

The Fruits From Kyoto for the Sustainable Energy Business

By Paul E. Metz*

Introduction

e^s – the short name of the European Business Council for a Sustainable Energy Future – has participated very actively in the preparations and the Kyoto Summit COP-3 itself. The Council has done so in close cooperation with its sister organisation from the United States and member associations representing a range of renewable energy technologies like solar, wind, geothermal and hydropower, cogeneration and end-use efficiency. The end-use efficiency is an extremely diffuse submarket of probably all economic sectors, ranging from building insulation and bicycles to videoconferencing and multimodal transport services. This newly developing coalition of sustainable energy business interests was supported in Kyoto by the world associations International Association for Public Transport, World Fuel Cell Council and International Cogeneration Alliance. The pro-active position of this group on climate policy clearly differs from the general business associations – that are often dominated by fossil and nuclear energy interests – and attracted strong interest from delegates.

The two Business Councils – from EU and United States – were consulted before and in Kyoto by delegations from many countries, also outside Europe and the United States. The negotiating governments need and want to hear the voice of the business sectors with a realistic and positive vision and practical solutions. In Geneva, Bonn and Kyoto, the conference chairman invited the Councils to address the plenary sessions to explain to all negotiators that climate protection is possible and good for the local and world economy if done in the right way. It is, surprisingly, still necessary to explain that “no-regrets options” are investments with a normal profitability and create business opportunities, more jobs, better health, global economic development and savings on fuel bills. The first stage of emission reduction is not about burden sharing, but about the benefits of the about 25-30 percent no-regrets identified by the IPCC – International Panel on Climate Change – in 1996.

General Analysis after Kyoto

The real impact of the Kyoto Protocol is not yet visible, but it will improve the market for the many already existing carbon-efficient products and services in the near future. The initially very negative reactions of the fossil lobby show that a fundamental barrier has been crossed and that the sustainable energy lobby has successfully shown the possibilities. The Business Councils consider the Protocol the important first step for climate protection that “gives a signal to the market that climate is a real business issue.” This step is small and not sufficiently binding for governments, but the direction is right and the Protocol is a good basis for the continuous improvement process, just like the initially weak Montreal Protocol has been the starting point for the ever more effective protection of the ozone layer.

Like in all other environmental issues, it is important to focus the discussion on the real cause of the real problems or

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risks. In uncontrolled climate change the discussion can and, therefore, should be limited to the emission of all known greenhouse gases, including aerosols. Not energy itself presents risks or is bad, but its associated emissions including solid waste, radiation and noise. The new scarcity of the environmental resource “stable climate” is at stake, not the traditional scarcity of raw materials and fossil and nuclear fuels. The former is still considered an externality in economic models, whereas the latter are well protected by the invisible hand of the price mechanism.

New Business Strategies

It is promising that since Kyoto several big car manufacturers and oil companies have published new strategies. Cars with fuel cells and high fuel efficiency have gained much higher priorities and oil companies are starting to transform themselves into energy companies with renewables business units. The first airline companies have taken interest in rail transport. The stock markets have not collapsed and will most likely from now on start to reward the pioneering companies that supply the world citizens with the most carbon-efficient services, as they offer the highest value for their shareholders and other stakeholders.

The large and rapidly growing contribution of transport to climate change is slowly getting more political attention in the UN-FCCC process. The European Business Council's Working Group on Transport & Communication started last year and attracts pioneering companies that call for market-based climate protecting measures in this sector. All transport modes have enormous potentials for improved fuel efficiencies and ICT – information and communication technology – offers many opportunities for comfortable, energy-efficient services and for the prevention of physical transport by teleworking, distance learning, videoconferencing, etc. Specific transport modes, especially the international transport by air and sea, should not continue to be tax exempt and subsidised as a result of defensive national competitiveness reasons and the inability of governments to agree on a fair and high level-playing-field.

