this circumstance, the position of the labor contradicts that of environmentalism. This should be addressed properly to promote sustainability for the sake of both parties.

Environmentalists tend to see nuclear power generation as an absolute evil. Whoever makes even a moderately positive comment on nuclear power is automatically regarded as their enemy. However, the situation is more complicated than it seems. Nuclear power provides electricity for more than forty percent of the Korean population as well as many jobs. That's why we cannot simply dismiss nuclear generation.

Environmentalists may ague that nuclear power itself and the workers engaging in it are two different issues. However, if the workers see them as inseparable, they can never accept the approaches of environmentalists on the nuclear issue. It the situation goes like this, the labor and environmentalists would not be able to work together. This will certainly hinder the establishment of a sustainable energy supply system.

A sustainable energy supply system is very difficult to implement without making the voice of the energy workers heard. Simply assume that the government has decided to shut down all the nuclear power plants over ten years on the ground that nuclear energy is risky and unsustainable, backed by environmentalists. However, it would face without doubt an opposition from the workers engaged in nuclear power generation. As the workers of the electricity industry joined their comrades, the opposition would grow into strong resistance. The result would be devastating.

The above scenario shows that we should avoid serious social confrontations in pursuing sustainability because sustainability requires the harmony and agreement at a socioeconomic level in principle. Therefore, conflict of interests should be minimized, meaning that a sustainable energy supply scheme should embrace the voice of the workers related to the nuclear power and electricity industries.

Nuclear power and fossil fuel, supplying more than 97% of the total energy consumed in Korea, are not sustainable. The production of oil will begin to decline within five years, and nuclear energy are available for only fifty more years. In this situation, the establishment of sustainable energy supply system is also in the interest of the labor circle. There is no need to adhere to the existing system which is on the decline and can exist only for decades at best. To do so will make the workers in the

related field to scramble for a decreasing number of jobs, and will bring chaos to the society as a whole with oil shortfalls and price hikes in electricity and energy. The current energy scheme of Korea is too much dependent on and adherent to fossil fuel and nuclear energy. This should be replaced by a sustainable energy supply scheme as soon as possible. Otherwise, this obsolete system will be a disaster to the labor, environmentalists, as well as to the entire society.

5

The Common Tasks of Labor and Environmental Movements for a Renewable Energy System in Korea is therefore find a point of common interest and build cooperation based on it. Replacing nuclear energy with renewable energy will mark the beginning of the establishment of sustainable energy system. Labor groups cannot but agree to this once they acknowledge the limitation and danger of nuclear energy and fossil fuel. The challenge here is how to minimize possible conflicts in phasing out the use of nuclear energy, and how to smoothly replace fossil fuel with renewable energy. We cannot immediately stop using nuclear energy, nor can we depend on it for a long time. Then, what will be an optimum time line to eliminate nuclear power? It is the question to which the labor and environmental groups should find an answer together. It may take thirty years or even fifty years. What is important here is to identify right variables such as the maximum time limit and technological advances in renewable energy such as solar or wind powers.

Once the time line is set, the effort should be focused on reducing energy consumption and disseminating the use of renewable energy. At the same time, the pressures should be exercised to make the governmental polices more focused on sustainable energy supply. The organization of the labor movement can be of a great help in doing that. The environmental movement will provide impetus to attract many people to join efforts. The combination of the two movements can produce a great synergy in an energy transformation campaign, accelerating the implement of sustainable energy supply system. That's why the two should collaborate on energy issues.

Panelist Commentary 1

Prof. Song Tae-soo
Korea Labor Education Institute

First of all, it is a significant development to have an international symposium in pursuit of "a solidarity between the labor and the environment", in the regards of the energy issue. Also personally, it is a great pleasure for me to make a comment for two excellent presentations which show the possibility of the labor-environment solidarity. Especially, I would like to express my thanks to Mr. Georg Werckmeister, Director of Action Alliance for Renewable Energies, Germany, for his concrete appraisal of the German experience of enacting, revising and implementation of Renewable Energy Act (REA).

At the first presentation, Mr. Werckmeister describes the red-green alliance over the Renewable Energy Act, that is, a solidarity between the trade union movement and the German Social Democratic Party, on one hand, and the ecological movement and the Green party, on the other. He gives us a detailed explanation of the concrete background, and how the broad coalition to defend Electricity Feeding Act (EFA) was formed by different social groups, such as federations of producers of equipment for renewables, ecology movement, farmers, churches, trade unions, and so on. His presentation also explains the responses from differing social groups when the red-green alliance government, launched in 1999, replaced the EFA into the REA; on one hand, the major electrical conglomates forged strong opposition and resistance, while diverse grassroots groups formed a coalition to defend REA.

In this regard, I would like to make couple of important points rather than anu specific comment.

First of all, one remarkable fact in Mr. Werckmeister's presentation is that renewable energy industry now covers 130,000 workers (including 46,000 workers in wind-power sector), truly an amazing figure. Though the portion of renewable energy consumption is less than 10 per cent (8 per cent in 2003) out of the whole electricity consumption, the workers in renewable energy sector has long outnumbered those in coal mining and nuclear energy production. This shows the great potential of this sector for job creation.

Of course, as the mass production system is to be established, the effect for employability will be lowered in the future. Notwithstanding, the potential for job creation is still very huge when the renewable energy sector is formed and developed. As were shown by the industrial federation and medium- and small-sized enterprise federation, among the members of the federations of producers of equipment for renewables, we can have a high expectation for the job creation in the renewable energy sector, where the medium- and small-sized enterprise focused production system is dominant, compared to the nuclear energy sector. What do you think about this aspect?

Secondly, Mr. Werckmesiter's claim that the trade unions should response more actively toward the new technological change is quite important. I would like to add that, in addition to trade unions active response, the society as a whole should be responsive together so that the workers in the existing sector can understand the new technological changes, and that on the base of this understanding, the unions may take part in the changes and propose new possible alternatives. the precondition for this is that the mutual mistrust between the trade union movement and the ecological movement should be overcome, which theme will be dealt at the discussion of the second presentation.

Finally, I want to ask a question to Mr. Werckmeister. Whats the difference between the rate of nenewables and existing electricity rate? If there is, as I

know from my experience that in Berlin around 2000, the rate of nenewables was a bit more expensive, the consumers should have a ecology-friendly understanding. What do you think?

Next, I would like to talk about the second presentation by Professor Lee Pil-ryul. He made a detailed description of how the difference in principle and mutual distrust were expressed in the course of the dispute over the "privatization of electrical industry," and he tried to find a common foothold for the partial resolution of differing points of views and introduction of the concerned concepturalization ("public concept in the broad sense of a word"). Especially, his attempt to reconcile and solidarify the labor movement and the ecological movement by positioning the "public concept for energy supply" in the framework of "sustainable system of energy supply." This attempt provides a very important clue from the concrete and practical terms, which is shared wholeheartedly by this commentator. I just would like to express some of my ideas.

First of all, the most remarkable point in Professor Lee's presentation is his claim that "the concept of sustainability should cover not only the natural aspect, but also a union of economic and social aspects." That is to say, his claim has a strong persuasive power in that the sustainable energy supply system is possible only when it can persuade the nuclear workers and electric workers. I entirely agree with this idea. One thing I want to add is that, as I said at the comment for the first presentation, the consensus should be formed not just in the trade union world, but also the society at large, by referring to the high potential for job creation in renewable energy sector.

Secondly, I would like to refer to the "public concept in the broad sense of a word," in order to find a common foothold for the labor movement and the ecological movement. According to the presentation, in consideration of inherent objectives of labor and ecological movements, only when the sustainable society deals not only with the issues of people belonging to the

same generation, but the harmony of different generations as well, the common understanding is possible that they should fight against the neo-liberal globalization and privatization which make the sustainability unfeasible, and that the dependence on atomic power and fossil fuel should be overcome as a source of unsustainable energy supply system.

In this regard, I would like to add that there is also the problem in that labor and ecological movements have been focused on short-term oriented alternatives. This means that the movements have not propose the fundamental alternatives based on their organizational base and with an aim to secure public support, so much as they provide the rather convenient options that can secure public support more easily. For instance, the ecological movement took the position in favor of de-centralization of a giant conglomate Korea Electric Power depending on the market force, following the dominant discourse and the public criticism on the inefficiency of public corporations. On the other hand, the trade union as a mass organization based its position on the immediate and direct demand of its own members. The labor and ecological movements tend to focus on the short-sighted alternatives that can bring about the concrete and tangible outcomes. Whats your opinion on this phenomenon?

Thirdly, as for the formation of sustainable energy supply system and the subsequent closure of atomic power plants, the German way of nuclear closure is realistically reasonable. I think if the authorities set the gradual and orderly closure procedure for old power equipments, it's not difficult to get wide support from workers.

Finally, as for the presenter's minor discontent that the labor failed to express any concrete opinion about the national energy policies, though I'm not in a position to represent them, the problem is the social and political atmosphere that does not admit any just status for the labor movement. It is related with the fact that the labor has not given any civil rights in the proper

sense of the word. In Korea, the trade unions, or labor movement have been excluded with no recognition as a reliable social subject, but criticized as "an interest group" trapped in collective egoticism that ignores any public interest. Even within the civic movements, there are deep-rooted prejudices combined with groundless emotional condemnations.

Of course, in this socio-political context, the trade union movement should make a serious effort to be reborn as a social subject. However, generally, anothe problem is that the trade unions are accustomed to its status and role as "a pressurized group" from the government and management, not as "a pressure group" based on autonomous activities.

Panelist Commentary 2

Cho Tae-mann
President of Korea Hydro & Nuclear Power Labor Union

We discussed a lot during last 10 months preparing for 'Korean Labor & Social Network on Energy' and could share each organization's opinion enough. I learned much in this process, but I want to talk one thing firstly.

We, atomic energy workers, have stood firm in the work field keeping in mind that we should provide people with electricity stably and we are the subject to guarantee universal basic right of energy.

However, with the debate on change to recyclable energy system and on building of the disposal place for radioactive waste, it's very regrettable that the role of atomic energy and the work of atomic energy workers have sunk only to the target of criticism.

I think the problems of the whole energy policy, the matter of the actual existence of atomic energy in electricity supply system and furthermore, the evaluation of the atomic energy workers' work should be discussed differently.

Sure, these matters are linked directly with the government's policy which has held workers responsible for social conflict on atomic energy. I want to say if the government's policy are wrong, our union are ready to fight against it in the name of workers.

KHNPLU(Korea Hydro & Nuclear Power Labor Union) has made efforts to practice the direct or indirect exchange and solidarity with social movements organizations, and will actively consider the change of energy system in terms of mid-term or long-term. In this process, not only our union but also the whole

society are asked to think through the role of atomic energy workers.

Next point is the matter of changing the energy system and the actual conditions to realize it.

Oil crisis, convention on climate change, global competition for guarantee energy would be a huge crisis to us who depend on foreign countries for resources of energy. It's very important to find and extend sustainable resources in the situation that we lack of sustainable resources satisfying economical efficiency, protection of environment and public interest.

But in this process, the current situation is that atomic energy and fossil fuel such as oil, coal, gas are actually main energy resources. So, looking at this side, diversification of energy resources must be the stepping stones to change of energy system process. Because stable electricity supply is also an important matter. And concerning the present climate convention, we should consider the rate of atomic energy, actual condition of energy resources, etc. I hope we could think together.

