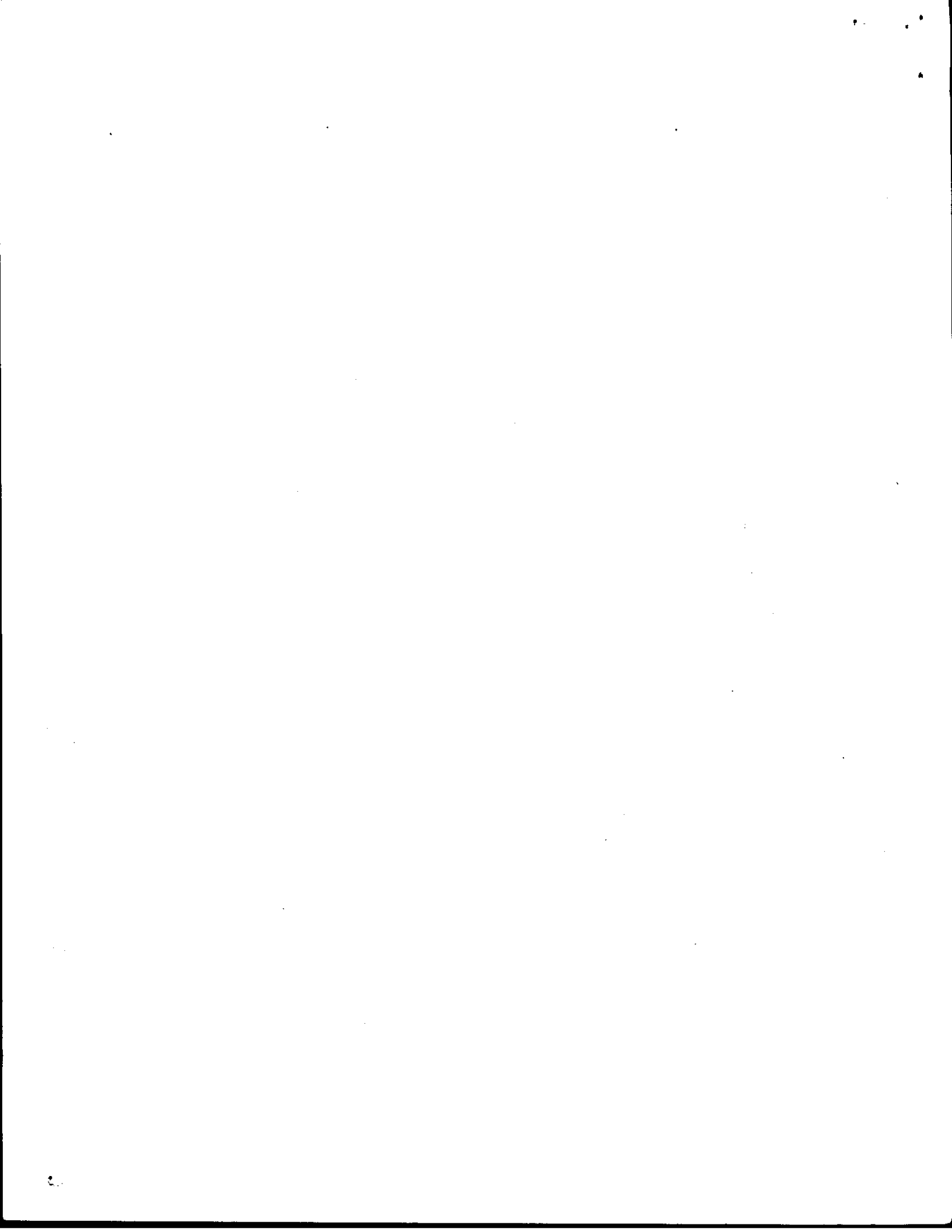


**Retail Wheeling and Rhode Island's Energy Future:
Issues, Problems, and Lessons from Europe**

**Remarks Presented to the
Retail Wheeling Subcommittee of the
Rhode Island Energy Coordinating Council**

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I. Background to the Debate

The mid-late 1980's saw a remarkable convergence of views among traditional stakeholders in the New England and Rhode Island electricity debate -- utilities, regulators, industrial customers, consumer advocates, and environmentalists alike -- about a number of basic policies to guide the future of the region's power system. This regional convergence is actually summarized nicely in the August 1989 report entitled Rhode Island's Options for Electric Generation, put out by the Rhode Island Energy Coordinating Council (ECC), of which this subcommittee is a part, and signed on to by, among others, Jerry Ligon of The Energy Council of Rhode Island (TEC-RI) representing state industrial customers, P.U.C. Chairman James Malachowski, Robert Bendick of the Department of Environmental Management, and several members of the Legislature and the general public.

The report made several important recommendations:

1. Energy Efficiency. The report highlighted energy efficiency improvements as the energy option of first resort, and specifically urged utilities to "[a]ccelerate all cost effective conservation and load management programs with the aim of achieving a 20 percent reduction in demand by the year 2000. . . .". Id. at 41.

2. Renewable Energy Development. The Council assigned top priority, after energy efficiency, to incremental generation utilizing "renewable fuels." Id. at 42.

3. Reliability. The Council concluded that "[a]ny plausible load growth scenario . . . indicates a regional need to develop additional resources to ensure that regional electricity service needs are met in a timely, economical, and environmentally sound manner," id. at 9, and urged that "[i]t would seem reasonable to at least allow sufficient new generation to be sited in-state to meet demand growth," id. at 25.

4. Diversity of Fuels. The report emphasized the need for a diverse fuel mix, including the expansion of cogeneration and dual fuel capability at existing oil fired electric units, id. at 41.

5. Environmental Protection. The Council urged that "[r]elative emissions should be taken into account when prioritizing the value of new generating facilities using different fuels by adding the costs of mitigating environmental externalities to the price of power from the facilities." Id. at 33. The Council also assigned priority to new generation sources which "minimize the solid waste stream; minimize emissions which contribute to acid rain; minimize emissions of carbon dioxide do not use substantial amounts of high quality water [and] minimize waste water discharge." Id. at 42-43. The report added that "[i]t seems clear that Rhode Islanders are prepared to pay additional costs for a high level of environmental protection." Id. at 33.

6. Orderly Development and Siting of Generation. The Council renewed its commitment to an orderly, forecast-based siting process for new generation, specifically recommending that the jurisdiction of the Energy Facilities Siting Board be extended to proposed projects exceeding 40 MW. Id. at 42.

