whole electricity sector could be turned into a profit-generating machine for private interests at serious public cost. It puts the world's poor, who cannot afford to pay high prices for electricity, in greater danger of being permanently unconnected or practically disconnected. The manipulation of the electricity system for greater profit can also cause serious instability in electricity systems, at the risk of throwing the whole society in disarray. Moreover, there is growing evidence that power liberalisation is bad for the environment.

Workers, consumers and some environmentalists are now fighting power liberalisation around the world. An emerging issue in this struggle is the alternatives to power liberalisation. In other words, what we should fight for. This edition of the TNI briefing series is dedicated to this question. It is the hope that this paper can be used as a conceptual map as well as a practical guide for everybody striving to redefine the path for power sector reform based on the principles of social justice and environmental sustainability.

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