Of course, as for thinking the long term and the present problems, the issues such as the change to the system of low energy consumption, extension of recyclable energy, consolidate the solidarity between labor and social movements, people's control system on the entire energy policy are important. Let's drive forward to these direction together.

Finally, let me talk briefly about the radioactive waste matter which is hot issue now.

As long as atomic energy is used in atomic power plants, hospitals, industries, radioactive waste will continue to be produced. Though lots of discussions and debates on the building of the disposal place for radioactive

waste are going on between government and civil society, they seem to argue for argument's sake each other.

Hereafter, while we are going to discuss and make a position of 'Korean Labor & Social Network on Energy', I think it is necessary to build the disposal place to manage and operate the radioactive wastes with safety.

However, with the undemocratic process of government's policy, social conflicts have multiplied during last 20 years. Government has to take a transparent and democratic process from the selection of a site, and draw voluntary and reasonable conclusion of the residents on the basis of residents' self-determination.

KHNPLU will try to solve the radioactive waste matter rightly with social movements bloc.

Therefore I think the role of 'Korean Labor & Social Network on Energy' is critical which is being launched at this point. Minimizing the difference of position and consolidating the solidarity, we will be able to promote the change of energy policy and energy system based on a principle, with power for realization.

Although we can't gain immediately actual energy resources to overcome energy crisis, let us make efforts to find new energy resources and to reduce energy consumption in the long term.

Energy is human right. Let's fight together to broaden the basic right of energy and the people's public rights. It's hard and difficult, but no wonder that 'Korean Labor & Social Network on Energy' will make a vision for another world.

Panelist Commentary 3

Shin, Ik-su
President, Korea Gas Corporation (KOGAS) Workers' Union

1. Introduction

Currently, the all-out induction of a market competition regime rooted in the global trend of neoliberalism and through this, the "maximization of efficiency" has already permeated all spheres of Korean society. In particular, while the "inefficiency"of a public sector that has been regulated under government control to forestall the harms of possible market failure is problematized, and the government has been driving the full-scale reorganization of the energy industry centering on electricity and gas sectors in the name of reforming industry structure.

As a key industry supporting citizens' daily life and the fundamental matrix supporting the Korean economy for decades, the energy industry has grown to meet increased demand with the expansion of the economy and guided by the goal of ensuring a stable energy supply. Naturally, the core value and the functional role of the energy industry was a role for the public good, as encapsulated in the term, *Sahoi Gonggong-Seong* [for the larger social and public good, the social and public character of energy provision].

However, the government is now claiming (1) that electricity and gas which epitomize public goods should be traded as privately-owned commodities on the market, and (2) through this market, that proper upkeep of these industries will be maintained, and (3) that rather, this would serve to step up efficiency. Since the times of the KIM Dae Jung

presidency, these assertions culminated in the government policy of privatization by putting public enterprises on the sales block or splitting them up for sale to private owners.

Workers mounted a full-scale strike and unrelenting resistance struggles, and although workers have met some success in halting the partition of the energy industry and blocking the enactment of a new [neoliberal] gas industry law, or have met some success in slowing the pace of such policies, the overall situation remains the same. Not too long ago, South Korean President ROH, Moo-hyun commented that already, power has been shifted to the market. If he wanted to be more explicit, he ought to have said that power had been given not to the market, but to capital.

Indeed, should we really degrade the value of "the social and public good"? Is handing over the public sphere, in particular, the energy sector, to the market for safekeeping really the right thing to do? Is marketization the only path to enhancing public sector efficiency? If we call the question, is it really true that the "social and public good" and "efficiency" are challenges that are at odds with one another? In the midst of closer scrutiny, self-censorship, and struggle, we in the workers' movement have concluded that the answer is a resounding, "NO!"

However, there is another important question that deserves our attention. Does this then mean that we ought to be satisfied with the current energy system and deem it just? Have we honestly carried out an evaluation of our workplace and the current industrial system from the viewpoint of workers employed within the energy system [and thus may be uniquely positioned to make a contribution to our society]? If we have, are there no alternative energy systems that better conform to universal values? If there are, then what alternatives and what praxis should we be preparing for and implementing?

2. Workers' Movement Reflections about the Previous Period

In reality, we as workers employed within the energy industry just kept our eyes focused on the road in front of us and kept running [metaphorically] during the decades of energy sector development, expansion of scope, and rapid enlargement of role. What I am saying is that we did not earnestly reflect upon the standing of the energy sector within the state sphere, and we did not self-examine ourselves for what workers in such a sector should see as their social role. But after the Asian Financial Crisis and IMF bailout of Korea, we started thinking about such issues only because we were looking straight into a vortex of industrial reorganization forced upon us by external forces (concretely, power and capital).

However, the first step we took was to fight violations of fundamental labor rights. Of course, this basic class demand is quite just. However, besides undertaking struggle, we also undertook comprehensive research and review of the energy industry, and through that, we were able to deepen our conceptualization of a progressive position and role for workers employed in those industries. This position and role is captured in the "*Sahoi Gonggong-Seong* [social and public character]" agenda we are promoting and the role of workers in the public sphere.

If we look at just the Korean gas industry, changes have been afoot for the last 5 or 6 years of an industry that has a history spanning 22 years. In February 2002, about 2 years after the government announced their policy of reorganizing the energy industry (November 1999), we raised the banner of defending *Sahoi Gonggong-Seong*[the social and public character of the energy industry] and began an all-out struggle despite our lack of a more refined understanding [of our role in furthering the social and public good]. Afterward, in the course of continued struggle praxis, we were able progress toward a more content-rich foundation.

In retrospect, our initial conceptualization of reinforcing the social and public character of the energy industry was grounded in the economic sphere, where we were concerned mainly about energy as a universal service supporting the value of social equity. Perhaps we could not have helped having such limitations as that initial period was characterized by tense urgency, but after undergoing struggle and our own praxis, now, the workers' conceptualization of the "*Gonggong-Seong*" (public character) agenda has developed into a more enriched and expansive conception. Of course, we are still in the beginning stages; however, we ourselves are examining the problems within the Korean energy system and we have started to concretely examine the challenge of transforming our current energy system to one that is sustainable and based in environmental awareness. We ourselves are just awakening to how our attitudes were shaped by and enwrapped in the economic efficiency [discourse].

3. Transformation of the Energy System and Natural Gas

Last February, the government announced a set of comprehensive countermeasures to prepare for implementation of the Framework Convention on Climate Change under the Kyoto Protocol; the plan includes expanding the supply of environmentally-friendly energy from domestic sources, with the aim of raising the proportion of new and renewable energies in the energy mix to 5% by 2011, and to call 2005 the "Year 1"for new and renewable energies. Of course, we desperately need to proactively develop and put into use energy from renewable sources and maximize the efficiency of energy usage.

However, if we examine our reality before inflating our hopes, South Korea's dependence on foreign energy exceeds 97%, and in absolute terms, South Korea is an energy importing country: South Korea rates number 6 in consumption of petroleum globally, rates 3rd in import volume,

and has a domestic energy-development rate of 3%, which does not even reach the levels of Japan (11.4%) or international levels for independent development of energy resources. Like other nations throughout the world, the South Korean energy industry structure is completely dependent on fossil fuels. Additionally, the Korean economy has an industrial structure with high energy consumption levels, with Korea consuming 3 times more energy than Japan, and South Korea ranks 9th in the world in terms of greenhouse gas emissions.

Under such conditions, the problem of transforming the Korean energy system will hit up against many difficult realities. We cannot help but raise the issue of how can we overcome such realities and at the same time, ensure a soft landing, so to speak, for a new alternative energy system. To restate the problem, how can we stop the expansion and consolidation of the existing energy regime while bridging the shift to a new renewable energy system? Here, the potential role of natural gas in the transition period deserves some attention.

Natural gas is a fossil fuel; however, it does have relative advantages. In comparison to oil, coal and other fossil fuels, natural gas is relatively cleaner for the environment as its combustion releases lower levels of hazardous substances. Currently, the economical efficiency of natural gas is lower than that of other fossil fuels; however, by supplementing existing systems, natural gas can be made economically efficient. Of course, it is also true that in comparison to renewable energies at their current level of technological development, natural gas is highly economically efficient. On this basis, natural gas can act as a bridge enabling a "soft landing" in the transformation to an alternative energy system. Here, we can place importance on the role of natural gas in the transitional shift to a new energy system.

Since the Korean natural gas industry began in 1983, it was supported by government policies such that after continuous growth, it occupies11% of the current energy mix. Of course, petroleum is the undisputed leader in that mix, accounting for 47%. However, without policy reform, natural gas will only retain its current proportion.

A precondition to expanding the use of relatively-cleaner natural gas would be securing a stable supply and fulfilling many other considerations. However, the bigger obstacle right now is the government's policy to reorganize the gas industry. How this will play out is a critical variable affecting whether natural gas will play a role in easing the transition to a new energy system. If the government achieves its policy of handing over natural gas to the market under the rationale of boosting economic efficiency, it goes without saying that this would not only rule out the role of natural gas from an environmentally-concerned viewpoint, but also have profound consequences pushing the social and public sphere into crisis.

4. The Government's Plan to Restructure the Natural Gas Industry

It has been 6 years since the government first announced its 1999 privatization plan to split KOGAS (Korea Gas Corporation) into 3 companies and sell them off. Through unrelenting struggle, including a strike, by the trade union, the plan to split up and sell KOGAS was withdrawn, the enactment of a law for this in the National Assembly was halted, and the bill was not tabled but rather completely scrapped. However, after [current president] ROH, Moo-hyun ascended to the presidency, the government has continued its policy drive of subjecting the gas industry to market competition, but has promoted it in a more sophisticated form. Rather than a heavy-handed splitting up of KOGAS and selling the parts off, the current drive consists of "injecting new market players"by allowing high-volume consumers to directly import LNG to foster the growth of potential gas market entrepreneurs.

Currently, steel giant POSCO directly imports its own LNG, which it stores in its own storage facility (receiving terminal), and under government mediation, KOGAS has concluded a contract with POSCO for use of its distribution grid. Another huge corporation called SK will be able to directly import LNG to fuel power generators starting in the second half of 2005. The government has also granted the GS Caltex Corporation permission to directly import LNG and has authorized the construction of a storage facility (receiving terminal) for this purpose. These large corporations plan on growing into natural gas importers and sellers sooner or later. The government has been pressuring later-movers (later market entrants), starting with the power generator companies, to participate in a domestic gas market, and the numbers of these domestic market players will swell.

The government has also been preparing institutional mechanisms to support this. Even though the government recognizes the need for institutional regulation and harbors concerns that hastily multiplying the number of gas importers will have serious repercussions on the stability of supply, the government instead suddenly drafted bills to amend enforcement orders and enforcement rules for existing laws without even issuing a notice that such amendments would be promoted. The government-proposed bills would (1) facilitate the entrance of new market players by deregulating the criteria for owning an LNG storage facility for gas importers and (2) introduce an open access regime to allow joint usage of existing receiving terminals and transmission networks.

Additionally, since last April, the government began secretly promoting outside contracts to pave the way for the government energy industry restructuring plan. The contracts give permits to new gas importers/sellers (mainly the ones that have been mentioned above as having received authorization for import and sales activities) and apportioning/transferring KOGAS long term gas import contract volume to these new market entrants

while allowing use of KOGAS facilities on a non-discriminatory basis. That is, in the final analysis, such measures have the same thrust as the "split up and sell off" government policy of the past, and what the government is doing is pushing for full scale marketization. It is clear that this will give rise to all kinds of harms, including endangering the stability of supply and stable gas prices for consumers. The government policy is to complete all of this, including enactment of the laws, by June of 2006.