The Energy Coordinating Council was not alone in its vision for the region's energy future -- which recommended a careful balance of reliability, economic and environmental concerns. This approach was echoed by other business, industry and governmental groups in several reports which urged the rapid development of new generating capacity, the implementation of incentives for utility conservation and load management programs, and regional investment in renewable generation and cogeneration projects.¹

While there was some argument about the details of

¹ See, for example, The New England Council, Report on the Region's Energy Future (November 1990) at 47-48; see also New England Governors' Conference Energy Directors and Power Planning Committee, A Plan for Meeting New England's Electricity Needs (1986).

implementation (Seabrook's licensing being perhaps the most notorious example), it is fair to say that, broadly speaking, the policies outlined by the Council and other industry and governmental groups in the region have been substantially implemented:

- o To meet forecasted load growth, the region brought several thousand megawatts of additional generating capacity on line between the late 1980's and the present, including Seabrook 1, Ocean State Power, Hydro Quebec Phase II, and numerous combined cycle cogeneration projects.

- o The region's utilities also accelerated energy efficiency investment; while investing only a third as much in conservation as new generation, through these programs the utilities have succeeded in reducing electric demand by 3% in 1993.

- o In pursuit of both reliability and environmental concerns, New England Electric repowered its Manchester Street oil-fired plant to an expanded, modernized combined cycle gas facility.

- o Regulators and siting boards have encouraged gas-fired units while providing close scrutiny of proposed coal projects, and commissions in Massachusetts and Vermont adopted formal externality costing of new power resources.

- o Even renewable energy -- the seemingly perpetual asterisk of New England energy planning -- has shown signs of vitality: recently, New England Electric announced the first major contract by any utility east of the Rockies for wind energy (20 MW); Central Maine Power is, I am told, contemplating a similarly sized purchase.

The implementation of these policies was not without cost. There is no doubt that the acquisition of significant incremental generating capacity -- acquisition which in this case was, as noted below, supported vigorously by business leaders, industrial customers and their representatives -- adds significantly to the

region's short-term electrical costs.² To a far lesser extent,³ the costs of utility-operated electrical efficiency programs have added to near-term rate levels in Rhode Island and elsewhere -- although, unlike additional generation, these programs will result and in some cases have already resulted in a reduction of the utilities' electrical revenue requirement.

At the same time, and happily, much of the new capacity added in the last four years for reliability and environmental reasons came at decreasing costs, due to the development of a robust wholesale generation market and regulatory policies requiring that utilities tap that market. Indeed, the non-utility contribution to New England's electric mix stands at nearly 17% in 1993, up from a nominal amount just four years ago.⁴ The combined effect of PURPA implementation and new technology drove costs down; the advent of exempt wholesale generators under the Energy Policy Act of 1992 will further hasten these developments.

What have we accomplished through pursuit of these policies

² One recent estimate concludes that the additional generation, purchases and capital additions expected to come on line between 1991 and 1995 may add as much as \$1.4 Billion to the region's annual electric revenue requirement. Conservation Law Foundation et al., Power to Spare II: Energy Efficiency and New England's Economic Recovery (June 1992) at p. 21.

³ DSM investments in New England, ignoring their bill reduction benefits, have resulted in added revenue requirements of approximately \$300 million annually, as compared with the four-fold larger costs engendered by incremental generation. CLF et al., note 2, at p. 21.

⁴ New England Power Pool, 1992 Annual Report.

in the last four years? Several things.

First, the reliability of the generating system was maintained through a difficult period. If that sounds ho-hum today, recall the OP4 days of 1987 and 1988 and the numerous warnings from industry and government that the lights might go out.

Second, new resource procurement processes and sophisticated siting reviews have created a more favorable environment for competitive entrants to the wholesale power market, and a correspondingly less favorable environment for new utility plants that cannot meet a reasonable competitive benchmark. The cost of new generation has been driven down, providing economic benefits to the region.

Third, the environmental performance of the power system has improved in measurable ways. DSM, while still a small part of the region's power mix and utility bill, has provided disproportionate environmental benefits by displacing NEPOOL's marginal units, which are for the most part also the most highly polluting units.⁵ Gas repowering and construction of new gas fired plants -- as well as incipient windpower and landfill methane plant development -- have also reduced or will reduce the

⁵ A conservative estimate is that DSM is presently scrubbing 2 million tons annually of CO₂ out of the generation system, 5,500 tons of NO_x, and 13,000 tons of sulfur dioxide. See CLF et al., Power to Spare II (June 1992) at p. 7. DSM has also reduced significant quantities of emissions of air toxics and soot particles, the latter of which have been recently identified as perhaps a larger threat to public health than even ozone smog.

power sector's pollution burden significantly, and lower the distance that New England has to travel to meet the requirements of the 1990 Clean Air Act Amendments and the United States commitments to greenhouse gas reductions made in the International Framework Convention on Climate Change last year.

Fourth, through DSM, the development of independent power, and gas expansion, the New England generation system has become significantly less risky from a cost and reliability standpoint - more strongly buffeted against single fuel price increases, the cost of future environmental regulation, and nuclear outages and capital additions.

II. What's at Stake in the Debate

The reason for reciting the above history is to demonstrate a simple point that will now seem almost too obvious to state: the positive gains in New England electrical system long-run cost control, reliability, risk, and environmental cleanliness over the past four years have emerged through the implementation of a largely consensus planning framework exemplified in the Energy Coordinating Council's 1989 report.

That is not to say that the framework produced results that were to the complete liking of every participant. It is also not to say that all of the decisions turned out to be optimal. It is quite clear in retrospect that demand forecasts proved too

optimistic, producing substantial excess capacity.⁶ With the genius of hindsight, we can argue that some IPPs purchased and DSM measures installed on the basis of 1989 avoided costs have proven not to be cost effective due to changed load conditions.

But the basic planning framework has unquestionably produced results that are consistent with the values and goals articulated in the 1989 Energy Coordinating Council report. And it is also true that these values and goals continue to command broad consensus. This is particularly true in the area of power system environmental impact. In a poll commissioned by the region's utilities well after the recession was underway, for example, 92% of the Rhode Island respondents supported utility funding of energy efficiency programs, and 79% of Rhode Islanders said they were "personally willing to pay more for my electricity if it comes from sources that are less harmful to the environment."⁷

What happens to these shared values and goals -- of lower long-term cost, reduced risk, energy efficiency, and environmental improvement -- under retail wheeling? Quite simply, they are ignored.

