

INTERNATIONAL FEDERATION OF INDUSTRIAL ENERGY CONSUMERS

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Documents- Environment

Brussels: 17/11/2000

Climate Policy, Competitiveness and the Industrial Energy Consumer

Executive Summary

Industrial energy consumers have significant experience with a “market based policy” called “global competition” that continues to force them to reduce energy consumption. The intensity of global competition is increasing, not decreasing, and maximum flexibility is needed to make cost effective capital decisions. Emissions cap and trade programs and energy taxes are often referred to as “market-based” approaches aimed at reducing greenhouse gas emissions. As proposed currently, they are not. By raising costs to energy intensive manufacturers in developed nations, they place them at a competitive disadvantage, and distort world markets in favour of nations not subject to comparable policies. Availability of capital is not infinite. This is why industrial energy consumers favour voluntary actions which maximise flexibility and timing for optimum use of capital.

Voluntary actions should vary by nation and region: from long term negotiated agreements to energy efficiency covenants and informal voluntary programs.

Industrial energy consumers are prepared to face this challenge and to accept a leading role in the debate on the issue. “Cap and trade” is not an acceptable mechanism, however, as industrial energy consumers must:

- continue to reduce the energy intensity of manufacturing processes and products in response to normal competitive pressures in markets;
- produce products that assist society to meet the climate change while contributing to economic growth;
- help governments to develop cost effective policy solutions that achieve long term environmental goals within market contexts.

Climate-driven policies affecting energy intensive industries need not impact competitiveness if they are based on a clear understanding of the ability of industry to innovate and respond over time to evolving market conditions. Such policies should be designed with the six primary goals of:

- encouraging rational, cost effective long term energy efficiency improvements
- increasing new technology development and introduction into the marketplace
- accelerating capital stock turnover

- encouraging free and open competition between and among energy sources
- encouraging greater use of quality combined heat and power (CHP) including “CHP Parks”
- removing regulatory barriers to industrial energy efficiency improvements

The implications for the environment, competitiveness and economic growth are great. Industry and government must work to develop innovative policy approaches that provide “win-win” solutions to the greenhouse gas emissions concerns.

IFIEC Europe has produced this leaflet to assist public policy makers to identify the unique challenges facing energy intensive industries in maintaining international competitiveness while complying with the climate change policy initiatives being considered.

The Unique Nature of Energy Intensive Industries

Globally the energy intensive industries – such as cement, aluminium, steel, chemicals/plastics, forest & paper products and related industries – share four major common characteristics:

- Energy is a major portion of production costs, sometimes accounting for as much as 60% of a product’s cost, thus even small energy cost increases have competitiveness impacts.
- Their products are mostly commodities that are traded globally. Therefore, any policies that raise the price of energy in one country will increase the cost of production and put those energy intensive sectors at a competitive disadvantage to manufacturers in world markets with access to lower-cost energy.
- Key manufacturing processes that form the core of these industries are mature, and provide little opportunity for major short term reductions in energy consumption in Kyoto type targets and time tables.
- Production facilities are capital intensive, requiring long payback periods. This means that the rate of technological change to achieve greater reduction in energy use will be slow. Capital investments have long pay back periods and the rate of technological change is slow. Plants in these industries last from 20 to 50 years.

In addition, they generate 5 to 7 downstream jobs for every one job directly employed.

Industrial energy consumers are enabling industries for the fabric of economic growth of any nation – plastics, steel, chemicals, paper, aluminum and cement most prominently. If more commercial buildings are erected, more steel will be needed. If more cars will be built, more steel, aluminium and plastics will be needed. If highways are to be built and repaired, more cement is needed. The list includes most durable and non-durable consumer goods produced in industrialised world. Demand for these customer market needs will be satisfied, but the question is from where will these products be sourced and what are the implications for employment in Annex 1 countries?

An Outstanding Record of Improved Energy Efficiency

Driven by the need to cut energy use to remain competitive, the energy intensive manufacturing sectors, individually and in total, display an impressive record of improvements in energy efficiency, with resulting slow growth of greenhouse gas emissions relative to the other major emitting sectors: residential/commercial, transport and electric

utilities.

Research shows consistently that these industries located in the G-7 countries which are US, Canada, France, Germany, Japan, UK and Italy are now emitting 20 to 30 % less carbon per specific unit of output than they did in 1978! This is an incredible testament to what is effective energy and climate policy. Its called “global competition”. In fact, if these industries did not drive down energy costs, they would fail to be competitive and cease to exist. In effect, G7 industry was “reducing carbon emissions before it was the environmentally and politically responsible thing to do.”

Tables 1 and 2 make two very important points. Industrial energy consumers from the US and EU are either the smallest or equal to the smallest emitter sectors. Even more importantly, industrial energy consumers have the lowest growth rate of carbon emissions of all sectors, and the growth rate difference is extraordinary. In the US, the rate of increase is 46% less than the average of the other three sectors due to the efficiency improvements put into place and only 19% of European emissions are due to industrial sources. The data are clear -- industrial energy consumers are leading the emission reduction effort. Voluntary efforts do work.