Furthermore, the government has been pushing all of its measures despite the fact that tripartite discussions (currently in the 8th round of discussions)which were the outcome of a labor-government pact after the 2002 gas workers' strike are still underway. If the government proposal becomes reality, we will see the destruction of not just the possibility of natural gas facilitating the way to an environmentally-friendly future, but also the undermining of the social and public good as well as economic efficiency.

5. Changes in the World Natural Gas Market and the Challenges Ahead

In the last 2 - 3 years, there was a period when owing to technological advancements in the LNG industry and competition among suppliers, the world LNG market temporarily shifted from a seller-dominated market to a buyer-dominated market with price cuts and flexibilization of contract conditions. The underlying reason behind this turn of events was the restructuring of major industries by governments accompanied by the global trend toward structural reorganization. But recently, with the precipitous increase in LNG demand from North America and Europe combined with high oil prices, the world LNG market is quickly turning into a sellers' market again.

If we look at prospects for the future, the USA consumes about 500 million tons of natural gas annually, that is, about a fourth of the global gas consumption, and currently, the natural gas resources in the North American region are being depleted, spurring North American interest in LNG, and while LNG import volume accounted for 2% (10 million tons) of total gas consumption there, by 2010 LNG demand will grow sixfold and by 2020, North America will become the world's number 1 importer of LNG. Recently, the U.S. Department of Energy stated that they expected natural gas imports to increase by 700% of current levels in 20 years. China is also expected to begin importing LNG from around 2006-2007, and people are predicting that by 2020, China will consume 190 million tons of gas per year and LNG will comprise 50% of that consumption. For India, an exponential increase in demand will lead to an annual consumption of 50 million tons by the year 2015, and 1/3 of this volume will probably be supplied by LNG.

Thus, world demand for LNG is expected to triple by 2020, and in keeping with this trend, recently, it has been reported that there are signs that natural gas exporters are moving toward creating an OPEC for natural gas producers, the ONGEC (Organization of Natural Gas Exporting Countries Forum). That is, now it is becoming possible that like petroleum, natural gas could be subject to supply shortages and exporting nations could coordinate prices. About 6 days ago, Bloomberg quoted the consulting company Facts, which reported that with rising futures prices for LNG in the USA, the Korean Gas Corporation (KOGAS) and other companies in Asia would have to bear 75% higher prices for purchasing LNG in the next 5 years.

There is a strong possibility that in the future, Koreawhich has coordinated its natural gas industry purchases through KOGAS, a unitary enterprise and the largest importer in the world can drop from ranking

number 2 among gas importing nations to a small-scale buyer and thus experience a relative contraction of influence. Additionally, the structural nature of the natural gas industry is capital-intensive and characterized by production after settling the order contract; thus, it is not possible to structure the supply system to immediately respond to demand spikes and the natural gas industry is subject to inflexibilities owing to price coupling with oil prices that makes natural gas prices rise when oil prices are high.

Despite such a situation, Korea, in the name of "reorganizing the energy industry," has zealously pursued for 6 years a market competition regime by encouraging new market entrants, mostly private capital, into a domestic market with an annual demand of 20 million tons and expecting that this marketization would enhance efficiency. This assiduous diligence toward marketization is exceedingly "model-student-like." Last May, the government, while exhorting the rhetoric of advancing "the public good," decided to have KOGAS invest in stocks of gas fields abroad and put the estimated 50 billion won of dividends received into lowering gas prices for customers. The trade union argued that such funds should be reinvested into a fund for energy industry development or invested into a fund for developing foreign resources; however, the government would not accept this proposal. The average household would experience a measly 5,400 won price savings annually; yet, the government calls that "advancing the public good, "which just goes to show how shallow and cosmetic the government's thinking is on the current thrust toward energy industry reorganization. In long term contracts, concluded at the beginning of this year, for LNG imports beginning in 2008, the government's clumsy efforts at inducing KOGAS and power generators to compete with one another only earned gas suppliers' ridicule and led to a negotiation process where suppliers could play us off one another. Of course, we also lost the opportunity to conclude a better agreement.

In the final analysis, the government's gas industry reorganization plan cannot ensure reliability of supply and endangers energy security, which has received more attention recently, while bringing about profound distortions of the national energy supply system. Further, we cannot even harbor expectations for stable price levels. In the midst of this, even though we had been thinking about what role the gas industry could play in the transition to a sustainable energy system, such a reorganization would make any efforts at putting [this vision into] practice immediately meaningless. While for some time the fight against privatization and energy-industry marketization centered around the trade union, the urgent task before us now is for people from all backgrounds to join in solidarity to beat back energy industry marketization, and, although it is a bit late in the day, for us all to craft a new paradigm for the energy industry. There is not much time left, but we should call to mind that we will not be given another chance if we fail.

International Symposium

"Envisioning a Renewable Public Energy System through Solidarity between Labor and Environmental Movements"

Part 2.

Critique of Energy Industry Marketization and Our Tasks.

▲ Moderator : **Na Sang-yoon**(Policy Director, KPSU)

▲ Agenda Presentation

① *Critique of the Global Project to Privatize and Marketize Energy*

- **Prof. Sharon Beder** (Wollongong University, Austrailia)

② *Critique of Energy Industry Reorganization in Korea and the Challenges Ahead*

- **Prof. Ahn Hyun-Hyo** (Ehwa Womens' University, Korea)

▲ Panelists

① **Steve Thomas** (Senior Fellow, Public Services International Research Unit)

② **Shin Jong-seung** (President, Korean Power Plant Industry Union)

③ **Surasak Saehao** (Deputy General Secretary, Labor Union of Electricity Generating Authority of Thailand)

Critique of the Global Project to Privatize and Marketize Energy

Prof. Sharon Beder
University of Wollongong, NSW, Australia

Dozens of governments have embarked on the pathway to electricity deregulation and privatisation since the mid-1990s. It has become the accepted wisdom amongst governments and opinion leaders despite the consequent price rises and disasters that have followed in its wake: the series of blackouts that have been experienced from California to Buenos Aires to Auckland; the government bailouts of electricity companies that have been necessary in California and Britain; the need for electricity rationing in Brazil; and the fact that it has become too expensive for millions of people from India to South Africa.

Electricity deregulation and privatisation is referred to as 'liberalisation' by its advocates who use the term to disguise what is in essence a massive shift of ownership and control of electricity from public to private hands, in the name of economic efficiency and in the cause of private profits. 'Liberalisation' has meant that maintenance teams that were once fully staffed have been dramatically cut leading to frequent equipment failures. It has meant that privately owned electricity conglomerates are able to blackmail governments into bailouts and high prices with threats of blackouts. And it has meant that the planning function of electricity authorities that once ensured adequate generating reserves for times of peak demand, and kept infrastructure up to date in developed countries, have been abandoned to market forces. Because of market forces electricity prices are based, not on the cost of production, but on how desperately consumers want electricity and this has led to sky-rocketing prices whenever private companies have been able to limit supply in times of high demand.

The privatisation of electricity is not something that citizens have demanded nor wanted. In general, there has been very little public participation in electricity reform decisions and as the consequences are observed, there have been many bitter protests

against electricity privatisation. Popular uprisings have occurred in Argentina, India, Indonesia and Ghana. Protests have halted privatisation proposals in Peru, Ecuador and Paraguay. In the Dominican Republic several people were killed during protests against blackouts imposed by privatised companies. In South Africa thousands marched during a two day general strike to protest privatisation, which they labelled "born-again apartheid". In Papua New Guinea students were killed when thousands rallied against the planned privatisation of government services including Elcom, the electricity authority. Even in China, workers protested the sale of a power plant in Henan province to a private company and threatened to "block the state highway and lie on the railroad while the trains run over us".[1)]

So why are governments around the world ignoring public opinion? How have governments been persuaded that electricity is just a commodity that should be traded in the market place like pork bellies, rather than an essential service that needs to be controlled and supplied by governments to ensure its availability, reliability and affordability?

During the 1970s business interests promoted a combination of neoclassical economic theories and economic or market liberalism (referred to as neoliberalism). Its basic policy formula involved government spending cuts, privatisation of government services and assets, and deregulation of business activities; all in the name of free markets, competitiveness, efficiency and economic growth. This formula, sometimes referred to as the Washington Consensus, was adopted willingly in many developed nations and imposed on developing nations by the World Bank and the IMF as conditions of their loans.

The Washington Consensus placed an "exaggerated faith in market mechanisms"for solving economic problems and it gave economic goals priority over social goals, destroying socially beneficial traditions and desirable aspects of cultures in the process. Government social services have been decimated. In the end the responsibilities of governments are likely to be reduced to little more than law and order and national defence.[2)]

1) Mark O'Neill. 'Power Plant Sale Agreement Sparks Outcry from Workers.' *South Chhina Morning Post.* 20 August, 2001, p. 3.

The public sector was broadly characterised by right-wing think tanks and neoliberal economists as "bloated and inefficient". Publicly-owned and state-regulated electricity monopolies were claimed to be so wasteful and inefficient that private companies competing in a free market could save enough money to both cut prices and make a profit. But the supposed inefficiency of publicly-owned electricity providers was often unfounded rhetoric used to gain and maintain private control. It was belied by the cumulative evidence of one hundred years of electricity provision all over the world. Publicly-owned electricity enterprises have consistently provided electricity at no greater cost than privately-owned enterprises and often for prices that were far less than those charged by private companies.[3)]

One of the first countries to adopt market-oriented reform was Chile when General Pinochet ousted the democratically-elected Marxist government of Salvador Allende in 1973, with the support of the US government. Britain followed suit in 1990. Both Chilean and British privatisation were experiments driven by business interests and shaped by a mix of neoliberal dogma and, in the case of Britain, pragmatic politics. Yet they became models for countries that followed.

The rise of Thatcherism in Britain can be attributed in large part to the endeavours of two think tanks, the Institute of Economic Affairs (IEA) and its offshoot, the Centre for Policy Studies (CPS) founded in 1974 by Keith Joseph and Margaret Thatcher. The CPS published *Privatize Power* in 1987 which accused the Central Electricity Generating Board (CEGB) of being inefficient, inflexible and secretive. It recommended the separation of the CEGB into generation, transmission and distribution companies. This is what eventually happened in Britain and in countries that followed suit.

In 1979 Margaret Thatcher thought her party's privatisation plans to be too controversial to mention in the election campaign. However many businessmen were

2) Frank Stilwell. 'Economic Rationalism: Sound Foundations for Policy?' In *Beyond the Market: Alternatives to Economic Rationalism.* ed Stuart Rees, Gordon Rodley and Frank Stilwell. Leichhardt, NSW: Pluto Press. 1993, p. 36; John Williamson. 'In Search of a Manual for Technopols'. In *The Political Economy of Policy Reform.* ed John Williamson. Washington, DC: Institute for International Economics. 1994, p. 17.

3) Many examples are given in Sharon Beder. *Power Play: The Fight to Control the World's Electricity.* Melbourne and New York: Scribe Publications and the New Press. 2003

persuaded that government supplied services such as electricity were too expensive because of inefficiencies and because of the social goals that they pursued, such as equity and employment. They believed that the lack of competitiveness of government providers made private industry uncompetitive too.