⁶ In fact, it is current excess capacity conditions that are to a very large extent driving the fundamental "economic" argument for retail wheeling in New England. The consequence of those conditions is a significant but likely short-lived difference in price between short-term excess power available on the wholesale market and the current retail rate paid by industrial customers. As capacity conditions tighten towards the end of the 1990's, this price gap will narrow and the alleged benefits of retail wheeling will disappear.

⁷ Cambridge Reports/Research International, Perceptions of New England's Energy Supply Options (August 1991) at p. 10, 11.

Indeed, in CLF's view, *the critical issue associated with retail wheeling for Rhode Island and New England is the fundamental incompatibility of retail wheeling with sensible state energy policy and regulatory structure that enables the states to pursue long-run cost minimization, as well as a reasonable and publicly acceptable balance of reliability, cost, risk and environmental improvement. At its core, retail wheeling, and its deregulatory cousins, seek to substitute short-term contractual decisions for the kind of electric planning framework which the New England states have evolved.*

Indeed, retail wheeling is the very antithesis of planning and public oversight of power system development. In the view of retail wheeling advocates here and abroad, whatever generation mix, reliability, risk level, long-term cost and environmental consequence results from the aggregation of thousands of short-term power transactions is by definition good public policy. To the advocates of retail wheeling, the long-run cost of power, the amount and location of generation, the quantity of renewable or less polluting energy sources on the system, and the level of end use energy efficiency are not legitimate concerns of utility regulators: short-term markets know best.

Put another way, the advocates of retail wheeling do not merely dispute some elements of Rhode Island electrical planning policy as articulated in 1989 or seek a dialogue to modify its basic elements or details. They seek to bypass that planning framework entirely and simply end the dialogue. The shape of the power system, like tastes in movies or food, would become purely a private, market matter.

Unfortunately, this rather critical point has been largely submerged in the recent debate in Rhode Island over the proposed direct purchase of Hydro Quebec power for industrial customers. Lost in the detailed arguments concerning the HQ offering price, likely wheeling charges, and rate impacts is the recognition that the decision to endorse retail wheeling, whatever its alleged short-run benefits, brings with it a radical departure from state energy policy as it exists today, or even the possibility of a state energy policy with any force or meaning.

It is not that retail wheeling advocates have hidden this agenda. To their credit, they have rather openly stated their view that a principal benefit of retail wheeling will be to bypass and render impotent least cost planning policies of the kind pioneered in Rhode Island.⁸

⁸ In a March Providence Journal editorial, for example, Electricity Consumers Resource Council (ELCON) Executive Director John Anderson promises that retail wheeling will "strip away" what he calls the "masquerade" of "least cost" service. Anderson specifically targets energy efficiency programs, which this body has identified as Rhode Island's energy option of first resort, as superfluous "bells and whistles" that would be eliminated. See "Wheel in Cheaper Power from Quebec" (3/29/93). ELCON has devoted considerable effort in the past two years to mounting a frontal assault on a broad range of least cost planning policies of the kind adopted in New England, including energy efficiency and environmental considerations in the power planning process. See ELCON, Profiles in Electricity Issues: Integrated Resource Planning (April 1991) and Profiles in Electricity Issues: Demand Side Management (December 1990). Clearly, ELCON is hoping to use Rhode Island as a national test case to challenge long-range, environmentally sound electric power planning policies, and sees Hydro Quebec's current retail wheeling proposal as a helpful stepping stone in this larger agenda.

Of course, ELCON does not purport to represent Rhode Island industry; indeed, only one of the state's industrial customers is an ELCON member. To its credit, the state's industrial electric consumer group -- The Energy Council of Rhode

In the remainder of this presentation, I will discuss further the conceptual and empirical basis for my claim that retail wheeling and the public interest as defined in Rhode Island energy and environmental policy are fundamentally at odds, and why this conflict should be resolved in favor of sound planning utilizing, but not dominated by, market competition. Next, I will discuss the illusory nature of the claimed economic benefits of retail wheeling as proposed in Rhode Island, and demonstrate that any "benefits" are at best really short-term changes in the distribution of power system costs rather than true efficiencies. (I will also assess the claim, made by retail wheeling advocates, that these changes will benefit industrial employment in Rhode Island). Thirdly, I will discuss the equity consequences of a retail wheeling regime, noting that the burden of maintaining the power system in such a regime is likely to fall disproportionately upon captive customers such as residential and small commercial ratepayers. Finally, I will suggest constructive approaches to addressing some of the concerns raised by retail wheeling advocates; unlike retail wheeling, such approaches can, I believe, be reconciled with sound energy planning. Throughout my discussion, I will refer to experience to date in the recently, but partially, deregulated

Island -- has yet to endorse either the Hydro Quebec deal, or retail wheeling generally. TEC-RI would be well advised to carefully examine the consequences of retail wheeling, and its potential impacts on electricity costs and the environment over the next decade, before signing on to a national agenda which has little, if anything, to do with the welfare of Rhode Island industry and residents.

retail electric markets of the United Kingdom and Norway.

III. The Planning Dilemma Restated: Cost and Risk

It goes without saying that the shape and long-run cost of the electric power system -- which accounts for approximately \$9 billion of New England's annual gross output -- is a matter of vital public interest. Not only is electric power reliability fundamental to the high-tech, information economy of the region; the system's vulnerability to wide and unexpected price and demand swings can have significant economic consequences as well. One need only recall the electric price increases associated with the oil price shocks and post-Three Mile Island nuclear safety rule changes to appreciate this point.

And, as noted above, Rhode Island has assiduously pursued public regulatory policies to dampen these reliability and cost risks. By pursuing fuel diversity, Rhode Island has put the state less at the mercy of the market price of any one fuel; by urging adequacy capacity margins, the state has helped ensure reliability; and by beginning to vigorously pursue DSM, Rhode Island has begun to utilize its single most powerful tool to lower the long run cost of energy, and has helped make the power system more resilient to expensive demand swings associated with economic cycles and weather.⁹

⁹ For example, utility programs to ensure the energy efficiency of new construction and renovation will by definition result in less precipitous load growth in economic upturns when such renovation and construction takes place, while energy efficiency programs addressing weather-sensitive end uses such as

Common sense, as well as experience from Europe, tells us that these public policies will be extremely difficult to implement in a retail wheeling environment, since they require the operation of public policy which takes the medium-long view that may in many cases conflict with the judgment of short-term contractual markets:

1. Reliability and the Obligation to Serve. Since the advent of deregulation in the United Kingdom in 1990, and limited retail wheeling for customers taking more than 1 MW of demand, many observers have worried about the ability of the "market" to provide adequate incentives for the construction of adequate capacity at a reasonable cost. Not least of these worriers were the very architects of the system itself. Recognizing the inherent myopia of short-term power contract market, the U.K. system initially attempted to build in some subsidized rewards for capacity construction and maintenance through the power pool pricing structure.¹⁰ However, this has proven largely ineffectual, as 95% of ultimate settled generating revenue in the U.K. passes through bilateral hedging contracts rather than the

heating and cooling will reduce the demand spikes associated with extreme weather.