After Kyoto, the first priority for the Business Councils is to work with the EU- and United States – institutions and governments that are responsible for the implementation of the Protocol. Especially the absence of an early target for 2005, which was a key element of the EU-proposal, should be compensated by the quick implementation of policy measures in order to show measurable progress by 2005. We will support the governments to fight delay in the realisation of the many no-regret investments in sustainable energy.

It is the firm belief of the Councils, supported by an increasing number of studies and professional associations of economists, that the allocation of the now scarcer capacity for greenhouse gas emissions must be organised by activating the free market price mechanism. This can only be achieved by market-based policies like emission trade, joint implementation, reform of subsidies and taxes and by high carbon-efficiency standards for energy using products. Many governments still underestimate and do not sufficiently understand these instruments that can be very effective. The internal use of emission trading in countries and in Europe is a good policy and measure that helps share the benefits and limit the burdens, if any, and will make visible how cheap the no-regret emission reductions are. The Earth Council and

others have published alarming inventories of perverse subsidies and tax benefits that should and can relatively easily be stopped in the first place.

Finally, the public and business attention for the Kyoto Summit has helped to expand the Business Councils. In the first two years of its existence, the European Business Council has grown from 30 to almost 100 members, including associations with thousands of members. Many more companies all over the world will – once they hear about this lobby that promotes their business interests – join the voice of sustainable energy business. With more members from more countries and from more business sectors the Councils will have a constructive impact on the broad policy frameworks for sustainable energy.

Developing and Oil Exporting Countries – Winners or Losers ?

For many developing countries the cost of imported fossil fuel is a burden, while solar energy is abundantly available. These countries will soon benefit from the transformation of the world energy structure. Absence of large-scale energy generation units and power grids can then be turned into an advantage when research and development, international emission trade and financing mechanisms are synchronised to leap-frog and avoid the now outdated fuels-based development model.

Some oil and coal exporting countries are already investing an increasing part of their revenues from these natural, but not eternal, resources in the renewable energy technologies. Those countries with good conditions for solar, wind, geothermal and biomass can build new competitive advantages on the energy supply market. The same strategy is followed by coal and oil companies that diversify to less carbon-intensive natural gas, renewable energy sources and energy services in order to become less vulnerable and sustainable energy companies. It fits the same strategy for oil exporting countries to gradually reduce the exported quantities when the world demand is modest during warm winters or economic downturns and the oil price level falls as a result. A too low oil price will also harm their capacity to invest in the transformation.

These pro-active responses can reduce and probably completely avoid losses when the transformation strategy is started in time. Waiting and fighting the development of climate change policy can cost time and management focus that leaves the first mover advantages for the greener competitors. The European Business Council believes that no intelligent country or company needs be a loser, while many prosperous countries have no own fuel resources and all companies can and should switch their cash-flows in time to new opportunities. No “free lunch” will be served forever, but solar energy and efficiency will offer good lunches for all.

History repeats itself: a century ago the horse-traction of carriages was replaced by steam and later internal combustion engines to solve the environmental problem of “horse-emissions”, now this motor is again replaced by emission-free fuel-cells using solar-produced fuels.

Ratification of the Protocol

Great political uncertainties are surrounding the ratification of the Protocol. The countries of the threatened ocean islands by their number and China and the United States by the weight of their votes can decide about the entering into force. In all three cases good reasons for ratification are

already available – as presented in this article – and they will hopefully be recognised in time by their political leaders.

In the United States the political leaders will later this year have many more reports about the positive environmental, economic and employment results of climate policy. The public opinion in the United States has been little aware of the no-regrets character of climate protection measures as a result of strong lobby efforts by self-perceived losing business sectors. The White House has indicated on several occasions that public education on climate science and economics has started too late, has been dominated by selective information and needs more time to improve and ultimately change the attitude of the parliamentary representatives. In view of the first series of realistic reports from the Worldwatch, Tellus and World Resources Institutes and the Department of Energy the vote on ratification can be expected with optimism, though not on short term.