Deregulation in the US was primarily driven by business interests; in particular, industries that used large amounts of electricity and wanted to be able to reduce costs by doing deals with competing suppliers, and private power companies that wanted an opportunity to make profits from the electricity business previously monopolised by the regulated utilities. For the same reason aspiring electricity traders (who buy power from generators and sell it to consumers and to electricity retailers) also lobbied vigorously for deregulation. The most prominent of them was Enron.

The Center for Responsive Politics points out that "during the first six months of 1996 alone, energy interests spent at least $37 million to lobby Congress and federal agencies on deregulation".[4]

In addition, millions of dollars were spent on "research, polling, television advertising and laying astroturf developing grassroots organizations".[5] Most of it was aimed at decision-makers, politicians and bureaucrats rather than the majority of electricity consumers.

The case for deregulation could not be presented in self-interested terms to the public. It had to be presented as being in the interests of the wider public. Groups such as the large industrial energy users utilised the language of free-market advocates to state their case in terms that were not too obviously self-interested. The neo-conservative think tanks provided that language and marketed the concept of deregulation as being in the public interest. The business media also played an unquestioning part in promoting deregulation.

A plethora of corporate front groups and coalitions were formed to promote deregulation including the Alliance for Competitive Electricity, Citizens for State Power, Electric Utilities Shareholders' Alliances, the Alliance for Power Privatization,

4) Center for Responsive Politics. 'Power to the People? Money, Lawmakers, and Electricity Deregulation.' http://www.opensecrets.org/pubs/cashingin_electric/contents.htm. opensectrets.org. Accessed on 4 January 2001.

5) James Walsh. *The $10 Billion Jolt.* Los Angeles: Silver Lake Publishing. 2002, pp. 53-4.

and the Coalition for Customer Choice in Electricity. Americans for Affordable Electricity coordinated the campaign for deregulation and spent $4 million a year on it on top of what each of its members spent. For example, Enron spent $25 million in just six months and allocated $200 million a year for advertising to win customers and "to persuade Americans to demand faster deregulation".[6] It also spent many millions more on political donations and lobbying state and federal politicians.

In Australia, privatisation was also driven by business interests and the think tanks they funded. During the 1980s neoliberalism was promoted by business groups, which saw government reform as a way of reducing their taxes, increasing investment opportunities and, in the case of the reform of government enterprises such as electricity, as a way of decreasing the cost of infrastructure provision to themselves.

Businesses were aided in promoting privatisation and deregulation in Australia by a network of government and industry-funded research institutions including "the Industries Assistance Commission, the research arms of the Treasury and the Department of Finance, the Bureau of Agricultural Economics, Industry Economics and Labour Market Research".[7]

During the 1980s the expansion of electrical infrastructure in developing countries had been financed by government borrowing from abroad because of a shortage of local capital. Debts built up because local consumers could not pay high enough prices to pay off those loans. In the 1990s, because of the high debt levels, the development banks stopped lending developing countries money to develop their own infrastructure and encouraged them to rely instead on foreign investment. The trend towards the private sector financing and construction of electricity generation has increased around the world.[8]

The major international lending banks and development agencies have all

6) Allen R. Myerson. 'Enron, Seeking to Be a Household Name, Plans to Start Its Campaign on Super Bowl Sunday.' *New York Times.* 14 January, 1997

7) Tim Duncan and Anthony McAdam. 'New Right: Where Is Stands and What It Means.' *The Bulletin* 10 December, 1985, p. 38.

8) Asian Development Bank. 'The Bank's Policy Initiatives for the Energy Sector.' Philippines: Asian Development Bank. May 1995 R. David Gray and John Schuster. 'The East Asian Financial CrisisFallout for the Private Power Projects.' *The World Bank Group - Public Policy for the Private Sector* August, 1998, p. 1.

promoted a policy prescription for developing countries that includes privatisation of state-owned enterprises and liberalisation of access for foreign investment in those enterprises. This policy prescription has benefited banks, multinational corporations and international financial institutions, often at the expense of local business, and always at the expense of the poor. In Africa such 'assistance' has caused a 23 percent drop in incomes. In Russia it has caused national production to be halved.[9)]

International financiers are also helping promote privatisation. Instead of loaning money to third world governments they now loan the money to foreign investors to construct and operate the infrastructure in developing countries. In this way independent power producers (IPPs) are financed and the electricity produced is then sold to existing state utilities who distribute it to customers. This is seen to be a first step towards privatisation.

During the 1990s almost US$187 billion of private money flowed into the energy sectors of 76 developing countries, as a result of World Bank and IMF liberalisation and privatisation policies. Today in developing countries the private sector is "an important financier and long-term operator of infrastructure activities"including electricity. The projects of the ten largest investors accounted for over a third of all investment in this sector.[10)]

Foreign investment is supposed to provide developing countries with much needed capital. However, the extent to which this foreign investment makes additional capital available for infrastructure development is questionable. Where full privatisation has taken place, as in Latin America, foreign direct investment (FDI) is increasingly going into mergers and acquisitions of existing enterprises rather than financing new investments and infrastructure. In fact between half and two thirds of FDI worldwide consists of such mergers and acquisitions.[11)]

This has also occurred in Asia since the Asian crisis. "In 1998, for example, while

9) Gregory Palast. 'IMF's Four Steps to Damnation.' *Observer*. 29 April, 2001, p. 7.

10) Ada Karina Izaguirre. 'Private Participation in Energy.' *The World Bank Group - Public Policy for the Private Sector* May, 2000, pp. 1-3.

11) Chakravarthi Raghavan. 'FDI Is No Panacea for South's Economic Woes.' *Third World Resurgence* October/November, 1999

total FDI flows to the five Asian countries affected by the crisis declined by $1.5 billion, cross-border M&A in those countries is estimated to have risen to more than $3 billion." Mergers and acquisitions enable foreign corporations to take advantage of a crisis situation when local share prices and market values are down. Much of this activity has occurred in the services sector and is associated with privatisation programs.[12)] "Similarly, new commercial bank lending albeit on a much smaller scale is being used to restructure existing external liabilities rather than invest in new plant and equipment."[13)]

In the case of Independent Power Producer (IPP) projects new infrastructure clearly results from foreign investment. However, the amount of money invested is small compared with the amount of money paid back by local utilities, often in foreign currency, money that then leaves the country. For many IPP projects, foreign investors only put up, on average, 24 percent of their own money. The rest is obtained through loans, mostly from foreign banks and agencies. IPPs expand capacity at a very high cost that in fact increases government spending and foreign debt, inhibits competition, blunts technological innovation and increases consumer costs.

Privatisation is good for the banks because the money raised by the asset sales helps governments to pay the interest on their debts, at least in the short term. It is also good for multinational corporations because they are able to buy profitable government assets and have more opportunities to sell their products and services into new markets, often with heavy tax-payer funded subsidies. However, privatisation of services such as electricity have led to more unemployment and increasingly unaffordable prices, often without improving the quality, capacity or reliability of the electricity system.

Brazil privatised its electricity system in 1995. It was purchased by a complicated web of foreign private investors including Enron, which alone spent over $3 billion in Brazil buying up existing infrastructure. Brazil was once admired and envied for its plenitude of cheap electricity made possible by harnessing wild rivers but in 2001 this system broke down. The heart of the problem was the British model upon which

12) Ibid.

13) Chris Adams. 'Privatising Infrastructure in the South.' *Focus on Trade* May, 2001

Brazil had structured its privatisation. Consumers experienced massive price rises while the foreign owners repatriated profits and avoided investing in new generating capacity.

India, like Brazil, was pressured to privatise its electricity by the IMF and the World Bank. Enron used its political influence with US embassies and the CIA to win a $3 billion contract to build the Dhabol Power Plant south of Bombay in 1992. This was the largest foreign investment in India. Locals protested the environmental and social impacts of the project whose electricity was both unreliable and heavily polluting. It charged so much for electricity that the state government ended its agreement to buy the electricity in June 2001 and the plant was forced to shut down.

Electricity privatisation and deregulation have all the elements of a successful confidence trick. The deception or *trick* has involved persuading the public and the politicians who represent them, that a dramatic alteration in the governance of their electricity systems would be in the public interest. Electricity consumers were promised electricity rate cuts, better service and 'consumer choice' as a result of the competition that deregulation would foster. Governments were promised reduced budget deficits and less responsibility for an increasingly complex and capital-intensive service sector.

Governments, entrusted with carrying out the will of the people and protecting public assets, have been coopted by all manner of devises, ranging from the sophisticated persuasion of well-funded think tanks to the less than subtle pressures exerted by international lending organisations, all combining with frequent and generous financial contributions to the campaign funds of political parties and offers of future career opportunities for retired politicians and bureaucrats.

As a result there has been a massive *transfer* of ownership and control over electricity assets worldwide from the public to private companies. The companies that have taken over electricity provision in most countries are multinational companies with little interest in the welfare of local citizens. Increasingly these companies are concentrating through mergers and acquisitions into a small group of very large conglomerates that dominate national and international electricity provision. Electricity restructuring and privatisation has also resulted in massive job losses. In

Australia alone, employment in the electricity sector fell "from about 83,000 in the mid-1990s to today's 33,000 workers..."[14]

It is clear that the vast majority of people in each country where the great electric confidence trick has been played are its victims rather than its beneficiaries. Jobs have been lost, electricity prices have risen, service and reliability has fallen, pollution has increased, and taxpayers have had to bail out private electricity companies in bad times without receiving any dividends in good times.

14) Nigel Wilson. 'Power to the People.' *The Australian.* 26-27 April, 2003, p. 25.

[Abstract]

Critique of Energy Industry Reorganization in Korea and the Challenges Ahead

Prof. Ahn Hyun-Hyo
Ehwa Womens' University, Korea

Restructuring in the power industry - the electricity and gas sectors - in Korea is characterized as follows: 1) reform in the industrial structure through horizontal and vertical division, 2) privatization of the divided public or state-owned companies, 3) government's involvement from direct intervention to competition and regulation policies to regulate business activities of private companies. Suggested proposals on vertical and horizontal divisions and privatization, however, are no more than a transfer of public monopoly into private mono/oligopoly, so it cannot actually guarantee the enhancement of efficiency and stable growth in energy industry in Korea. Furthermore, the privatization centered restructuring of the Korean energy industries was driven more largely by socio-political circumstances than by theoretical reasons such as inefficiency and insufficient supply of energy industries. In this article, I regard global trend of privatization in the public utilities' sectors emerged from 1980's as a major external motive and the 1997 financial crisis in Korea as a major internal motive. But, ironically those two situations functioned as the elements to withdraw the privatization in the power industry, owing to the drawbacks of these motive themselves.

As the external motive of energy industry restructuring in Korea, the global trend of privatization in the public sector caused sharp rise in the electricity rate, stability crisis in the power supply(e.g blackout) and deterioration of power companies' financial situations such as bankruptcy of a nuclear energy company, Enron scandal, etc., making the privatization trend flag. On the other hand, as the internal motive of energy industry restructuring in Korea, the neo-liberalistic privatization policy in

Korea right after the financial crisis also gave birth to counteractions and confusion due to the lack of public consensus on that matter.

In this article, after summarizing the process of energy industry restructuring and hesitation of the process, I investigated the problems of energy industry restructuring mainly focusing on the power industry and gas industry.