¹⁰ These rewards include an "uplift" charge imposed by the national power pool (typically about 6% of system marginal price) to fund standby generation and plants necessary to preserve transmission system stability; capacity credits paid to generators; and the payment of system marginal price to all generators selected to run in any period, regardless of their bid price or actual costs to run. See House of Commons Energy Committee, Consequences of Electricity Privatisation: Volume I (H.M.S.O. London, February 1992) at p. xiii.

pool pricing mechanism.¹¹ The mere attempt to provide such subsidies, however, speaks volumes about the confidence which the system's architects had in the ability of the "invisible hand" to provide adequate reliability margins at a reasonable cost.

State regulators should ponder this dilemma. In an environment where customers are free to contract for power at will from any array of generators or distribution companies, it is effectively impossible to assign the "obligation to serve" at a regulated price to any generating or distribution companies since none have a guaranteed revenue base to offset such a commitment. As the London Financial Times report on the U.K. deregulation experiment observes,

The obligation to supply cannot rest on a series of contracts with companies which may or may not exist two or three years hence The social contract no longer exists in the UK. Free markets do not have social contracts

In effect, the abolition of the obligation to supply either endangers the system or, much more likely, puts paid to any prospect that the wholesale price of electricity will go down. The old 'swings and roundabouts' system of the public utility, where small stations were kept available even at a loss, for the overall good of the system, has gone forever. The idea that a pricing system can replace it is no more than a pious hope.¹²

As it happens, the U.K. retail deregulation experiment has not yet run up against the full incompatibility of these concepts for four reasons. First, the retail franchise has not been

¹¹ Id.

¹² A. Holmes, Privatising British Electricity: Restructuring and Resistance (Financial Times Business Information, London, 1992) at p. 117.

completely dissolved; fully 50% of the end use electric consumption in the U.K. still falls within the monopoly franchise¹³, and a residual obligation to serve rests on the distribution companies serving that load. Second, due to the predominance of expensive to operate, older coal plants in the U.K. generating mix, new gas-fired capacity is in many cases less expensive to build and operate than the coal plants are to run.¹⁴ (The reverse is true in New England, where the existing and substantially amortized fossil and nuclear generating base is substantially less expensive to run -- ignoring environmental externalities -- in the short term as compared with the cost of constructing and operating new gas plants). Third, the U.K. experiment retained an explicit subsidy for the nation's nuclear plants, whose output the distribution companies are required to purchase; a similar requirement is less formally but no less effectively in place for the nation's coal capacity. Finally, the U.K. deregulation coincided with a deep recession, and capacity margins now exceed 60%.

But the nuclear and coal subsidies are scheduled to expire in 1998, and the length of the recession is anybody's guess. The basic conflict remains, however. In the U.K., it has merited explicit concern and has resulted in various mechanisms to preserve an extra-market incentive for capacity maintenance and

¹³ As noted, retail bypass is allowed presently for customers taking in excess of 1 MW. This threshold is scheduled to devolve to 100 kW in 1994 and be abolished entirely in 1998.

¹⁴ See Note 10 above at p. xxv.

construction -- which in turn eliminate much of whatever short-term "benefit" is supposed to ensue from retail wheeling. Over the long term, it is not clear whether reliability can be assured through a retail wheeling system at a cost which is politically acceptable.

2. Diversity. It stands to reason that in a power market driven only by the short-term horizons of bilateral contract, generating resources will be favored that provide the quickest pay-back and have the lowest near-term risk. It is not surprising, then, that in the U.K., the only new generation projects being developed of any size are natural gas combined cycle plants, most lacking long-term gas contracts.¹⁵ Few renewable energy developers are likely to enter this market for the simple reason that renewables may require more up-front investment and risk, while their rewards -- in terms of avoided future supply disruptions, avoided fossil fuel price risk, and avoided risk of future environmental regulation -- are not all realized at the outset. Rhode Island regulators and lawmakers might ask themselves how the ECC's call for renewable energy development will be fulfilled where no electric utility can be assured of a revenue base to pay for long-term contracts that such development typically requires.

3. Demand-Side Investment

The economics and politics of retail wheeling conflict

¹⁵ House of Commons Energy Committee, Consequences of Electricity Privatisation, Volume I (H.M.S.O. 26 February 1992) at pp. xix-xxix.

-- and, in ELCON's view, happily conflict -- with demand side management as a system planning strategy. Simply put, DSM investments are made to ensure the lowest long run cost of electrical services to ratepayers as a whole. Due to inevitable ramp-up times and differing levels of DSM potential among customers, some customers receive more or quicker direct bill reduction benefits than others from DSM, just as some customers benefit more than others from specific transmission and distribution and reliability investments.

However, under full retail wheeling, there is no such thing as "customers as a whole" for whom the benefits and costs of DSM can be weighed. There are only disaggregated customers who may purchase their generation requirements from a variety of suppliers and therefore have no predictable or stable relationship with a supplier. But DSM requires long-term relationships; in a world dominated by short-term wheeling, a customer may well have incentive to "game the system," taking DSM investments from one supplier and then swiftly changing his generation source to a supplier offering lower short term rates and no DSM. DSM -- like other supply-side investments costing more in the short term but offering long run economic and environmental benefits -- is much more difficult to sustain in such a world.

That energy efficiency investments receive short shrift in a retail wheeling regime has become painfully obvious in the U.K. and Norway. Only recently have DSM investment requirements been

even considered for implementation in the U.K., and there the conduit has been, somewhat awkwardly, a government-managed corporation, the Energy Savings Trust. The source of the Trust's funds for future program implementation are unclear, and the subject of serving any but the remaining, dwindling monopoly franchise customers with DSM has not yet been seriously broached.¹⁶ In Norway, similarly, the retail wheeling law enjoins distribution companies to weigh DSM investments equally with generation and to implement cost-effective DSM but leaves the companies with little choice but to pursue a rate minimization strategy that neglects DSM.¹⁷ As the Financial Times has observed of the U.K. deregulatory and retail wheeling experiment:

The system seems particularly ill-adapted to changes intended to re-direct electricity generation or reduce electricity consumption for environmental reasons.¹⁸

It goes without saying that retail wheeling does not undercut the fundamental value of DSM. Deregulation does not

¹⁶ Although U.K. electricity regulators will take this subject up in the forthcoming distribution price control review scheduled to be completed in mid-1995.