Free Market Approach

The reduction target of 15 percent in 2010, as proposed by the European Union, was realistic when first formulated in 1996 and would generate many benefits for the innovation, employment and sustainable economic growth, not only in Europe. The delay caused by seeking worldwide consensus in Kyoto should not result in postponement of this target more than the time this has taken: about two years. In the follow-up conferences starting in Buenos Aires, the 15 percent reduction – originally agreed within the EU and supported by many other countries – can and must be the next target for industrialised countries in the budget period after 2012.

The desired transformation of our energy structure can be achieved most efficiently and effectively by stimulating innovation instead of legally prescribing solutions. Our business view on some barriers and the best policy instruments is based on lessons from past innovations. The natural resource “nature and environment” is a market factor, just like land, raw materials, labour and capital. The parallels between the historical efficiency improvements of each production factor are striking.

The price of labour has increased continuously during the past century as a result of scarcity and this was strongly accelerated by regulations and taxation on employment and income. This price incentive attracted innovators by the price mechanism to perform on mechanisation, automation, information and computerisation. Labour efficiency – productivity – is not our only priority and “eco-efficiency” has gained higher priority: for energy that means we must increase the “carbon-efficiency”.

The carbon-efficiency of our societies can most easily be improved when we first exploit the no-regrets, the profitable, about 25 percent reduction, options for greenhouse gas emissions. Using the investment opportunities of normal business that can be achieved in 10-15 years with considerable savings and additional benefits, such as much more employment and increased international stability thanks to reduced fuel demand. Though it is not necessary to have international consensus for saving money, the legally binding Kyoto Protocol will accelerate this transformation and realise these benefits in industrialised countries. At the same time, the new market pull will stimulate business and other research and development institutions to generate a next range of

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carbon-efficient technologies with a future no-regret character. Just as labour-efficiency has increased by a factor of more than 100 and is still improving, this process will continue as long as the political priority and corresponding strategies for carbon-efficiency exist. The international recognition of the possible eco-efficiency improvement of economic activities is rapidly spreading under attractive names like "dematerialisation", Factor-4 and Factor-10. For climate stabilisation it is about improving carbon-efficiency.

Competitiveness

In addition to all differences in command-and-control legislation, the worldwide subsidy and tax practices cause fundamental market distortions in favour of fossil and nuclear energy at the expense of the environment. The Earth Council estimates the amount of perverse subsidies in excess of 700 billion U.S. dollars – including many uses of energy but not the subsidies for aviation. As a result, unfair conditions for competition – no "level playing field" – handicap the sustainable energy business. These distortions explain the – in theory very surprising – existence of the many no-regret options that would not occur in an efficient, perfect and really free market.

At this moment the competitiveness argument usually is used to defend the dominant existing business interests that sometimes even dominate the national competitiveness of countries. These business sectors are strongly related to the energy structure of the fossil and nuclear era and do not yet represent the sustainable energy options that have little or no greenhouse contribution. Fair conditions and competitiveness for the sustainable energy business is an essential condition for the market-led transformation of our energy structure to the requirements of the sustainable future. The institutional barriers to this transformation must be eliminated and new incentives created that use money of the energy users, not the money of taxpayers. Market-based instruments shift public policy from a market distorting to a market improving approach as clearly argued by the Wuppertal and World Resources Institutes. Such instruments make sustainable energy more competitive and will move the innovation process in an optimal direction.

Market-based approach

e⁵ underlines the importance of adequate behaviour of governments and investors to make this happen. Existing free market conditions have not prevented all problems with the externalities and need be improved. Therefore, market based policies are required to make emissions a hard factor in all economic decisions of public, business and private actors. Good reasons to choose this type of measures are:

- The main parties to the Kyoto Protocol – EU, United States and Japan – have embraced them as a principle.
- Market based measures activate the market and create flexibility in a way that needs no detailed political decisions. An example: emission trade can help avoid new negotiations on burden sharing within the European Union.
- Such measures contribute to a high-level-playing-field, stimulate innovation for carbon-efficiency, do not discriminate against specific technologies, are more efficient in public management than command-and-control regulations and are more effective than voluntary actions or negotiated agreements in the vast majority of economic

sectors, especially on the demand side.