The problems of restructuring plan in the power industry are summarized as follows:

First, model of the energy market lies in the core of problems of the power industry restructuring plan. Under the current CBP(Cost-based Pool) market system, the government sets cost price so that there's no price flexibility, and divided generation companies join bidding only in quantity not in price. Besides even if failed in bidding, "capacity payment system" guaranteeing fixed cost allows wholesale price to remain stable.

Meanwhile, under the marginal pricing principle, unlike rate of return system as average pricing system, generation cost is likely to increase, owing to the fuel composition, so now BLMP(Base-load Marginal Price) complementing the system is used to control the raise in the prices.

Generation sector accounts for large portion of electricity rate(65.4% of cost), and fuel cost accounts for the most portion of generation cost. Considering peak load fuel is the most decisive factor in deciding generation price, if the System Marginal Pricing is applied, climbing in generation price is unavoidable. Additionally, TWBP(Two Way Bidding Pool) market system in Korea adopts mandatory pool system, which is no more used in foreign countries. So, it is needed to review the system by fully considering foreign cases. The present market design is vulnerable to market domination and includes the possibility of electricity rate increase. As a whole, the power market resulted in the crisis of power supply or price peak here and there in the world. For example, California in the United States, Ontario in Canada, Brazil, U.K. had difficulties such as price peak, unstable power supply and anti-competitive behaviors of generation companies. Therefore, it seems desirable that the government gives up the present design of uncertain energy market and

transfers of the SO function of KPX, which was established under the supposition of the energy market system creation, to KEPCO to save unnecessary cost.

Second, separation of distribution function from KEPCO, which is the second restructuring step in the continuous restructuring process, will result in the uncertain energy market, and the revenue gap between divided local distribution companies makes different retail electricity rate applied by local communities. And besides, it is highly likely that some financially defected electricity distribution companies go bankruptcy and ordinary citizens become victims of it.

Third, we can raise a question on the efficiency of divided generation companies. In that the current electricity market can not perform in the form of the perfect competition market system, competitions in the industry are yardstick competition, which not price(revenue) but cost is used for competition. And under the current competition system, most of net-profits of generation companies are from external factors outside of management performance such as exchange rate, drop in fuel prices, etc not from internal factors such as managerial efforts to reduce unnecessary cost.

Given the above, reintegration of divided generation companies to KEPCO can save added management cost owing to the separation, cost through joint purchase of fuel and investment cost owing to credibility increase.

Forth, Korean Electricity Commission(KOREC), a regulatory authority, should function better. Irrespective of types of power industry structure, role of public regulation should be advanced. Direct control that has so far adopted actually has laid an obstacle on reasonable and democratic regulations due to the lack of independency and professionalism. So, Korean Electricity Commission should secure an independent status under the direct Presidency, not under the government. Fair Trade Commission and Korean Broadcasting Commission can be good models for it in that they are already organized with politically independent status. Also, Public Regulation Commission, following the cases of Public Utility Commission in the United States, which is responsible for regulations, should be created and should enhance procedural transparency by opening all minutes to secure its nature as public services.

Fifth, net should be improved. Open access is needed to improve the situation that private sector's involvement is prevented from the start under the conventional single and monopolized energy company system. To prohibit unfair competition requires public monopoly company to open the management information in transparent ways and to change its decision-making process into more participatory form. But, open access is actually underway through amendment in the relevant act("Electricity Industry Act", Dec.30, 2003), so it is expected that regulations root out unfair competition and government support for environmentally-friendly generation companies facilitates advancement of the power industry efficiently.

Next, I have reviewed and evaluated the process of restructuring of the gas industry.

The official purpose of restructuring of the gas industry is to enhance the efficiency of the industry, to strengthen competitiveness, to stabilize the supply, to optimize the investment and to make the management of Korea Gas Corporation more efficient. However, given the unique situations of Korea and special nature of the gas industry, it seems difficult to achieve the aims only with market-based restructuring.

First, the goals that should be considered in this industry are environmental issues, national energy policy related to energy security, energy cooperation in the North-East Asia region, and the competitiveness enhancement of the gas industry at the global level. Present plans including unbundling of KOGAS' import business monopoly are known to have various drawbacks such as TOP(Take or Pay), SOP(Ship or Pay) costs. Facing these problems, the second alternative which was suggested by the government is deregulation such as the permission of direct import without KOGAS. It is questionable whether or not the first or the second alternative can cope with the goals of the gas industry in Korea. In fact, for international competitiveness, even the integration between the gas industry and power industry are needed. Price trend after restructuring of the gas industry in foreign countries are moving to over supply(buyer's market) from short of supply(seller's market), but it is likely for the trend to return to short supply(seller's market) due to the increase in the LNG demand. Under these circumstances, we have to develop production sector. But

unfortunately, the current KOGAS investment project already requires a great deal of money.

Second. considering the unique characteristics of the gas industry in Korea, balance between demand and supply of LNG is the above-all important, since market based gas industry in Korea can lead to 'fallacy of composition' in terms of the TDR(Turn Down Ratio) management, flexibility of import, better management of facilities and enhancement of efficiency in the demand forecast are needed. In terms of demand pattern, gas demand for residential pirpose is easy part for demand forecast despite of high TDR, while demand for generation is almost impossible part to be forecasted. Given that the construction of storage facilities takes more than 40 months while import contracts are 20 to 25 year long term contract, supply rigidity also may remain tough part to be solved for a long time.

Third, the gas industry restructuring is counteractive with the power industry restructuring. In the generation industry of Korea, gas part is in charge of peak load, and as a result of restructuring of the power industry, when marginal principles are applied and unstability of demand and supply such as nuclear energy accident happens, the rapid permission of direct gas import for generation makes gas generation companies using gas directly take more risk. Besides, the PNG development also will aggravate the difficulty of demand management. But, the fact that the portion of gas for generation is relatively low(in advanced countries, gas for electricity accounts for more than 50% while in Korea, city gas for residential is extraordinarily high) shows well that there is a high possibility for gas demand for electricity.

Then, considering these factors, what is a desirable structure of the gas industry?

First, separation of import and wholesale or additional direct import deregulation should be stopped. In the case of permitted direct import up to now which is already introduced, should be sold only to wholesaler (in the case of Korea, KOGAS) so that they can make mixed pool with KOGAS's import, which will enable supply price of gas in a single rate. And the reduction in cost price from the mixed pool can contribute to a decrease in the gas rate as a whole. In that case, it is possible to take a policy to drop the rate of gas for electricity while not increasing the rate of city gas.

Therefore, with the strategic rate policy, swing consumer function of generation part in the past can be revived in the modern form so that high storage cost can be lower and environmentally-friendly energy can be developed.

Second, the development of production sector is required using economy of scale to meet the strategic target such as energy security, energy cooperation in the North-East Asia region, development of environmentally-friendly energy fuels. To some extent KOGAS and GENCOs which are both public companies, with appropriate strategic alliance, can make a cooperation for the development gas industry by guaranteeing the appropriate policy enough to secure the base of the gas industry. Also, KEPCO and KOGAS should consider entering gas production sector by working together.

When it comes to the current situation of the restructuring in the power industry, the generation sector in power industry was divided into 6 affiliated companies following that the power industry generation sector was divided from transmission and distribution sectors. But the next step of separation of the distribution sector from the transmission sector was canceled. And for the gas industry, due to various problems, the plan to divide the import contracts and privatization has been changed into deregulation on the direct import of demand for industry and generation. These situations demonstrate the power and gas industries in Korea are placed at middle between structural reformation (vertical and horizontal division and privatization) and reintegration of KEPCO and reestablishment of KEPCO and KOGAS as national companies, which emerged as a critic of the former trend. But those all contrasting views criticize the current energy system for its unstable nature.

Then, what approach is needed for the power industry in Korea in the 21st century? I would maintain that the change in the energy environment in the 21st century as well as the unique nature of the current system should be considered to seek for new alternatives based on the above analyzed issues and problems.

First, sustainable growth and environmentally-friendly policy is above all needed. The amount of imported energy reaches 38 billion dollars, accounting for 21.4% of the whole imported as of 2003. And Korea is the world's 9th largest country in terms

of green gas emission, and a variety of statistics say that the energy consumption per capita is at higher than middle level among OECD member countries, recording higher rate than that of Germany and England, Oil consumption in Korea ranks 6th and oil imports ranks 3rd in the world. If depending only on fossil fuels which are going to run out, we cannot avoid energy crisis in the long-term, and also environmentally friendly energy development can function as a huge obstacle. Therefore, it is needed to propose new vision of the power industry by controlling demand and developing pro-environment and renewable energy resources. For the future desirable power industry, comprehensive energy commission dealing with issues ranging from gas, oil, coal, nuclear energy to renewable energy resources, should be constructed, while encouraging trade union, consumers' group, public organizations and experts join the project in order to get more reasonable agrements.

Second, energy cooperation related to energy security in the North-East Asia region is required. Korea's Energy dependency rate on foreign countries is 97%, so the energy issues are likely to be a crucial point in the security discussion as well as it is closely related to development of the national economy. Japan records almost same in terms of energy dependency rate, but it now supplies 15% of the total amount of oil needed throughout the country to itself as a result of investment on the active development of foreign resources, while self-supply rate of Korea is only 2%. In that sense, the efforts to develop and multiply energy recourses are necessary for stable energy supply. And besides, also for peace and prosperity of the North-East Asia to solve the issue of North Korea's energy crisis, energy cooperation between countries in the North-East Asia region is required.

Third, the trend of global restructuring of the power industry should be considered. Despite of structural division in the power industry, the trend of vertical or horizontal integration of companies recently emerges and in some cases, companies are integrated even with the gas sector. And those integrated companies emerges as a multinational energy major by expanding their scale. Accordingly, to cope with these challenges of globalization it is required to have national champions to improve national competitiveness of the energy industry in this country.

Panelist Commentary 1

Costs of liberalisation and alternatives

Steve Thomas
Senior Fellow, Public Services International Research Unit

There are at least two major fallacies in the arguments put forward to support the liberalisation of electricity industries: that the reforms are essentially cost-free; and that one form of organisation of electricity industry, sometimes called the British Model, is appropriate for all countries regardless of their needs, the resources available and the traditions of the country.

1. Costs of competition

Costs can be divided into physical and social costs.

Physical costs

The most obvious cost is the risk premium on investment. One argument in favour of liberalisation was that the risk of investment would move from consumers to share-holders. It was argued that in the old monopoly system, if companies ran facilities inefficiently or construction costs over-ran, consumerspaid these extra costs, but in a competitive market these extra costs would fall on share-holders through reduced profits or even bankruptcy of the company. The flaw in this logic is that if investors are asked to bear risk, they will require some form of payment. In this case, there will be a risk premium on the cost of borrowing. In a monopoly market in Europe, the real annual cost of capital for an investment in a monopoly

facility, such as a transmission line might be 6-7 per cent. For a new power station, the cost of capital will be at least 15 per cent. Repaying construction costs and the interest is a major element of the cost of generation, perhaps a third of the total cost for fossil fuel stations. Is it plausible that the 'discipline' of the market and competitive pressures will really be so strong as to pay for a more than doubling in the cost of capital?

The other major cost, not anticipated, was that the infrastructure needed to allow competition is extremely expensive. In 1998 in Britain, retail competition for electricity was extended to all consumers so that residential consumers could choose their retail supplier. The cost, passed on to consumers, was then estimated at about US$1.6bn spread over 5 years to build and operate the software needed to allow consumers to switch. In fact, the software was very problematic and the costs have probably been higher. Allowing retail competition means that retailers have to spend money on marketing to attract new consumers and retain existing consumers. It has been estimated that the companies in Britain spend about US$200m per year on marketing and, of course, this is paid for ultimately by the consumer.