¹⁷ D. York, "Are Deregulation and Integrated Resource Planning Compatible? Experience from the United States and Norway with Market Approaches to Utility Planning," in Proceedings of the European Council for an Energy Efficient Economy Summer Study 1993 (15 June 1993) at 6-7.

¹⁸ Note 12, above, at p. 2.

eliminate market failure¹⁹; it simply makes that failure more difficult to remedy. The U.K. Parliament and electricity regulator have given considerable study to ways in which to facilitate utility DSM; in its 1992 Report on privatization, the House of Commons Energy Committee called for "more vigorous and urgent action" by U.K. regulators to implement DSM²⁰, while the recently completed U.K. Supply Price Review has proposed a limited decoupling of electricity sales and revenue in the remaining franchise market to facilitate efficiency investment.²¹ The complexity inherent in such a roundabout approach, however, further underscores the tension between socially desirable planning strategies to avoid system risk, and the short-term market imperatives unleashed by retail wheeling.

IV. The Planning Dilemma Restated: The Environment

It is a commonplace that energy and environmental policy are closely intertwined. It could not be otherwise. The New England power system is the single largest industrial source

¹⁹ Recent studies requested by U.K. electricity regulators demonstrated substantial market failure in end use efficiency applications and vast potential for cost-effective demand savings. See LE Energy Limited and SRC International ApS, Demand Side Measures: A Report to the Office of Electricity Regulation (Birmingham, October 1992); Foundation for International Environmental Law and Development and the Conservation Law Foundation, Down to Details: A Response to the Director General of Electricity Supply's Request for Comments on Energy Efficiency Performance Standards (London, April 1993).

²⁰ Note 10, above, at p.1.

²¹ Office of Electricity Regulation, The Supply Price Control: Proposals (July 1993).

of environmental damage in the region. It accounts for the region's largest industrial shares of emissions of sulfides, nitrogen oxides, and carbon dioxide -- emissions which are implicated in acid precipitation and runoff, illegally high levels of lung-damaging ozone smog, nitrification of estuaries and lakes, forest damage, and potentially catastrophic climate change. Recent information on the health and ecosystem effects of air toxics and small particulate matter -- of which the region's power system produces many tons per year -- further highlight the environmental stakes. Beyond fossil fuel use, power system environmental damage includes the greenhouse gas, mercury concentration and habitat destruction effects of large scale hydroelectric dam impoundments, as well as intractable nuclear waste storage dilemmas.

In sum, no power source is completely environmentally benign, windpower and demand side management included; there are only degrees of damage. Rightly, this has been a concern of Rhode Island and New England electric planning policy, and is reflected in the ECC's 1989 report. It is also well accepted in this region that one of the central goals of electric power planning should be to identify and encourage supply options which minimize environmental damage to begin with, within reasonable bounds of cost, reliability and diversity. This premise commands substantial political support, as evidenced in the Rhode Island polling data cited earlier.

However, it is a premise that runs squarely against the

imperatives of retail wheeling. Under a retail wheeling regime, planning criteria to avoid unnecessary environmental damage are an anathema. What gets built and where (and what gets conserved and where) is purely a function of short-term market price signals. Indeed, other things being equal, retail industrial power customers could be expected to contract exclusively for dirtier resources where such sources are less expensive in the short term. As in the U.K., renewable energy and DSM are unlikely to flourish under such a short-term market regime.

Under these circumstances, it is also unclear what role, if any, state facility siting processes will play in reducing unnecessary environmental damage to the region. Rhode Island law presently requires review of all power generating facility proposals greater than 40 MW to ensure that facilities will provide a "needed" energy supply at the "lowest reasonable cost" consistent with the protection of the state's natural resources.²² However, what does "need" and "lowest cost" mean under a retail wheeling regime? Project developers might argue that these concepts in fact lose their practical meaning. Retail wheeling presumes that short-term contractual markets fully and properly determine the need for and relative desirability of various technologies and fuels, and that such decisions have no social dimensions or environmental consequences that are worthy of attention by state utility regulatory bodies. If Rhode Island industries choose to contract for the dirtiest possible plants,

²² See R.I.G.L. sec. 42-98-11(B).

that is their prerogative, and such prerogatives will themselves dictate the shape of the generation system.

Such an outcome is plainly absurd and repugnant. Yet it is a very real implication of the retail wheeling thesis. In the U.K., for example, there is essentially no integration of long-run economic or environmental considerations into facility siting decisions, other than specific local impacts. It is in the environmental area that the supposed analogy between retail wheeling and telecommunications deregulation most clearly breaks apart: microwave towers and long distance switches do not spew toxic waste.

Over the long run, the most significant forces shaping the costs of the power system are likely to be environmental in nature. Clearly, the environmental implications of a retail wheeling regime need to be given careful thought by Rhode Island policymakers. I would submit that this issue is likely to make the present controversy over the Newbay coal plant look like a kindergarten exercise by comparison.

V. The Benefits of Retail Wheeling: "Imprudence" by Other Means?

Throughout the Rhode Island retail wheeling debate, no party has identified any long term or short term economic efficiencies that would result from retail transactions between Hydro Quebec and industrial customers that could not be achieved equally well by wholesale purchases of Hydro Quebec power. They

have not claimed that retail wheeling generally will magically open up low cost sources of power that are otherwise unavailable to utilities. Such a claim would have little basis, given the current vigor of the wholesale generating market.

Indeed, the U.K. experience gives little support for hopes that retail wheeling will reduce generation system costs even for large industrial customers. Despite the simultaneous write-down of generating assets through U.K. privatization, for example, the Confederation of British Industry reports electric price increases for its membership of 20% above pre-privatization levels.²³

The only non-utility economic study of this issue for Rhode Island -- unchallenged by retail wheeling advocates to the best of my knowledge -- demonstrates that allowing industrial customers to bypass the system for direct purchases from Hydro Quebec would result in additional costs to Rhode Island as a whole, and would raise non-industrial retail electric rates by 14-43% to compensate for revenue diverted from Rhode Island and exported to Quebec.²⁴

In public testimony, the retail wheeling advocates' only response has been to suggest that this shortfall should be absorbed by utility stockholders, who should never have built the

²³ House of Commons Energy Committee, The Consequences of Electricity Privatization: Volume II (H.M.S.O., London 26 February 1992) at pp. 52.

