

# **Climate Change Policies that Support Economic Growth in Manufacturing Recommendations**

**Prepared for the United Nations Climate Change Conference**

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## ***About IFIEC WORLD***

***The International Federation of Industrial Energy Consumers represents energy intensive companies from all sectors, including but not limited to chemicals, metals, cement, ceramics, glass, rubber, pulp and paper, etc. In these sectors, the cost and availability of energy and power are significant factors affecting their ability to compete in world markets. IFIEC has non-governmental organisation recognition at the United Nations and has affiliated federations in Europe, North and South America.***

**Active manufacturing support is the cornerstone for achieving a low carbon economy. Our products are part of the “solution”.**

### **Manufacturing companies support:**

- **Cost effective and coherent energy programmes;**
- **Policies that accelerate use of best existing technologies, allowing for sectorial and regional characteristics;**
- **Research, development, availability and use of new technologies;**
- **Policies that reduce GHG emissions across all sectors;**
- **Action involving the major emitting countries;**
- **A level carbon cost burden in the major globally competing countries.**

## Summary

IFIEC World believes that the climate change policy selection raises long term environmental, economic, trade and lifestyle issues. IFIEC World points to the special role that manufacturing sectors play in restructuring to a low carbon economy. Environmental climate protection and economic growth can and will be achieved with the support of manufacturing industry provided that:

- The manufacturing sector is recognised as the driver for economic and social development since the industrial revolution, and will be the driver for any new “low carbon industrial revolution”. Its knowledge and experience is central to finding low carbon solutions and products.
- Manufacturing gives social welfare and financial flexibility to governments and citizens;

To put this into a globally competitive framework, developments are necessary.

### **Globally:**

- The UN is tasked to set a worldwide framework for action;
- Each party to the Convention must then adopt the method that best suits the availability of its domestic and regional energy resources, and practical experience;
- Requirements must apply equitably to both developed and developing countries based on shared responsibilities and with economic growth as the central principle;
- Targets must be reasonable, realistic and based on greenhouse gas intensity;
- Technology is the only answer. Research must continue into new energy efficient technologies and techniques with tools for appropriate transfer between nations;
- Policies must be directed toward GHG reductions in all sectors, including transportation, commercial and residential.

### **For the manufacturing sector:**

- Policies must target global economic growth, not loss of competitiveness due to imposed carbon costs;
- Measures must respect investment cycles and include all sectors offering efficient abatement potential;
- Long term confidence is an essential part if companies are to develop sustainable strategies and invest into new technologies for a smart future;
- One approach does not fit all sectors and countries; specificities must have a place in implementing policy measures;
- Manufacturing' early actions for energy efficiency have to be taken into account;
- While energy producers can pass any cost for low carbon solutions on to consumers, this is not the case for those manufacturing sectors which face international competition and cannot pass on the increased costs;
- Policies must not redirect capital in energy intensive manufacturing industries away from the development of newer, more efficient technologies that are the long term solution;
- Any emerging global carbon market must ensure a global level playing field that is transparent and free from manipulation.

## **Sustainable Climate Change Policies**

1. IFIEC World represents companies in energy consuming manufacturing industries for which the cost and availability of energy (incl. power) are significant factors for competing in world markets.  
IFIEC World believes that a low carbon economy for the future needs active industry support and is willing to give such support if certain conditions are respected.
2. If GHG (greenhouse gas emissions) are to be controlled without materially damaging the world economy, whilst allowing improvement in quality of life globally, then there are five central needs:
  - 2.1. Widest adoption of the best existing technology;
  - 2.2. Research and development and use of new technologies;
  - 2.3. Policies that reduce GHG emissions across all sectors;
  - 2.4. Action globally involving the major competing countries;
  - 2.5. Cost effective and coherent energy programmes.