Governments have the leading role in this adjustment of free market conditions by taking market-based policy measures. Many governments have hesitated to take such measures since the previous Climate Summits due to fear for loss of competitiveness. The Kyoto Summit was necessary to achieve the higher level playing field and eliminate this fear. Now governments can start to take their responsibility as the prime market maker and introduce the market corrections that will give greenhouse gas emissions a realistic price on the free market. This will trigger the other, private market makers: investors, energy service companies and traders in carbon credits and quota.

Emission Trade

In theory, the trade of scarce emission quota within a well-defined and controlled maximum quantity can completely solve the problem in the most efficient way. However, there are some difficulties in the just allocation of emission rights, which will determine who will benefit and who will pay more. The Business Councils strongly support all efforts to study, test, introduce and evaluate emission trade mechanisms on national levels and later also on European Union and Annex-1 levels. This should provide the know-how to expand the trade mechanism to bilateral international trade, Joint Implementation and under the Clean Development Mechanism.

As this development and implementation process will take many years, other market-based measures should be taken urgently and in parallel to eliminate the many wrong market signals and activate the market for carbon-efficiency.

Subsidy and Tax Reform

Within the market-improving measures, the reform of subsidy and taxation structures has a key role. The European Business Council proposes the following actions in parallel on EU and national levels. Much can and should be done short term nationally, but much more must be done on the level of the European Union. In the United States and Japan this discussion is taking place in a similar way, but there are many differences in the cultures of subsidies and taxation.

- Review the existing system of subsidies, taxation and tax allowances and start the gradual, but quick elimination of those with negative climate and other environmental side effects.
- Use the principle "tax human vices, not human virtues". That creates synergy between taxation, subsidies and other government interference and results in better and cheaper government.
- Use ecological taxation as a means for reduction of other taxes and for introduction of stable social security structures. At least in countries with a total tax level above the EU-average the new revenues must be fully recycled. Options are the substitution of social security premiums, the reduction of income taxes or the introduction of a Citizen's Income.
- Use the reform for EU-harmonisation and convergence of subsidy and tax policies. It should contribute to early establishment of a high-level-playing-field for economic development and social, environmental and fiscal policies in the candidate member states.
- During the introduction on a national scale the internation-

ally competing energy-intensive industries can be temporarily exempt, like currently done in the leading countries of Austria, Denmark and the Netherlands. Until the EU develops common approaches, these sectors should work with negotiated agreements that guarantee a comparable level of commitment and contributions to emission reductions.

For businesses several typical advantages of fiscal environmental management are often overlooked:

- Less command-and-control regulation requires less staff and experts for compliance procedures. Price incentives activate all functions in every company and cost-conscious line managers and their controllers become environmental managers instead.
- Environmental and social management become more integrated in hard bottom line business management, get shareholder value and lose their soft ethical, stakeholder and charity character.
- More market demand for energy efficient products and services creates a competitive advantage for many suppliers and activates their marketing staff to sell environmental protection as a new unique sales proposition for existing and new market segments.
- The reduction of labour costs as the new tax revenues are recycled, will change the perspective of labour-intensive activities and create new employment opportunities. Many existing business as well as non-profit activities will achieve a better competitiveness and can develop new growth.

Conclusion

The application of market-based measures will improve the functioning of the free market. The existing market failures can be eliminated and the no-regrets harvested. The resulting savings will benefit local and global society and bring a number of dividends:

1. Limit the risk and costs of climate change and improve environmental quality;
2. Strengthen global stability and increase diversity of energy supply;
3. Stimulate business to innovate and offer more carbon-efficient solutions;
4. Create many new and secure many existing jobs all over the world;
5. Motivate citizen energy awareness and reduce their energy bills;
6. Achieve all these benefits efficiently with minimum government in free markets.