²⁴ H. Yoshimura, Evaluation of the Hydro Quebec Firm Power and Energy Proposal (January 29, 1993) at Tables C-NEC-5 and C-BVE-5.

plants responsible for current rates in the first place. In effect, the retail wheeling advocates have conceded that the only economic "benefits" which emerge from the proposed transactions are not efficiency-based but rather distributional in nature: the transfer of embedded capacity costs from industrial customers to other ratepayers or utility shareholders. The advocates in effect propose an adjudication of "imprudence" of 1980's-vintage power commitments by other means.

At the outset, this position raises a fundamental issue of fairness. As noted above, Rhode Island industrial interests and current retail wheeling advocates argued vigorously in the 1980's for the very incremental utility generating capacity and DSM investment whose costs these same spokesmen now complain of.²⁵ Having been served their meal, should these diners be able to send the bill to the adjacent table?

But, even accepting for sake of argument the fairness and legality of transferring such embedded system costs to remaining

²⁵ Aside from the reports cited in Section I, even a casual inspection of the public record will confirm this assessment. In March 1989, a TEC-RI representative editorialized in the Providence Journal that significant incremental generating capacity such as the Newbay plant was needed to ensure system reliability and diversity since "[n]o one familiar with the energy system in New England believes that our present shortage of electrical generating capacity can be solved by conservation and greater energy efficiency alone." R.L. Buck, "Our Need for Power Plants," March 19, 1989, p. A10. In hearings over the creation of the Energy Facilities Siting Board, then P.U.C. Chairman Edward Burke testified that such legislation was important in order to expedite licensing of generating plants in Rhode Island such as Ocean State Power. "Senate Panel Approves Energy Siting Board After Hot debate by Sponsor, 2d Lawmaker," The Providence Journal, April 11, 1986, p. A15.

captive retail customers or utility shareholders, it is important to ask: what are the benefits of such an allocation move?

Specifically, retail wheeling advocates have claimed that the proposed retail wheeling transaction with Hydro Quebec will sustain or increase industrial employment in Rhode Island. These advocates have cited no evidence for their assertion, and I would submit that there is none.

First, industrial power costs typically represent less than 5% of total manufacturing costs in Rhode Island, and in most cases 1-2%.²⁶ Even assuming optimistically that, after appropriate wheeling and back-up charges are added, industrial power costs could be reduced by 30% through retail wheeling in the short term, this would reduce production costs by less than 2% -- an amount that is likely to be insignificant in comparison to other factors such as insurance, workmen's compensation, and health care costs in the decision to retain or add employees.

Second, the translation of power cost savings into increased employment in Rhode Island factories is speculative at best. Indeed, in the current economic environment, large industrial customers has shown a strong tendency not to hire or retain employees even when economic fortunes improve.²⁷ (And, where

²⁶ See Joint Stipulation of the Conservation Law Foundation and the Energy Council of Rhode Island, R.I. P.U.C. Docket 1939 (November 1991).

²⁷ See, L. Uchitelle, "Strong Companies are Joining Trend to Eliminate Jobs: As a Weak Economy Bars Rises in Prices, Labor Costs are Cut to Maintain Profits," The New York Times, July 26, 1993, p. A1.

hiring occurs, it is increasingly involves temporary workers offered relatively low wages and no benefits.)²⁸ Rate reductions through retail wheeling or other means may mean greater *corporate profits*, or *corporate debt reduction*, but it is by no means clear that they mean more *Rhode Island jobs*. Arguably, the only likely way to ensure that power cost savings are translated into increased Rhode Island plant investment and employment is through direct DSM capital investment in Rhode Island plants which make those plants more competitive; numerous examples of this job-preserving effect of DSM have been documented throughout New England.²⁹

Third, to the extent that any of the retail bypass revenue loss is allocated to smaller commercial and industrial customers, any employment effect is likely to be perverse. A recent study by Cognetics, Inc. demonstrates that *nearly all of the U.S. industrial job growth in the last five years has come from firms with less than 20 employees; job growth in larger firms has been modest or negative*.³⁰ These are, in fact, precisely the kind of "smaller, highly specialized companies" that have been recognized as state growth engines by the Rhode

²⁸ See, for example, L. Uchitelle, "Temporary Workers Are on the Increase In Nation's Factories," The New York Times, July 6, 1993, p.A1.

²⁹ See Conservation Law Foundation et al., Power to Spare II (June 1992) at p. 12.

³⁰ Cognetics, Inc., "Who's Creating Jobs" (Cambridge, Ma, April 1993). The key table from the report is attached as Appendix 1 to this paper.

Island Department of Economic Development.³¹ It is unclear how transferring embedded electric capacity costs to these labor intensive job dynamos from Rhode Island's job losers can be expected to benefit Rhode Island manufacturing employment.

In sum, there are no proven -- or even claimed -- economic efficiency gains to be found in the type of retail wheeling proposals now being debated in Rhode Island. If Hydro Quebec power costs less than current short-run utility marginal costs, then the utility should buy this power on behalf of all its customers; if Hydro Quebec power costs more than short-run utility marginal costs, then the purchase will by definition add to rather than reduce Rhode Island's energy costs.

Retail wheeling advocates have not disputed this point, and have essentially conceded that any economic "benefits" resulting from such a transaction are purely allocational. Moreover, the translation of these "benefits" into increased or sustained Rhode Island employment has not been demonstrated, and there are many reasons to believe they are in fact non-existent. It is difficult to understand why Rhode Islanders would be interested in pursuing a decision whose benefits are so illusory, and whose costs in terms of enfeebled public policy are so high.

VI. Further Equity Concerns

The direct equity impacts associated with the

³¹ R.I. Department of Economic Development, Jobs Rhode Island: Phase I Update; Phase II Report, p. 56.

allocation of embedded system generation costs to captive customers discussed above are relatively straightforward to understand. Retail wheeling also, however, raises a host of additional but more subtle equity concerns relating to the cost of ongoing system maintenance.

