

JOINT DECLARATION ON FUTURE CLIMATE ENGINEERING SOLUTIONS
THE WORLD SOCIETY CAN DO IT AND WE HAVE THE TECHNOLOGIES

Eleven engineering associations from around the world are part of the project 'Future Climate - Engineering Solutions'. The participating associations have been developing detailed national plans, analyses and technology strategies for tackling climate change. The project demonstrates how greenhouse gas emissions can be reduced substantially through the application of engineering.

The Future Climate Project recognizes, however, that there should not be an overemphasis on reducing greenhouse gases as resource management in the broadest sense, population growth and the adequate provision of food and water are no less pressing global challenges for engineering in the coming decades.

The project has highlighted the wide diversity of climate change mitigation challenges and the different technical, socio-economic, and governance needs across countries and regions.

COP17 to be held in Durban, late November is the next important step towards genuine emission reductions. The technology and the necessary means are available. It is technologically possible to achieve an average global reduction of 50-85 % by 2050. A new climate deal must ensure that greenhouse gas emissions will peak before 2020, and substantial reductions will be reached by the year 2050.

The participating associations, September 2011

Institution of Mechanical Engineers, IMechE (UK) - The Danish Society of Engineers, IDA
Civil Engineer Organization of Honduras, CICH - The Swedish Association of Graduate Engineers - The Norwegian Society of Engineers, NITO - The Association of German Engineers, VDI - The Institution of Engineers, (India) - The Finnish Association of Graduate Engineers, TEK - Union of Professional Engineers, UIL (Finland) - The Japanese Society of Mechanical Engineers, JSME - APESMA (Australia)

Future
Climate



The Future Climate – Engineering Solutions Project phase 2 recommends that governments:

- **Need to maintain flexible technology pathways.** Scenarios and pathways based on technology provide ways of thinking about possible routes to sustainable futures but cannot be prescriptive solutions because circumstances change continuously over time. Recent events at Fukushima Nuclear Plant, in the Middle East (Arab Spring) and in the cost reductions of Solar PV energy have all been good illustrations of this reality. Governments should therefore maintain an ability to adjust the direction of travel in response to such developments. Further, although existing technologies are adequate to meet the world's climate change goals they are not being developed for use and must be supported to move forward. By making low-carbon emissions plans for each country, the organizations taking part in Future Climate 2 is supporting the UN process.
- **Must include the effects of externalities in developing climate change mitigation policies.** Developing national policies for tackling climate change is a difficult task involving consideration of complex inter-relationships and interactions across sectors. In undertaking this work governments often overlook the effects of externalities and fail to integrate these effectively. It is important that policies should not be unintentionally detrimental to one industry or country and Governments must balance the needs of industry, consumers and markets. The importance of innovation cannot be overemphasized and national solutions are likely to be at the core of meeting the climate change challenge for a long time to come.
- **Should help create Green jobs that are new jobs.** It is important to stress that not all jobs for the green economy are new jobs, indeed many simply involve retraining and refocusing of existing jobs together with the adoption of greener technologies and practices.

However, sufficient new Green Jobs are unlikely to come solely from existing industries. Support for new innovations will be critical particularly in the early market introduction phase of new product lifecycles. Therefore, a key to new Green job creation is to embrace the concept of the Supply Chain Job Multiplier – the largest part of the job creation is in the supply chains, very often in small and medium enterprises.

Green Jobs are a driving force for climate change mitigation, but intensive effort is needed to train and retrain workforces with the correct skills match to the new industries to be created.

- **Support energy efficiency and renewable energy.** The participating organizations widely agree that energy efficiency is the best available measure that can be undertaken in the short and medium term, and that renewable energy sources is the solution for the long term. Governments must support energy efficiency across all sectors in their countries, including transportation, industry and in homes and public buildings. Incentives to build up renewable energy capacity must also be enacted now in order for technological and market development to take place that will make renewable energy commercially viable in the next decades.

Engineers call upon heads of state, ministers of climate, energy and environment and all other decision-makers, to commit to, and deliver, the ambitious emission reductions that are needed at all levels to secure a sustainable future.