In 2001, a new design of wholesale electricity market was implemented in Britain. This cost consumers at least US$1.3bn spread over five years and, like the retail competition software, has proved problematic and will require continued investment of consumers' money.

Social costs

There are a number of social costs that liberalisation imposes, but all would be dwarfed by the costs that would be incurred if the supply of electricity is no longer reliable. The blackouts that occurred in Europe and North America in 2003 as a result of network failures and the massive disruption that occurred in California and Brazil in 2000 because of apparent shortages of generation illustrated these costs.

For generation, the assumption of the free market proponents is that market signals will be so precise and timely that exactly the appropriate amount of power stations will be available at all times. When there is a risk of a shortage, prices will go up and investors will assume that building a new power station will be profitable and if there is too much capacity, the price will go down and the least efficient generators will be forced out of the market. This is blatantly unrealistic. It also assumes that generators will not exploit the market for extra profit, an assumption that all experience shows is not true.

The only way round this without reverting to a formal monopoly is to control entry (building new power plants) and exit (retiring old plants) in the market and to impose rules on generators so that they always offer their plant for use when it is available and which limit their freedom to bid any price they want. Such a system will still be presented as a competitive market by governments and regulators, but will have few competitive elements left.

Issues with the network are more complex, but there are two main problems. First the unbundled industry model disconnects the network owner from the consumer. An integrated company is responsible for all elements in the value chain and has to ensure the adequacy of all elements if their consumers are to be satisfied. If an independent network company is to emulate the high standards of an integrated company, the Regulator will need to monitor standards carefully. This leads to the second problem, incentive regulation of network companies. Incentive regulation is meant to stimulate efficiency savings because the company can keep some of any savings as extra profits. However, how is the Regulator to distinguish between unsustainable cost-cutting and genuine efficiency savings? With companies now changing ownership regularly, companies could have sold up long before the consequences of their neglect are apparent.

Other social costs arise from cost-cutting in the labour force. Activities like training and R&D are inevitably cut back in competitive markets. Why

should a company carry out R&D when a competing company is likely to be able to use the results at no cost, and why should a company train its staff when they might move to a competing company that carries out little training?

Out-sourcing is also a likely consequence as companies try to cut costs (and increase profits) by outsourcing activities often to small companies with poorer terms and conditions of employment.

2. Alternatives

The fallacy of the promotion of the British Model was the one-size-fits-all approach, so in looking for alternatives, it is wrong to try to identify a universal ideal model. The approach must be to first identify the problems, then devise structures and mechanisms that deal with those problems and which are appropriate for the physical and skills resources available and which sit comfortably within the cultural and economic conditions of the country. International experience can be a useful means of identifying potentially useful options.

Problems

There is a wide range of problems that electricity industries face (or are said to face). These include:

▶ **Efficiency**. The priority for the reforms in developed countries such as those in Europe and the USA was to find a structure that can operate a mature set of assets with low demand growth more efficiently than the monopoly, often publicly-owned model. While it is clear that the old model was not perfect, the extent of any in efficiency was probably over-stated and the costs a worthwhile price for the security of supply the old system offered;

▶ **Government interface.** A particular problem for publicly-owned utilities is the management role that governments play as owners of the company. Achieving a good balance between legitimate management oversight of the company by the owners and destructive interference is difficult. The French model, now largely abandoned, of setting a 5-year programme of objectives and allowing the management of the company flexibility in how they meet those targets may be worth revisiting.

▶ **Lack of investment capital.** Particularly for some developing countries, this is the overwhelming problem. In some cases, the problem is due to tariffs that are too low. While raising tariffs is never a popular move, if it allows citizens that do not have access to power to receive it and it improves the service to existing customers, it will be a price worth paying. In other cases, publicly-owned utilities are prevented from investing because of restrictions on public spending imposed by the World Bank and IMF. While these restrictions might be justifiable for current expenditure, such as funding the civil service, they make no sense if they prevent capital assets being built that will materially increase the prosperity of the country;

▶ **Environmental impacts**. For some countries, such as China and some East European countries, reducing the environmental impact of electricity generation is a major priority. This has to be dealt with directly through strong regulation. There may be a role for some market mechanisms, such as emissions trading;

▶ **Corruption.** The World Bank focuses strongly on this issue, although it invariably sees it as an issue of corruption of government officials or employees of local companies. It seldom has anything to say about the corruption in large multi-national companies. The issue has to be dealt with directly by good governance, simply changing the organisation of the industry or bringing in foreign investment will not work.

Resources

The appropriate structure for an industry will depend strongly on the physical resources used. For example, a country dependent on a large scale complex technology such as nuclear power, e.g. France will need a centralised structure that can provide the skills and capabilities needed to exploit it efficiently, while a system based on hydro-electric power, e.g. Brazil, will need some central co-ordinating mechanism to ensure resources are used optimally.

Financial and human resources are also important. If foreign investment is to be encouraged, it must be clear that the country has the human resources to regulate these companies effectively. Inadequate regulation will be destructive to both the country and to the foreign investors.

3. Conclusions

It is now becoming clear from real experience that the liberalised model of organisation for the electricity industry does not work. It imposes additional costs on consumers that no conceivable benefits of competition could pay for. Worse, it puts at risk the high standards of security of supply, universal service and equitable pricing that many publicly-owned monopoly companies were able to achieve.

However, this does not mean there should be complacency about the old structures. No industry structure is perfect and new technologies, challenges, political priorities and techniques bring opportunities for improvement. Those arguing against liberalisation need now to focus on the building on the existing structures to provide a real alternative to the liberalisation/ competition/ privatisation agenda.

Panelist Commentary 2

SHIN, Jong-seung
President, Korean Power Plant Industry Union (KPPIU)

1. Comments on the Agenda Presentations

The title of session 2 is "Marketization of the Energy Industry and the Challenges Ahead." Until now, the global drive to marketize and privatize the energy industry has continued to build speed, and the whole energy industry of Korea is no exception to that global trend.

It is because of the rapidly changing political context for energy that this symposium is even more significant and can serve to illuminate the way forward. I'd like to thank the main presenters, the panelists and everyone present for participating in this symposium.

The first agenda presentation, "Critique of the Global Project to Privatize and Marketize Energy" critically reviews the global situation around privatization and marketization of energy.

(As an aside, we are especially pleased that Sharon Beder, known inKorea as the author of Power Play: the fight for control of the world's electricity, could be with us today. In her book, she alludes to the 5-week strike undertaken by Korean power plant workers; however, she did not mention the Korean workers'resistance struggle in her presentation today. I was a bit curious as to the reason behind that; perhaps because she is in Korea today and wants to show that she understands that modesty is extolled as a virtue in traditional Korean culture?)

Based on extensive research, agenda presentation 2, entitled "Critique of Energy Industry Reorganizationin Korea and the Challenges Ahead," critically analyzes the Korean energy industry restructuring drive and puts previews the tasks before us.

Through these two presentations, we were able to reconfirm and critique the current status of policies to marketize the energy industry internationally as well as domestically..

I would like to stress that workers confronting marketization and privatization have placed a bit more emphasis on the basic analysis regarding energy industry reorganization together with the question of downsizing the workforce.

2. Marketization of the Korean Energy Industry and Meeting the Challenges Ahead

I'd like to limit my comments about confronting the 6-7 year push to reorganize the energy and gas industry to just a few words because there are already written materials available to elaborate upon this.

If we could say that up until now, energy industry reorganization plans consisted of unbundling [breaking up and decentralizing] along roughly sectoral lines, the latest industrial partitioning plans appear to be characterized by a move toward centralization; thus, our analysis and our countermeasures must also overcome the limitations of union sectoralism and reach out to create a broader and more comprehensive solidarity.

3. Recent Controversies around the Korean Energy Industry and the Process of Rising Up to Meet the Challenges

With recent and rapid changes in the political context and the halting of energy industry privatization, the Korean government is now putting its weight behind the enactment of a “Framework Act on Energy” while both the [also conservative] opposition party and the labor and social forces have their own energy bills pending in the National Assembly.

This very situation gives some indication of the vast differences existing among the government perspective, the position of capital and the position of labor and social forces about the future of the Korean energy industry.

A brief summary of the points of contention around the bills, as well as our position is as follows.

1) Current laws relating to energy

There are 7 laws based on the resources from which energy is drawn, another 9 laws by function [designated use of the energy], another 6 laws on establishment of energy-related bodies [committees, organs etc]and 6 more laws that fall in the miscellaneous category, coming to a total of 28 laws that comprise the legal framework for the energyindustry.

Additionally, there are 28 sets of Enforcement Ordinances (presidential orders) and Enforcement Rules (orders issued by government ministries). Last, there are prolific numbers of announcements, notifications, directives and other regulations that fall under the category of administrative rules.

2) Problems with the Existing Laws

- The legislation is inadequate to creating an integrated framework or law that could lay the foundationsfor a new energy paradigm and vision that could guarantee the fundamental rights to energy essential for maintaining ordinary life [ensuring access to relatively disadvantaged groups], stable supply and demand, and a shift to a system based on renewable energy.

- The current legislative system is full of overlapping laws running in parallel thus, it must be reformed from alongterm, specialized and integrated perspective.

In particular, the existing laws have in reality become as dead as a sheet of paper and the "Act on the Promotion of Energy Industry Reorganization," which is a law in force for only a limited period of time, must be abolished with the enactment of a new Framework Act on Energy.

3) Points of Contention in the Framework Act on Energy

Given that the three major political partiesOur Open Party (the ruling party), the Korean Democratic Labor Party M.P. JO, Seung-soo and Grand National Party M.P. KIM, Seongjohave all submitted separate bills for enacting a Framework Act on Energy, it does appear that consensus among both ruling and opposition parties has formed around the need for enactment of a FAE (Framework Act on Energy) however, there are vast differences in the substance of each of the proposed bills.

-The objective and principles of the Framework Act on Energy should explicitly contain: its function as "a principle component contributing to realizing a human society with sustainable energy" and the "responsibility of the state to ensure environmentally-friendly energy supply and demand, as well as realize social equity in energy consumption."

Article 10 of the Korean Constitution proclaims the "dignity and value of every human being" as well as "the right to the pursuit of happiness" the Framework Act on Energy needs to elucidate fundamental energy rights for the realization of these values.

Additionally, energy policy falls in the realm of public services policy, and instead of fomenting market competition among economic actors motivated only by the pursuit of profit, it shouldbe made clear that energy provision is the basic duty of [as opposed to business activity by] the state, the local

government, public enterprises and all energy providers.

- But clause 3 of article 3 (fundamental principles of energy policy) of the government-proposed bill includes a toxic clause stipulating that the legislative intent is to: "promote policies expanding the introduction of elements for market competition in the energy industry and deregulation."

Not only is the government's legislative intent behind enacting a framework law disgraceful, but also, this toxic clause, which we cannot help but harbor reservations about, must be scrapped at all costs.

- Regarding the new State Energy Commission to be installed according to the government's proposed FAE, and in particular, with regard to the new commission's character, stature, composition, and administration, the government-proposed bill does not ensure relative autonomy in decision-making (not an administrative agency)nor allow the commission to operate on the basis of agreement among the different interests represented; rather, it is to be set up as simply a "deliberation and mediation body," which means that the Ministry of Commerce, Industry and Energy (MOCIE) will run a one-man show with the State Energy Commission functioning as mere window dressing to MOCIE policies and serve as the rubber stamp legitimizating MOCIE positions.