Rhode Island retail wheeling advocates have not proposed full deregulation of the power system in which the legal obligation to serve is abolished, as it is in the United Kingdom. Instead, they have proposed a form of cherry-picking in which large industrial customers will be able to contract for medium term power from non-franchise generators such as Hydro Quebec whose offering price for generation -- for the moment -- is lower than Rhode Island's retail electric price.

What happens when those contracts expire is far from clear. As a matter of economic theory, industrial customers wishing to rejoin the franchise retail system should have to pay at least the incremental costs to the system of serving this prodigal load. But that still does not address the problem of the costs incurred by other ratepayers to hold that capacity in reserve during the period of the industrial customers' dalliance abroad.

In practice it is easy to imagine that these stand-by and reentry charges will not be set at anywhere their true economic cost. Just as these customers are apparently able to gain a serious hearing for the idea that Rhode Island jobs depend upon shifting the costs of embedded capacity to other, more vulnerable ratepayers, surely they will be positioned to argue at the end of

the Hydro Quebec contract term that Rhode Island jobs depend on the establishment of modest back-up and reentry charge significantly below true incremental cost or market price.

This is not idle speculation. The U.K. experience of the last two years has demonstrated the tendency of a half-regulated retail electric market to transfer the costs of maintaining embedded capacity to captive customers. In the U.K., this takes the form of the existing coal plants, whose continued operation has been deemed in the national interest, and whose costs have been allocated disproportionately to franchise customers while non-franchise customers are able to contract for short-term output from new, less expensive gas combined cycle plants. Policing this tendency will make the complexity of current cost of service ratemaking pale in comparison.

VII. Conclusion: Let's Fix What's Broke

Rhode Island and New England has worked hard to achieve a consensus on the proper direction for our electrical future. That consensus, built in the capacity-short atmosphere of the late 1980's, retains its broad political support. However, in the present environment of recession, excess capacity, and other worldwide competitive pressures, the short-run cost of electricity has achieved greater prominence than it did during New England's economic boom. Retail wheeling has emerged as a "quick fix" proposal offered by some ostensibly to address that concern.

It has been the thrust of this presentation that retail wheeling carries with it not only uncertain economic benefits but very significant costs to the region by reversing progress toward a lower cost, reliable, equitable, and environmentally sustainable power system -- all goals embraced by this Council and institutionalized in Rhode Island regulatory policy. However, that does not mean that electrical cost pressures are not real, and do not deserve attention.

CLF recommends, however, that retail wheeling be rejected as the magic and "inevitable" answer to these problems. Instead, we recommend several more positive initiatives which are responsive to current rate concerns but also compatible with Rhode Island's regulatory framework:

1. Rhode Island utilities and their regulators should explore ways to strengthen wholesale competition in generation markets to bring the benefits of lower cost power sources to all ratepayers where they are available. While Rhode Island's role in this regard is somewhat circumscribed given current FERC preemption, the state is not without influence. Massachusetts has demonstrated that informal nudging and formal rulemaking can influence the development of such markets at the state level.

2. Rhode Island regulators should look at avenues to trim avoidable generation commitments which were arguably economic at the time made but do not pass muster under present economic conditions. Intervention in Massachusetts proceedings concerning the Newbay plant are one example.

3. Rhode Island regulators should continue to rigorously scrutinize the costs and benefits of utility energy efficiency programs as they have in the past. While CLF believes that DSM investments in Rhode Island are already well below economically justifiable levels, and are certainly well below levels necessary to reach the ECC's target of 20% demand reduction by the year 2000, continued scrutiny is nonetheless appropriate.

4. Rhode Island regulators should support efforts by utilities to target energy efficiency dollars to industrial customers who could benefit from cost-reducing process changes as part of energy efficiency treatment. As noted above, utility investment in actual equipment in a Rhode Island factory is likely to result in greater productivity and job retention at the plant than is a similar sized rate cut achieved by transferring embedded system costs to captive customers through retail wheeling.

5. As a last resort, if presently nonexistent evidence were adduced to show that a significant number of net jobs in Rhode Island are likely to be created or retained through lowering of industrial power rates beyond the adjustments already made through Commission rate design, it may be far better to make these subsidies directly through further rate design changes than through retail wheeling. Assuming in the case of the present Hydro Quebec proposal that Hydro Quebec's retail generation price to industrial customers plus the properly calculated price of wheeling and back-up charges were in fact significantly below

Rhode island's current retail rate, other Rhode Islanders could be better off by retaining the industrial customers' contribution to fixed costs by retaining the customer at a reduced rate, even if some lost revenue results. Any such arrangement should be targeted to specific firms, and require benefitting companies to make a legally enforceable pledge to add or retain a specific number of jobs which they claim will be supported by these rate discounts. While this approach is not necessarily desirable, and would depend on the resolution of a host of issues including the incremental fixed and variable costs engendered by the retained load over a reasonable time period, it should certainly be at least explored before Rhode Island enters the far more problematic terrain of retail wheeling.

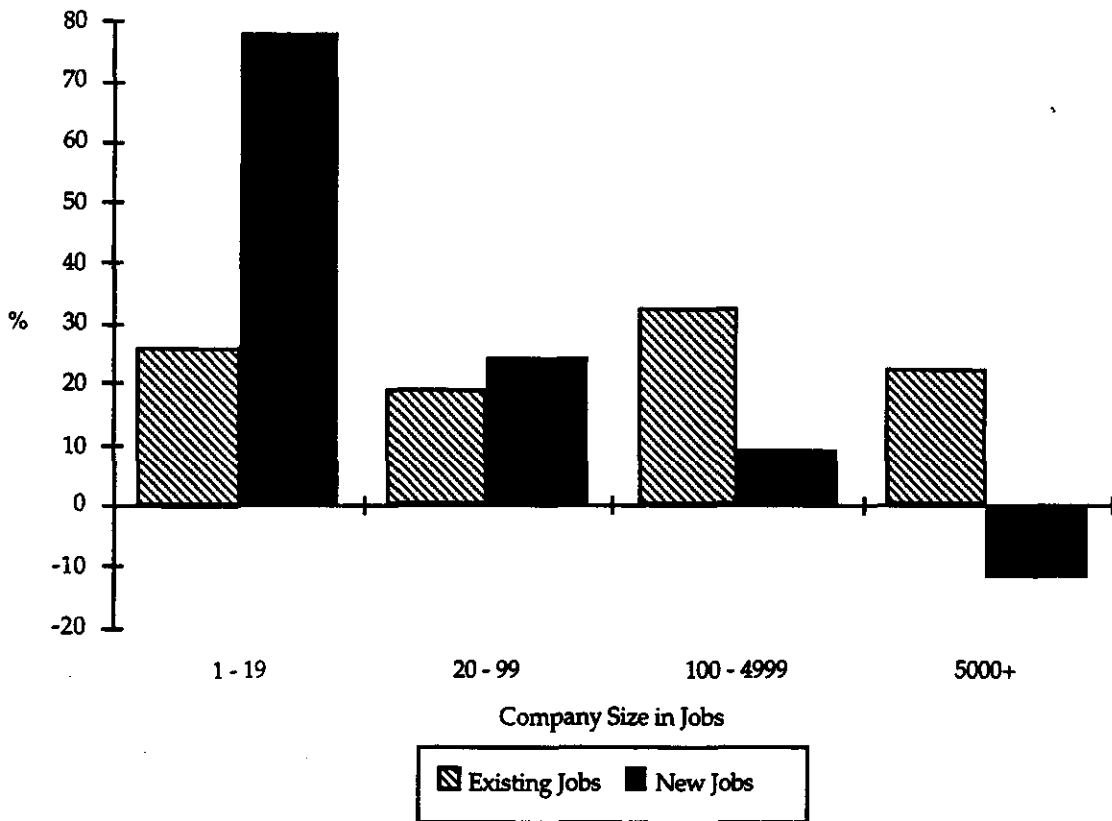
VIII. Conclusion: Inevitability or Public Policy Choice?