### **Introduction**

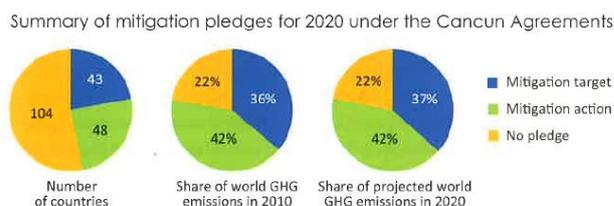
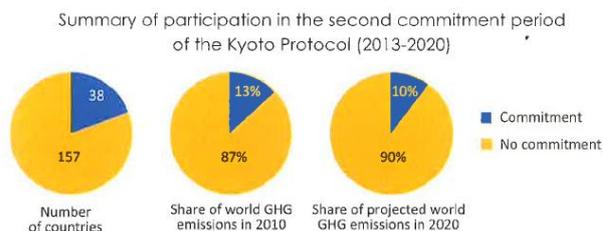
3. Inevitably, climate change policy that is linked to GHG emissions from fossil fuel combustion raises long term environmental, economic, trade and lifestyle issues. An international commitment is necessary so that the increasing trade and interlinking of competing markets across the world is reflected in a level distribution of burdens, challenges and requirements.
4. IFIEC believes that broad based strategies that encourage individual countries to deal with the problem, using their established cultures, knowledge and experience inside of an international agreement will deliver a more successful path to reducing emissions.

### **The Challenge**

5. Industrial energy consumers have a consistent record of reducing carbon emissions per unit of output. This has been achieved by continuing long term investment in energy efficiency as a means to remain competitive in domestic and global markets. However, present technology will not provide the dramatic reductions in GHG emissions being proposed for the next decades. New initiatives and solutions will be needed globally and there are key reasons for not delaying further:
  - 5.1. The timescale to develop major new and proven technology can be 7-15 years and an adequate return on that investment can take up to 20 years;
  - 5.2. Research and development expenditures across OECD countries have been reducing as a percentage of turnover in recent years and this trend needs to be reversed;
  - 5.3. Greenhouse gas growth is much greater than expected in newly industrializing and developing countries. It is essential that they can access energy efficient processes at an early stage.
6. Since the UNFCCC process began, many new drivers for change have become policy:
  - 6.1. Economic growth in countries not party to the Kyoto Protocol has been rapid, notably in China, India and Brazil;
  - 6.2. Better quality of life expectations mean that electricity demand is rising faster than what changing technology or energy efficiency improvements can match;
  - 6.3. The focus on new natural gas production, as well as electricity production from renewable energy sources, has resulted in a more diverse cost landscape for energy usage across regions;
  - 6.4. Combustion technology has hardly changed, whilst hydro development has stalled on environmental grounds and renewables still do not provide base load security and competitive power production.

## The Outlook\*

7. International climate negotiations have entered a new phase. The focus is now on a wider scale of countries and regions, since emissions are growing fast, in regions that were out of the Kyoto protocol scope. Effective action against global warming has to acknowledge these new facts.



8. The goal of the Framework Convention on Climate Change is to stabilise global GHG concentrations. The International Energy Agency (IEA) has highlighted four areas of action in order to reduce GHG emissions in the time frame up to 2020. These are found in a bottom-up approach which takes into consideration the best abatement potentials available and allow for further economic growth. In most respects this does no more than to confirm economic trends, but throws the basis of the Kyoto Protocol into sharp perspective.

Policy pillars of the 4-for-2 °C Scenario



Based on this iterative process, we have identified a package of four measures, elaborated below, that meet the criteria of making a significant contribution to CO<sub>2</sub> abatement in the period to 2020 without adversely affecting economic growth. Each of the measures selected can be readily implemented and does not require the use of new technologies with high upfront deployment costs that would require time to apply beyond niche markets (such as electric vehicles), nor major technological breakthroughs, nor radical changes in consumer behaviour (except those induced by changing prices or increased availability of capital in certain sectors). Many of the measures that were excluded from the 4-for-2 °C Scenario might well be cost-effective in the long-run, but they are judged to have less certain potential to make a significant impact on global emissions by 2020. Highly successful existing policies, like support for renewables, have not been selected for enhancement in the short term if they appear to be broadly on track to deliver in 2020 the contribution that they are required to make in the (more demanding) 450 Scenario, which is consistent with achievement of the long-term climate objective. The four policy measures adopted in the 4-for-2 °C Scenario are (Figure 2.1):

- Targeted specific energy efficiency improvements in the industry, buildings and transport sectors.
- Limiting the use and construction of inefficient coal-fired power plants.
- Minimising methane emissions in upstream oil and gas production. Further partial phase out of fossil-fuels subsidies to end-users.