Governments should act; business is ready to supply carbon-efficient products and services. A transformation to a sustainable energy structure is an evolution that should be started soon in order to have the time to do it gradually. The perspective of more proof for climate change risks or scarcity of fuels may be additional good motivators to apply the precautionary approach for savings and making money.

Appendix 1 - Policy Priorities for 1998

Before the Kyoto Summit the European Business Council for a Sustainable Energy Future supported the EU-proposal and called for Annex-1 consensus in line with it:

1. Put a cap on CO₂ emissions from industrialised countries

- through legally binding reduction obligations by 7-1/2 percent in 2005 and 15 percent in 2010 compared to 1990,
2. Agree on market-based measures to create a level-playing-field, including emission trade to let the market allocate the adaptations in the cheapest way and place.

The Kyoto Protocol for global climate management meets these points to a large extent. This framework for legally binding obligations gives nations and the EU the opportunity to protect the climate without risking their – real or perceived – competitiveness.

Now the Business Council has set two parallel lines of action for European climate policy:

1. Within the EU the implementation of policies and measures must start quickly to ensure measurable progress by 2005 and the reduction by 8 percent in 2008-2012. Before Kyoto the member states have agreed on nationally differentiated reduction percentages for an average 9.1 percent EU-reduction. New negotiations on these percentages now threaten progress on the decision making for implementation of measures. It seems easier to keep the agreed percentages and voluntarily accept the 9.1 percent reduction. Instead, the national and intra-EU emission trade should be started short term. That would accelerate and economically optimise the urgent implementation: don't negotiate, but trade.
2. Completion of the Kyoto Protocol and improvement of its open ends and loopholes are a necessary UN-process; for example, Joint Implementation, Clean Development Mechanism, the range of gases, future involvement of non-annex-1 countries, international transport and the concept of sinks need much more detailed study for future agreement. This requires active participation in Bonn in June and in Buenos Aires in November.

In both processes e^s continues to promote market-based policy instruments that improve the level-playing-field and the efficiency of the free market by making GHG-emission reductions a hard factor in all investors and demand-side decisions of public, business and private actors. Good reasons to choose these measures are:

- The main parties to the Kyoto Protocol – EU, United States and Japan – have embraced them as a principle. Their implementation will stimulate the use of renewable and low-carbon energy sources as well as efficient energy use in all sectors, especially the energy supply and the demand side in buildings, housing, appliances and transportation.
- Such measures activate the market and create flexibility without detailed political decisions. An example: emission trade helps avoid new negotiations on burden sharing.
- They bring a high-level-playing-field, stimulate innovation for carbon-efficiency, do not discriminate against technologies, are more efficient in public management than command-and-control regulations and are more effective than voluntary or negotiated agreements in the majority of economic sectors.

The preferred market-based measures include:

- A trade mechanism for emission quota or emission reduction credits within each member state and the EU: establish public GHG-exchange markets in each country. Quickly

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starting the emission trade within the EU brings a competitive advantage for Europe.