It is not surprising that some parties who stand to directly benefit in the short term from retail wheeling -- such as the large manufacturers represented by ELCON and some non-utility generators -- have described retail wheeling as "inevitable." What is more surprising is that so many utilities and even policy makers have conceded this point without undertaking a rigorous examination of whether retail wheeling is in fact *good public policy*, whatever the claims of "inevitability." One hopes that we have not reached the point in public utility regulation and public policy generally where such an examination is powerless to influence the course of debate in the face of shallow slogans and

raw political pressure. It is in pursuit of this hope that CLF has offered these observations, and offers the further hope that the debate over this issue critical to Rhode Island's energy future now begin with a full set of facts on the table.

Figure 3

% Distribution of 1992 Existing Jobs and New Jobs 1987-1992 by Size



**Retail Wheeling and Rhode Island's
Energy Future:
Issues, Problems, and Lessons
from Europe**

**Remarks Presented to the
Retail Wheeling Subcommittee of
the Rhode Island Energy Coordinating Council
July 22, 1993**

**Armond Cohen
Senior Attorney
Conservation Law Foundation**

Core Issues

- **Conflict Between Retail Wheeling and RI Energy Policy**
- **Benefits of Retail Wheeling: How Real?**
- **Equity Issues: Who Bears the Burden of De Facto Energy Policy?**
- **Experience from Europe**
- **Alternative Approaches**

Key Elements of RI Energy Policy

(1989 ECC Report)

- **Reliability: incremental generation**
- **Fuel Diversity**
- **Renewable Energy**
- **Utility Energy Efficiency
(20% of Power Mix by 2000)**
- **Environmental Protection**
- **Orderly Siting Process**
- **Adopted by Diverse Interests**

Policies Implemented

- **Incremental Generation: SB 1, OSP, HQ II, IPPs**
- **Energy Efficiency: Serious Programs and Incentives**
- **Manchester Street Repowering**
- **Environmental considerations in IRP**
- **Renewables development, e.g. Green RFP**
- **Wholesale competition**

Consequences of RI, NE Energy Policies

- **Reliability maintained**
- **New plant costs lower**
- **System cleaner**
- **System less risky**
 - price risk
 - reliability risk
 - environmental risk
 - Short-term system costs somewhat high
(though mitigated by medium/long term savings)

Core Issue:

Positive gains in New England electrical system reliability, risk, and environmental cleanliness over the past four years have emerged through the implementation of a largely consensus *planning* framework.

Retail wheeling will, is indeed designed to, dismantle that framework.

Retail Wheeling vs. Planning

- **RI, New England power planning: make provision for medium-long run reliability, cost risk; minimize environmental damage.**
- **Retail wheeling: substitute short-term spot markets and contractual decisions for electric planning**
- **Central thesis of RW: whatever generation mix, reliability, risk level and environmental consequence results from the aggregation of thousands of short-term power transactions is *by definition* good public policy.**

Retail Wheeling Consequences: Planning Risk

- **UK, Norway:**
 - DSM, renewable energy development hard to fit into short-term contractual framework.
- **Diversity dilemma (UK “Dash to Gas”)**
- **Reliability**
 - Untested: UK and Norway, like NE, in surplus.
 - Unclear who bears residual “obligation to serve.”

Retail Wheeling: Environmental Risk

- **Power sector environmental impacts**
 - Air emissions (SO₂, NO_x, CO₂, air toxics, particulates, radioactive releases)
 - Solid wastes (coal ash, nuclear disposal)
 - Water discharges
 - Hydroelectric impoundment effects
 - The more we look...
- **End use efficiency market failures unaddressed (UK, Norway)**
- **Environment irrelevant to resource acquisition, dispatch**

Retail Wheeling: Environmental Risk

(continued)

- **Siting criteria incoherent**
- **Telecom analogy inapposite**

Retail Wheeling Benefits (?)

- **UK, Norway experience**

Norway

— some short-term price decreases for large customers, but hard to disentangle from privatization, excess capacity

UK

— 20% price increase

Both

— long-term price impacts unclear

Retail Wheeling Benefits (?)

- **New England**
 - no short-term or long-term efficiencies identified that cannot be captured by wholesale competition
 - short-term transfer of embedded costs to inelastic customers, utility shareholders (i.e. “imprudence by other means”)
 - job retention effects dubious

Retail Wheeling Benefits (?)

(continued)

- **New England**
 - uncertainty of disposition of cost reductions (vs. DSM).
 - large vs. small business job creation
 - true back-up power costs, load balancing costs presently unpriced in the equation

Retail Wheeling: Equity Issues

- **Scope of retail benefits**
 - limited in Norway, UK
- **Captive customers bear costs of historic investment called for by region's industry**
- **Captive customers bear costs of standby capacity**
 - political realities of reentry
- **Captive customers bear costs of residual national energy policy (in UK, nukes and coal)**

A Better Way

- **Increased wholesale competition**
- **Trim uneconomic IPP commitments**
- **Continue to subject DSM to rigorous C/B analysis**
- **Target DSM to most vulnerable customers**