**IEA**

\* IFIEC World acknowledges with thanks the data published by the International Energy Agency ("Redrawing the Energy-Climate Map – World Energy Outlook Special Report")

## Elements of Sound Climate Policy

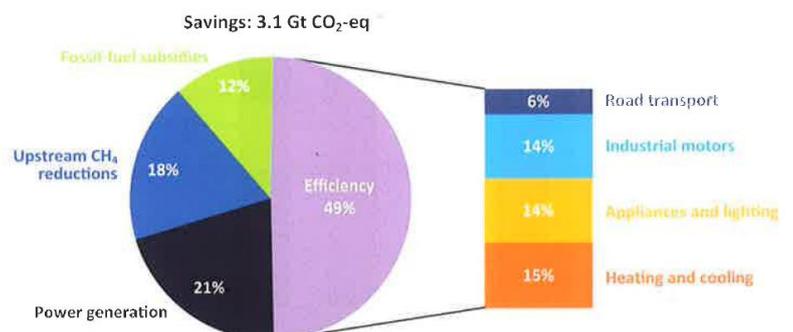
9. The failure of the Kyoto Protocol was the assumption that participation would be fully endorsed by all countries in a worldwide effort and that the targets set would be reached without any influence on the economies and growth potentials of the Parties. It is clear that many signed the Protocol, but were not prepared to commit to the policies that were needed to make it effective. Equally, developing countries interpret proposals that they should join as attempts to restrict the growth of their economies, and resist such moves. This indicates that any post 2015 proposals need a new direction. Any effective climate policy needs to work with the natural resources, economic trends and capital structuring of that economy. IFIEC World believes that any future policy needs to be incentive-based and not restrictive-based, with objectives that wider populations accept as necessary and achievable.

## A Global Challenge Needs a Global Response

As a result of the UNFCCC COP-18 in 2012, international climate negotiations have entered a new phase. The focus is on the negotiation of "a protocol, another legal Instrument or an agreed outcome with legal force under the Convention applicable to all Parties", to be negotiated by 2015 and to come into force in 2020. If such an agreement is achieved, it will be the first global climate agreement to extend to all countries, both developed and developing. COP-18 also delivered an extension of the Kyoto Protocol to 2020, with 38 countries (representing 13% of global greenhouse-gas emissions) taking on binding targets (Figure 1.3). As part of the earlier (2010) Cancun Agreements, 91 countries, representing nearly 80% of global greenhouse-gas emissions, have adopted and submitted targets for international registration or pledged actions. These pledges, however, collectively fall well short of what is necessary to deliver the 2 °C goal (UNEP, 2012).

## Technology is the Long Term Solution

10. The answer to climate concerns beyond 2020 lies in technology. A long term shift in technology and new technology solutions will be needed if the GHG concentration is to be stabilised. An aim of the Kyoto Protocol was to promote technology transfer, but it has done little to stimulate technology innovation or transfer. The key is to have access to the necessary financing; amounts at stake are huge and will require both state and private sources. Such financing only happens with confidence in long established economic drivers. The UN recognises the role of industry in stating that "*it is important to focus on the role of **private-sector** investments as they constitute the largest share of investment and financial flows (86%)*".
11. Research and new investments must happen, as the expected increase in demand and associated emissions to 2050 will not be countered either by incremental improvement or by relying on existing technologies.



## Design of Market Tools is Vital

12. The principles of sustainability are not met by measures that result in jobs moving from countries with strict climate policies to economies without those, since this would result in higher pollution levels. That means that **carbon leakage avoidance must be an integrated element of all climate change measures**. Unilateral political measures to reduce GHG emissions distort markets, impair competitiveness and reduce cash available for investment in more efficient technologies. These are counterproductive in either curing the short term problem or offering long term sustainable solutions. The time frame of new technology development and commercial use is around 20 years and market investors need high confidence levels before committing to such return periods. Energy intensive sectors can only move forward with investment in less energy intensive plants when proposals are technically sound and economically justifiable.