- The renewable-portfolio-obligation for all energy service companies, starting in 2000 and annually increasing to achieve 15 percent in 2010 with EU-wide tradable quota.
- Free access of small and decentralised energy suppliers with fair compensation for avoided investments and externalities. This can be integrated in the liberalisation of energy markets with open and transparent pricing structures, including prices for peak supply and load management contracts.
- A demand side management standard and its – voluntary ? – obligation for all ESCOs.
- Dynamic - “self-sharpening” as new technologies develop - emission standards for all products that cause a certain percentage of total energy use, such as airplanes, motor vehicles, ships, trains, houses, buildings, leisure equipment, office/home appliances for heating, cooling, lighting, etc. e.g., the “4-litre car” by 2005 and “3-litre” by 2010.
- On the extension from 3 to 6 gases, the EU should publish the inventory and consequences on short term. A very relevant issue for the cooling and air conditioning markets is the phase-out of HFCs through substitution by the available HCs or Stirling-systems.
- Equal treatment for all modes of transportation within the EU with differences only justified by externalities. Options are: normal taxation of aviation and shipping and road-pricing for trucks or, if not yet possible, equal exemption of taxation and rail-pricing for trains. End hidden subsidies like tax-free shopping, free car parking and non-compensation of the impact of transport noise and hazards on property values.
- Inclusion of international aviation and shipping in the Kyoto Protocol process with equal obligations for reduction of greenhouse gas emissions. Only innovative political decisions can break the present deadlock that cannot control these transboundary economic activities. One complex option is the participation of ICAO and IMO as parties to the Convention with the same status of industrialised nations, including the right to trade emission quota.
- Integration of sustainable energy considerations in all relevant policy areas, including internal EU-market, research and innovation, taxation, social security, employment, education, land use, infrastructure and city planning, international security and development cooperation.
- Revision of the existing systems of subsidies, taxation and tax allowances. Use the taxation for internalisation of environmental costs and reduction of other taxes. Introduction on a national scale is possible if the internationally competing energy-intensive industries are exempt, until EU-harmonisation is achieved. In each country with a tax-level above EU-average the new revenue must be fully recycled.
- If the initial 15 percent EU-reduction target for 2010 is really abandoned, it should at least be the new target for 2015 with all gases included.
- On the new and little mature issue of carbon sinks EU proposals are needed before decisions can be taken without great risks.

Natural Gas and the Four E's of Finnish Energy Policy

Almost one hundred energy experts celebrated the Finnish Association of Energy Economists' tenth anniversary at a seminar entitled *The Changing Market for Natural Gas*, on 5 February in Helsinki.

Antti Kalliomäki, Minister of Trade and Industry, in his opening speech, presented the four E's as the main pillars of government's energy policy: Energy, its security; Economy, its competitiveness; Environmental considerations; and Employment, connected not only to the development of competitiveness but also to energy and environmental technology as sources of job opportunities. He saw a radical increase in the use of natural gas as an important precondition for Finland's ability to meet her international contractual obligations to restrict the emissions of greenhouse gases.

The IAEE had its first Finnish members in 1982, but a decisive push to start a Finnish chapter was made in March 1983, when Jane Carter visited Finland. (Legal formalities for registration as an association were considered necessary only a few years later, in 1987.)

The FAEE was respecting its international roots with the inclusion of three eminent professionals from abroad as speakers at the seminar. Cristóbal Burgos, from the European Commission, gave a wide view of the place of natural gas in EU's Energy and Climate policy. Wolfgang Ziehegraser, from the Austrian OMV, presented his estimates with a calm assurance, not only for Western European gas demand and supply but for some supply costs as well. Ottar Rekdal, from the Norwegian Statoil, gave many interesting examples of how Statoil is participating in the development of technology and studying various alternatives and combinations for gas production, transfer and use in the Nordic Region.

Even the Finnish section of the seminar also had its international aspects. Tapio Harra, from Neste, put Finland forward as the energy bridge between East and West. Jouko Varjonen, from MTI, considered how the Nordic Gas Grid study and the closing down of the Barseback nuclear power station in Sweden could be a starting point for a Nordic natural gas market. Erik Malkki, from the Finnish affiliate of the Swedish power company Vattenfall, examined natural gas in power production in Finland, and described his company's plans to build a 900 MW natural gas power station near the Eastern frontier of Finland. Markku Tapio, from MTI, explained the owner's view of the planned linking of resources of the two energy companies, electricity company Imatran Voima (IVO) and oil, gas and chemicals company Neste, both with wide international connections.

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