Table 1

U.S. Carbon Dioxide Emissions Growth 1990-96

| Sectors | Share of Emissions | Growth Rate |
|-------------|--------------------|-------------|
| Electricity | 26% | 5.2% |
| Industrial | 24% | 3.4% |
| Transport | 24% | 5.5% |
| Other | 26% | 7.4% |

Table 2

European Union Carbon Dioxide Emissions Growth 1990-96

| Sectors | Share of Emission | Growth Rate |
|-------------|-------------------|-------------|
| Electricity | 35% | -4.3% |
| Industrial | 19% | -5.8% |
| Transport | 26% | +12.5% |
| Other | 20% | +6.1% |

SOURCE: EIA/European Environment Agency

The Policy Dilemma Facing Industrial Energy Consumers

Energy intensive industry recognises the public concerns over greenhouse gases and “global warming”. These industries are also facing regulatory pressures to reduce all emissions and to conserve valuable non-renewable resources. Inevitably, the combination of these places great

pressures on manufacturing industry. When there is substantial inconsistency in these pressures, mechanisms that distort the market begin to take effect with subsequent effects on investment and employment.

Energy efficiency remains the primary objective for industry. Policy measures that seek to reduce total emissions out of step with technical efficiency capability must lead to reductions in manufacturing output. Whether this is achieved through total closure of sites or smaller reductions across several is irrelevant; the results on employment and economic stability are the same. The tripling of Europe oil prices has brought exactly the same pressures and gives an insight into the more serious effects should misguided policies be agreed over greenhouse gases emissions reductions. Ultimately, the public overall will not accept reductions either in living standards or of availability of the equipment regarded as an essential part of modern living.

Major changes in pricing policies do not lead automatically to more efficient use when efficiency is already well established. Rather, long term economic stability is needed so that confidence and investment is established in R&D programmes, which is the only way in which the new technologies that are needed can be developed and proved. Only technology will provide the necessary improved industrial; political will alone is not enough.

Demand for products will be met from production in developing countries that are not subject to greenhouse gas emission caps, but this is not sustainable in those economies where manufacturing capacity has been eroded and purchasing capability falls in a corresponding manner. It may also mean that total global emissions rise faster than otherwise, because the emissions from those now producing manufactured goods are not restricted.

Policies and Measures after Kyoto

COP6 now asks Governments to face up to these facts. The flexible mechanisms allowed for in the Kyoto Protocol now need to be defined and made operational. IFIEC Europe members support these having been built into the Protocol, as they recognise the need for collaborative programmes involving Governments, industry and public. They provide greater opportunity for constructive programmes to reduce emissions, whilst IFIEC Europe has pointed consistently to the failings of the traditional “command and control” policies involving taxes.

Energy Taxes Will Not Reduce Greenhouse Gas Emissions

Imposing energy taxes at the industrial level in countries that are signatories to the Kyoto Protocol will not reduce global greenhouse gas emissions. When energy taxes make the cost of products from affected facilities noncompetitive, the demand for products will be met through imported goods manufactured by facilities not subject to the higher energy costs. With the same level of production to meet product demand taking place elsewhere in the world, there will be no net reduction (and a likely increase) in overall emissions.

The opportunities for further dramatic increases in efficiency in these industries are small. Even with large tax increases in the cost of energy, reductions in use cannot occur in the absence of absolute cuts in production of the product.

Energy taxes will also reduce the amount of capital available for investment in new and more energy efficient equipment, as well as reducing the funds available for R&D for less energy intensive processes and products. Thus energy taxes will have the unintended consequence of

impeding investment in longer-term reductions in energy use in the manufacturing sector.

The Myth of “Cap and Trade” (Emissions Trading) Programs

Emissions trading was also included in the Kyoto Protocol, with the details to be worked through in time for endorsement in COP6. A number of projects have been piloted without yet identifying one which benefits all parties involved, as well as providing assurance that the burden sharing agreements under the Protocol will be fulfilled.

IFIEC Europe members, whose energy efficiency improvements are already impressive, cannot accept that under a cap and trade system, an absolute cap, would be placed on total greenhouse gas emissions to establish a market in which the rights to emit could be traded. Neither can they accept such a scheme if the implied terms mean that only commercial and industrial energy producers and consumers should take part. The research referred to earlier shows, that whilst manufacturing industry has improved energy efficiency, performance in the domestic and transport sectors are projected as worsening. All sectors of national economies have a role to play and IFIEC Europe believes that any scheme must avoid the following:

- An emissions cap, as this is energy rationing and undermines competitiveness.
- The cost of carbon permits, having the same, if not a worse effect than an energy tax with the associated risk that carbon permits will continually increase in price through time
- Greenhouse gas emissions caps do not allow for manufacturing growth in efficient, energy intensive industries.

The energy intensive manufacturing sectors have already made significant investments to reduce energy use and thus are penalised for having reduced energy consumption early. Under a cap and trade system, these companies will be at a competitive disadvantage to companies that have not made efficiency improvement investments.

Energy intensive industries cannot accept any scheme that will raise business costs, divert capital from investment in long term efficiency improvements and place affected industries and companies at a competitive disadvantage in international markets. The Kyoto Protocol expectations will not be met by a scheme that merely provides another stock market trading opportunity without any real basis in environmental improvement.

IFIEC Europe remains confident, though, that the Protocol concepts of CDM, JI and trading can be developed through inter-Governmental programmes. This would build on the experience already gained from long term negotiated energy efficiency agreements between Governments and industrial sectors. In this way, Governments review all national sectors and assess current performance against international benchmarks and the potential for improvement this allows against the commitments given under the Protocol. A flexible trading scheme would then be between Governments, allowing national sectors to “buy into” permits to offset temporary changes in programmes due to such as unexpected economic conditions.

IFIEC Europe believes that there could be a place for trading systems, but through collaborative development and using the experience being built up of a basis in individual negotiated agreements. These would reflect past achievements and include the level of current environmental significance in national economies.

Brussels

November 2000