- The new law ought to include realization of fundamental energy rights as a basic principle; however, there is nothing concretely ensuring fundamental energy rights in the government bill.

4. Conclusion

Power plant and gas workers undertook a all-out strike to resist the privatization of the Korean energy industry. In particular, the power plant workers dug in their heels for a prolonged 38-day strike to fight privatization of the energy industry.

That strike put the whole energy industry privatization issue on the larger social agenda. Through continued struggleafter the strike was suppressed, the power plant workers were able to significantly undermine the legitimacy and momentum of the government's restructuring drive and in the end temporarily halt the reorganization of the energy sector midway.

But, in the case of the power generation segment, unbundlingthe phase before outright sale to private ownershad already occurred leaving an energy system with 6 separate generator companies [translator's note: although the union did paralyze government efforts to put the 6 generator companies on the sales block for sell off to private owners]. In the case of the power distribution segment, the government halted the separation and sale and is instead, planning to first separate the finances of the distribution and transmission divisions next year by implementing a "separation of division finances" structure.

Among the many negative effects of splintering up the energy sector, one is lack of adequate staffing for lower-level occupational classes while high-level occupational classes continue to promote themselves up the ladder, leading to a top-heavy workforce structure.The union has continued to fight this unbalanced structure of staffing.

The government has been unable to openly force privatization upon the gas industry, and has instead chosen a roundabout method tobring about the same consequences as privatization. However, the government has collided into the resistance of labor and social organizations that are concerned that introduction of competition into gas import [and the use of receiving terminals] on a non-discriminatory basis may bring about harms such as: unstable/unbalanced supply of natural gas, escalation of retail gas prices, and decreased accessibility to energy [translator's note: erosion of gas as a universal service because companies operating under market principles may pass up supplying unprofitable geographical regions].

As such, the clash between labor and government over reorganization of electricity and gas, two core sectors of the energy industry, will persist.

In other energy sectors, [low-profile] restructuring continues on a daily basis. In reality, such restructuring is the gunpowder warehouse that could touch off labor-government relations and labor-management relations.

Now, we are taking stock of the problems besetting the overall energy sector, and I would like to point out that this is our last opportunity to stop the mass production of grave consequences brought about by the unilateral and roughshod “failed policies” promoted by the government as well as the laws they plan to enact to bolster such policies.

The government must stop approaching the energy industry from a purely market perspective; workers hope that the government will stop the folly of excluding people as the subjects of energy development, production, introduction, transport, provision, use and disuse, that is, the “workers issue.”

Workers in the energy industry will mount a strong counteroffensive against the government's changes to the principles of energy policy, the moves of capital for increasing their own profits and future situations that may arise [in the fight for private versus public control over energy].

Panelist Commentary 3

The experience in combating resisting privatisation in energy and water sector in Thailand

Surasak Saehao
Deputy General Secretary
Labor Union of Electricity Generating Authority of Thailand

It was the long term planning of 5 utility unions affiliates to the PSI. The 3 electricity union and 2 water unions organized as "Public Utility Protection Network-PUPN"after it was reallised the threat and stress of utility privatization policy of the capitalist "Taksin" government to list in the stock market.

PUPN continuously campaigned not only to their union members but also the community and public. In July-Dec 2003 PUPN campaigns did not successfully brought and created the attention and public awareness. We went on street. We went to the Democracy Monument square, King Rama V square and Sanam Luang Public Park. Only a few hundreds workers joined our demonstration.

We were not discouraged. We produced a lot of big banners, VDO on the economic crisis and the suffering of public due to the privatisation in Argentina. The paper of PSIRU on "Independent Power Producer (IPP)"and "Water in Public Hands" were translated in to local language-Thai made workers and public easier under the impact of privatisation in energy and water. This could be recognized as one of the most valuable information to our movement in providing information to public.

We then made morestrategic movement. PUPN were united and solid at the same time small and form alliances were established. More and more closer coordinated and worked hands in hands. We participated and organized various education activities to strengthening our relationship and improved the skill in various issues. We identified the weakness of PUPN in public relations in the atmosphere of public media being control by the capitalist government and market. We hired a part time journalist to assist and maintain the strength relationship with media. More news of PUPN and the protest of anti-privatisation were found in small newspaper.

We were strengthening our network and support each other. We learnt and got research paper from PSIRU. We learned experiences of the failureof privatisation in many other countries and carried the burden to the poor. We learnt that Uruguay workers also successfully stop privatisation in energy and water sector and finally put in the national constitution that energy and water must be in public hands only.

Our protest and demonstration against privatisation in energy and water sector started on February 23, 2004. There was high attention of media. Our information and research papers, we prepared for internal union member mobilization, were published in front pages of newspaper. We gained high public supports. Poll from Dailynews Newspaper, second largest Thai version newspaper conduct website based poll during 4-16 March 2004. Among 116,058 votes, 55 % opposed privatisation, 40% agreed to privatisation on EGAT

We learned from our previous experiences and made some improvement in particular in the area of new technology. We opened the internet center and launched www.luegat.com website. We made it easier form journalist to access to our information. Media room equipped with computer and internet facilities was established. News released and supported

information was copies and made available for journalists. Some newspaper opened up our issues as permanent corner for 3 months.

As union principle in this struggle is much firmed that we do not agree with privatisation policy of the government to list the energy and water utilities in the stock market. We seen that listing the utilities in the stock market is one of the privatisation due to the principle of organization will be changed from provide quality public services in to profit making to serve the share holder in the market, not the citizen.

We submitted the demand to the government if the government insists to privatisation the water and energy utilities, we are demanding for national public referendum. REPEAT "we are demanding for national public referendum, not public hearing."

We are very disappointed to the public hearing since the government agencydid not allow union to present their views in the former public hearing. In the public hearing of Metropolitan Waterworks Authority on Feb 22, 2004 was one of the worst public hearings. Audiences to the public hearing did not allowed to speak up in the meeting room. When we were demanding for microphone in the conference hall, we received "pepper sprayed".

On our first day of demonstration on Feb 23, 2004 at the EGAT-Electricity Generating Authority of Thailand HQ, we prepared a big demonstration, made press released, brought our member from provinces. We started with a small state in front of one building in EGAT campus. We selected the place where there are a lot of tree shades during the day. There was no tent. We also started with our small kitchen to feed our member, made it cheap so then we could survive longer. On our first day, not only union member in the EGAT HQ, and provinces joined our movement. We got a lot

of support from our alliances. They came and made public speaking on the small state. It was around 10,000 of workers on the first day. The weather was a bit hot. The situation was a bit stress.

Some workers came from far provinces and need to take rest. We occupied one of the buildings where our friends working. Workers lay down on the floor and modified office toilets to be our bath room. These workers mostly came from Lampang province, 600 km. from Bangkok. They are firmed and back bone of our move.

Union had been saving union fund for this movement. During the period of 4 years, we accumulated about 15 million Baht (about 4.0 million $ US) for this struggle. We understood that there will be high expenses during our demonstration for various activities in particular the expenses in campaigning and mobilizing workers and public. We receiveddonation locally during our demonstration about 5 million Baht. Workers also made contribution for another 10 million Baht in June 2004 to make sure that we have enough money to continue our struggle.

We learned from our previous struggle in protest "against the selling of Ratchburi Power Generating Plant"in 1997. We did not gained enough support from public. Finally we lost. We could not stop listing Ratchburi Power Generating Plant in the stock market. It was the cheapest cost and the best power generating plant of EGAT.

Now we never declare that we win. But for sure, we are not walking alone. LUEGAT is working very closely with Public Utilities Protection Network-PUPN. We moved together and support each other. We firm in our principles. The principles which was jumped from the conservative trade union principle in protecting only workers benefit and welfare in to protect public interest and national assets. The struggle of the utilities workers in

Thailand today is 235th day (from Feb 23-Oct14). We were adjusting our strategies on various occasions and situations. Now workers still wear color T-shirts, produce CDs to mobilize publics, organize public demonstration and public speaking at work place and public parks. It seemed that the government is buying our time. Let unions spend worker money, just ignoring our movement. It seemed that the government is waiting until we feel tried and defeat ourselves.

Various activities techniques were used in our demonstration. We coordinated activities. We supported each other. Some time other unions send their member and workers attended our demonstration. Some time we also sent our member to other demonstration. Workers whom never met before, started to know each other and become friends. We shaved off on the state to bring media attention. It was on the first pages of newspaper. We fired coffin, and puppets. We used color T-shirt day, and this is still powerful. Worker is wearing color t-shirt to show supporting union, even they could not come down from office to the demonstration. Some time we produced thousand of balloons, attached with our leaflets and CDs. Some time we produced 2,500 meters length banners and organized workers to surrounding the government house, the government was very at us.

On March 9, 2004, it was one of the remarkable days of our movement. The prime minister looked down the workers. He blamed that only a few thousands of workers only in LUEGAT protest. We mobilized and went on street blocked ten lanes of street in front of the government house for six hours. We only went our on street about 150,000 workers and alliances.

Even now our leaders were confronted of several charges in the court due to our struggles and techniques were the source of created the angriness and conflict of interests to some politicians. We never stop to move.

We will never give up. We vigilant watch up every step of government move towards the privatisation of energy and water. The government never declares to stop privatisation. Some of pro privatisation ex co of EGAT was newly appointed. Leader of the government announced in many public forums to continue listing the energy and water in the stock market. Our strategy is now changed in to challenging the current ruling party in the coming election in early of 2005. At least on political party already declared no privatisation policy. We have no other choice, but political arena only.

Our strategy at the moment is to maintain our unity and solidarity among union members and networks. Keep on vigilance. Keep updated information published in our website. Keep our members be informed the right information. Coordinate working with alliances. Test our power from time to time. Organize the demonstration regularly. Educate shop stewards and union members. Accumulate our struggle fund for another big fight. Political lobby and campaign to political party to put in the policy of stop privatisation. Engage in the election campaign. Campaign in the coming election "NO VOTE TO PRIVATISATION PARTY"

We have no other choice but engage in the political election only. Another round of anti-privatisation campaign is started up through political campaign.

Now the government is still attempting to privatize bother energy and water sector in the stock market. Unions confirm their position in continuing opposing privatisation. Union position is very clear "No even single share to the stock market".

International Symposium

"Envisioning a Renewable Public Energy System through Solidarity between Labor and Environmental Movements"

Part 3.

Comprehensive Discussion

▲ Moderator : **Lee Ho-dong** (Co-Chair, KLSNE)

▲ Panelists

① **Prof. Jo Young-tak** (Hanbat University, Korea)

② **Jo Seung-su** (Assemblyman, KDLP)

③ **Lee Jong-hoe** (Director, KoPA)

④ **Malou Tabios** (Secretariat, Jubilee South Asia-Pacific, Philippines)

⑤ **Lee Sang-hoon** (Policy Secretary, KFEM)

▲ Discussion Topic

① Pending Issues : the "Energy Framework Act" and Market Opening

② Critique of the Korean Government Energy Policy

③ The Tasks before us : energy as a public and social good, and the transformation toward a renewable system

The Sustainable Energy System and Restructuring of the Power Industry

Prof. Cho Young-Tak
Hanbat National University, Korea

1. Paradigm Change in the Energy Regime(or Energy System)

There are two types of energy system. One is a conventional energy system which is a centralized system based on fossil fuel, nuke, large-scale hydro (large-scale facilities), and the other one is a sustainable energy system which is a decentralized system based on environmentally favorable energy (small/medium-scale facilities). While the former focuses on the supply side of energy, the latter focuses on the demand side of energy. While the former tends to be environmentally-unfriendly and socially unequal, the latter tends to be environmentally-friendly and socially equal.