*While the existing frameworks of many liberalised markets will be able to encourage significant decarbonisation of the power mix, they will struggle to deliver a major transition towards a decarbonised world. Further changes to market designs are likely to be needed. This is particularly true for those markets that are expected to rely on high levels of variable renewables. This is because, in the absence of significant amounts of storage capacity or smart grid measures (to shift demand away from peak times), the variable nature of their supply means they may be unable to sell into the market when prices are highest, limiting their ability to recover their investment costs from the wholesale market. On the other hand, the low variable costs of these sources of generation mean that, under existing market structures, wholesale prices could be reduced to very low levels — possibly below the levels needed to recover their own investment costs — unless there is some form of additional compensation. Improving existing market designs and developing new ones for competitive power systems will therefore be an essential feature of the transition towards a decarbonised world.*

**IEA**

## The European Experience

13. The Emission Trading Scheme (ETS) established in Europe at the start of 2005 was a new and complex instrument aiming to reduce CO<sub>2</sub> emissions in a cost effective manner. Since the scheme involves the electricity market, the initial result was that electricity prices rose well beyond all expectations, as power producers were able not only to pass on the increased fuel price and the cost for complying with their CO<sub>2</sub> reduction targets, but also to charge the whole value of their CO<sub>2</sub> allowances, which they largely received for free, as an 'opportunity cost' into the power price. This led to massive additional revenues for power producers at the expense of all power consumers, without any environmental benefit. It is essential that these lessons are learned and these failings avoided in both the European ETS and any similar international development introduced post 2015.

14. The energy intensive industries in Europe are operating and marketing their products in a worldwide market. Prices are not set based on the regional cost framework, but by worldwide competition, so the possibility of passing these costs on to their customers is limited if not non-existent. The impact on the energy intensive industries as a result of the opportunity cost practice in the power industry averaged €14bn/year in the first 3-year period 2005-2007, even though the situation eased after 2007 due to global recession and the collapse of the CO<sub>2</sub> price. However, for future long-term investments a higher price is to be considered with more stringent reduction paths, but without adequate technologies being in place. So the investment climate for businesses involved in EU ETS, will deteriorate even at the current low price. Carbon leakage to regions outside the EU is a real threat to global warming as well as to the economic development of the EU. As a consequence, the experience shows that the EU system:

- 14.1. Has high cost influence on electricity supply;
- 14.2. Deters manufacturing investments;
- 14.3. Puts economic growth in question;
- 14.4. Does not take Carbon leakage avoidance – which is a key element – enough into account.

15. For the third trading period, from 2013 to 2020, full auctioning for electricity is planned, yet “windfall profits” for electricity generators may remain significant due to the marginal pricing mechanism. Auctioning will not avoid the high electricity price impact from emissions trading, and Industry and other consumers will have to bear these costs. Climate change policies must, therefore, be dedicated to the least costly route, while not jeopardising the objectives. This is especially true with the EU in deep economic recession and financial crisis.
16. As a market based instrument, EU ETS reacted to the crisis with lower carbon prices, hence reducing the burden for the involved companies. But the crisis has also shown the principal faults built into the EU ETS design. IFIEC has made constructive proposals to overcome these by establishing **a dynamic ETS system**, which takes into account normal and major changes in the world’s economy, the need to maintain economic growth and the particular circumstances of fast developing countries (which will become major emitters).

### **Encouragement Not Constraint**

17. The goal of the UNFCCC should be to provide measures that enable manufacturing companies to introduce changes that lead to stabilising greenhouse gases concentrations within an effective, long term business programme. Governments need policies to encourage the required technological development followed by fair market processes to make it available to the developed and developing world. Actions, that just add costs are negative, further reducing funds available for both investment in energy efficiency and research and development. Full understanding of the social, technical, economic and environmental implications of climate policy options and the role industry plays in it need to be carefully studied and flexibility, not rigidity, is needed.

### **Conclusions:**

18. If technology changes or efficiency improvements cannot match the ambitions of GHG reductions policies, then efforts to limit emissions could have significant consequences for national economies globally. It will have particular effects on industries represented by IFIEC, where energy is a major factor in competitiveness. Activities such as basic chemicals, pulp and paper, rubber, glass, cement and metals have higher energy demands than other manufacturing sectors, regardless of region. Their future is in question without low carbon breakthrough technologies, yet these industries supply the fundamental raw materials for economies and societies. These are also the industries that will innovate and produce the new, more energy efficient materials and products needed in lower carbon societies. Therefore, it is active and effective climate change policy to strengthen the investment environment for these industries, as they must be part of any international attempts to combat global warming.

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