The electricity system is the representative example of the conventional system. The current electricity system depends on techno-economic characteristics ; inability to store electricity, economy of scale in facilities, natural monopoly in transmission and distribution, importance of the system operation. So the current industrial organizations and market structure of the power industry reflect those characteristics(refer to the table #1).

Recently, the conventional energy system experiences several changes in its constituents. First of all, a sharp increase in international energy demand makes demand side management(DSM) more important than before for maintaining energy security. The Climate Change Convention and the Kyoto Protocol trying to curb the emission of CO2 deal with environmental issues related to power generation. On top of that, conflicts over the siting(location) of large-scale generation facilities and hazardous waste management facilities have deepened.

Table #1. Energy System Type(ideal type)

	Conventional Energy System	Sustainable Energy System
Viewpoint	Focus on the economic dimension Supply-focused energy security	Balance among three dimensions (economic, environmental, social) Demand-focused energy security
Market Structure	A few mono/oligopoly (Centralized generation)	Not a few runners and prosumer (On-site generation = JIP)
Technology	Large-scale facilities/ Conventional transmission and distribution	Small and medium-scale facilities/ Networking between distributed units(Digitalization)
Resource	Fossil fuel/exhaustible resources	Various renewable resources

Note : Prosumer = Producer+Consumer / JIP = Just-In-Place

New technology emerges in power generation. Unlike nuke and coal generation, CC plant(Combine Cycle Gas-fired Power Generation) is so safe and clean that it can be located near cities without any social conflict. The technology of distributed generation such as small-scale CHP, PV, wind power and biomass is to evolve. Both the digitalization of transmission/distribution and the development of networking technology between distributed units will be realized. The above-mentioned technologies are closely related to both renewable energy(new energy resource) and hydrogen fuel cell(new energy carrier) which are evidences of upcoming changes in the energy system paradigm.

In short, With new technology trend, both the balance among three dimensions and the demand side management are expected to facilitate long-term paradigm shift in the energy system.

2. Issues and Conflicts in the Restructuring of the Power Industry

Just as shown in those recent changes, conflicts surrounding energy system have deteriorated in Korea. First, internal conflicts in the conventional system created the confrontation between efficiency and publicness, which means the confrontation between pro-liberalization camps and anti-liberalization camps over market and

industrial structure of the conventional system inside. Pro-liberalization camps seek for efficiency through competition by focusing on industrial aspect of the energy industry, while anti-liberalization camps disagree with pro-liberalization camps by taking the importance of publicness of energy as the reason.

Pro-liberalization camps have been trying to change only the market structure of the conventional system without considering how to change the other aspects of conventional system. So restructuring policy to encourage effective competition in the electricity market (vertical unbundling of generation, transmission, distribution and supply / horizontal splitting of generation and supply) will not work well due to the conventional aspects on which Korean electricity system is still based. If market competition to enhance economic efficiency is overemphasized without considering environmental and social aspects, The Korean electricity system is likely to be 'locked in' the nuke & coal-centered system.[1)]

Meanwhile, anti-liberalization camps place a high value on public services. But like pro-liberalization camps, they also don't pay much attention to paradigm change in the energy system. When it comes to nuke and coal generation, anti-liberalization camps don't show different opinions from the government. Some of them are hostile to distributed generation such as small-scale CHP, PV, wind power.

Today, internal conflicts in the conventional system tend to be locked into only one simple question : which should come first, efficiency or publicness, market or plan? As the result, both camps lack the question about how to change the conventional system to the sustainable system. Rather than confining the question to 'unbundling or bundling' and 'competition or monopoly', it is necessary to consider a long-term and comprehensive vision targeting the construction of the sustainable energy system.

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1) Market is always 'embedded' in social institutions. This means market competition doesn't always results in socially and environmentally optimum. For example, recently in Korea, generation companies tend to focus on coal generation due to the competition between generation companies, and this shows well the market-centered policy without considering social and environmental aspects would be an obstacle to the successful transition from the current system to the sustainable system. (If present trends continue, the portion of nuke and coal is expected to reach 85% of the whole amount of generation resources by 2017.)

Of course, there's no concrete blueprint on this yet. Still worse, it's not so easy to answer the following questions in advance ; which is better between 'market under government regulations' or 'government planing' to change the conventional system to the sustainable system? The answer might depend on the specific conditions of each energy industry and characteristics of each energy resource. Under the circumstances, it is important to create a new institution which makes role division between plan and market, not taking black or white theory'.[2)]

Meanwhile, another type of conflicts is collision between economic dimension and social/environmental dimension, which is the friction between the involved parties of conventional energy system(government, generation company, labour union) and those of new energy system(NGOs including environmental groups). The characteristics of technology and energy resources on which the conventional energy system depend have become a fundamental barrier to the solution of the conflicts.[3)] Therefore, under the circumstances, the way to focus on only one dimension cannot resolve the conflicts. Instead, under the long-term plan for the sustainable system, concrete strategies for striking a balance among the three dimensions need to be pursued(refer to the below 2) of 3)

Concerning this matter, it's very important to promote adequate discussions among government, trade union and environmental groups, particularly in the situation that energy issues are emerging as national interests. Irrespective of the structure types of the market structure and industrial organization, comprehensive national plan and the commission to implement the plan(governance of energy industry) need to be established for the sustainable energy system. In this regard, we have to pay attention to the Energy Basic Act and formation of the National Energy Commission. Still, the Act and the Commission should neither be dominated by a specific single company or the government, nor be popularized by trade union or NGOs.

2) 'Conspiracy of neo-liberalism in the disguise of efficiency' or 'Status quo in the disguise of publicness'? Such question is not the right way to tackle the problem.

3) The mono/oligopoly market system and vertically integrated industrial structure co-evolved with the economy of scale in the generation facilities(nuclear & coal) and technological base of the conventional energy system. In this co-evolutionary feedback process, most energy companies and operators acquire not only 'electric power' but also 'socio-political power', thereby causing environmental issues and social conflicts. These problems, however, cannot be solved by the liberalization of electricity market.

3. Korean Electricity System and Sustainable Energy System

1) Reviews on our System : System locked in the narrow economic perspective

Irrespective of how the energy market and structure change, the paradigm shfit in the energy system is inevitable. The Korean energy policy has focused on the supply side rather than demand side. In particular, peak load management alone and low electricity rate based on sacrifices of environmental and social issues undermined the improvement of energy efficiency in end-use, leading to extravagant energy consumption. Peak load management-centered DSM(Demand Side Management) led to not only distortion of consumption but also that of future electricity supply system.

When it comes to power supply, nuke and coal-centered electricity system includes the following problems. First(environmental dimension), nuke and coal generation result in the issues of radioactive wastes and emission of air pollution and GHG respectively, raising the environmental issues. Second(social dimension), such a large scale facilities for generation(nuke and coal generation) cause equality issues between local communities in that the location of power plants, waste management facilities and big sized transmission facilities is keenly related to the interests of each community. Especially nuke generation also leads to the issues of equality between generations due to the nature of its toxicity, which will be left for as long time as affecting future generations. Third(economic dimension), the cost of nuke and coal energy are cheaper than other types of energy. However, we have to remember that the current institutions(tax and subsidy, R&D) where market is embedded in favor of the nuke and coal energy. And we also should not forget that the cost of nuke and coal energy doesn't reflect externalities caused by radioactive wastes and air pollutant substances(market failure).

The recent changes at home and aborad have worsen the above-mentioned problems. It is high time for the Korean energy system to be changed following the previous transition of hydro to oil and oil to nuke/coal. This change is expected to be carried at the whole system including viewpoint, structure of market and the industry,

technology and energy resources beyond the simple transition of energy resources. In this respect, I would like to propose strategies for the sustainable energy system in Korea.

2) Strategies for the Korean Energy System Change: DSM(Demand Side Management), Natural Gas, Renewable Energy.

For the shifr of the current energy system to the sustainable system, DSM(Demand Side Management) should be considered as the priority target, and activation of renewable energy should be taken as long-term target while natural gas should function as a bridge in the process to achieve those two targets. Particularly natural gas is useful in that it can not only improve the conventional system but also bring up new energy system (refer to the table #2).

a. DSM at the full scale

DSM is the priority target for energy security. Particularly, energy efficiency, policy target and integrated viewpoint lie in the core of DSM. That is to say, energy efficiency should be enhanced and setting of policy target (combination of forecasting and backcasting) should be considered as important, and also construction of database and a methodology to carry DSM are needed.

b. Activation of Renewable Energy(Decentralized System)

Renewable energy needs to be continuously activated. But, when it comes to the current target that the government declared, the possibility of implementation and funding should be carefully reviewed. For the formation of virtue-circle among advancement of technology, national industrialization and market formation, subsidy program should be established and speed control in the activation is needed.

Table #2 Power Generation from Natural Gas

	LNG Power Generation		Sustainable System
	Conventional Characteristics	Transitional Characteristics	
Viewpoint	Economic dimension	Environmental dimension + social dimension	Economic dimension+ environmental dimension+ social dimension
Market	A few players /off-site generation	Not a few players/ on-site generation	Many players /on-site generation
Technology	Large scale Generation/ Centralized transmission and distribution	Small and Medium scale Generation/ Decentralized transmission and distribution	Small and Medium scale Generation/ Decentralized transmission and distribution
Energy Source	Fossil Fuel	Low carbon/Low pollution(hydrogen-friendly fuel)	Renewable Energy (hydrogen carrier)

c. Natural Gas as Bridge to Sustainable System

Given the long period from the portion expansion of renewable energy until the formation of a new system, natural gas is the most appropriate and stable bridge in the process toward sustainable system by making the conventional system not be locked in only nuke and coal. Natural gas is the improved form of the conventional system while reflecting the characteristics of new system(decentralized system) so that it can play such a useful role during the process of energy system shift.

Although natural gas is fossil fuel, it is the only energy resource that can strike balance among environmental dimension, social dimension and economic dimension. In addition, the trend of buyer' market is expected to continue until early and mid 2010's. For LNG to play an important role in the transition process, new role of the government should be given in the planning process of national energy.[4] At the same time, future electricity supply system should be reviewed.[5] Particularly, government

4) Due to competition in the generation sector, the role of government in generation sector became vague.

5) It is urgent to review the future electricity supply system, appropriate portion of nuke and coal facilities and the mismatch problem between generation facilities and

should level the playing ground for LNG by getting rid of cross-subsidy and special income tax.

Another way of using natural gas as bridge is small-scale CHP and activation of CES(community Energy System) business. Although there are some barriers to CHP and CES, they should be encouraged for the activation of distributed generation.

transmission facilities(Singori Plant No.3/4 and 765kv). And the setting of modelling(WASP/MOST) in favor of nuclear energy and the methodology of evaluation of economic costs(internalization of transmission cost and external costs) should be reviewed(for more information, refer to the thesis, Cho(2005) 「Natural Gas and Transition to a Sustainable Electricity System : Focusing on Electricity Supply System Issue」 (in Korean), 『Economic Development Study』.

Memo