

8. Policies and market-based mechanisms sometimes conflict instead of synergistically pushing a region towards a sustainable energy future.

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Policy and legal mechanisms are often powerful in creating change within a country, but if they are absent, badly designed and implemented, they can serve as disincentives that hamper effective market mechanisms. Market mechanisms create change through aligning customer preferences, financial drivers and competitiveness.

Policy and legal mechanisms can disturb market based forces by encouraging behaviour that is inherently less sustainable. Often, older policies with different objectives can have unintended negative impact on sustainability. They can prevent the market from seeking out sustainable energy and development opportunities by creating a business environment that reduces the attractiveness of investment.

Dr. Mark Jaccard's presentation at the very start of the conference highlighted this issue well, where he discussed how cognitive bias hinders our ability to subjectively view issues related to sustainability as we tend to exclusively seek information that suits our existing beliefs structures.

Policy and legal frameworks is of particular importance with large scale energy investments such as generation plants and distribution. The sessions on Geothermal and Nuclear energy highlighted the size of these types of facilities, the risks involved and the planning processes that need to be navigated. This is also relevant to the development of networks intelligence needed for the next generation of electricity networks, but policies and regulation imposed across many governmental functions hinders the deployment of these networks.

Policy and regulation is also issue that resonates in Canada in relation to the Oil Sands and Northern pipeline; e.g. Regulations on the extraction of oil to minimise environmental damage of such mining. Although many in this instance would say that it

tempers the market to ensure externalities are considered. Similar issues exist with the transition to biofuels.

Often the lack of policies inhibits the development of technology as mentioned in the Post Secondary Institution and Carbon Trading sessions. It also hinders venture capital markets. Germany has created a positive framework of policies that has effectively encouraged adoption of renewable energy. China is also creating plans to promote the effectiveness of market mechanism by encouraging industry and building regulation.

Dr. Mark Jacobson mentioned in the Renewable Leap Forward session that the technology is in place to support the world's energy use within the next 40 years, but the policies and frameworks are not in place to support such a transition at this time. Presentations at ISES, like Power to the People, showed us that while economic incentives alone do not provide psychological responses to enable change, a combination of policy and incentives are more effective in supporting market mechanisms. This was supported by Dr. Rajendra Pachauri's argument that we will need a bit of everything to achieve the aims of a sustainable future.

"As Dr. Mark Jaccard was saying in his presentation, the carbon price needs to be high, like around \$175 to truly create an impact, but politicians have put it around \$20 with the idea of increasing the price incrementally so people won't object. But incremental increases doesn't have the same sharp impact because the price of carbon then increases along with every other cost of living," said Shane a delegate from Ireland.

Solutions

- Governments need to scan for and remove distortive and disincentivising policies and regulations.
- The public needs to require politicians and policy makers to examine the longer term impact of their suggestions. The public also needs to encourage and accept strategic consideration of where we are going.
- Politicians need to intelligently discuss the long term requirements and implications of the decisions we make. They need to provide leadership.

- The public needs to accept the implementation of market based mechanisms and we also need to act against organizations or nations that do not, in whatever capacity is available to us, which could be as a consumer, a producer or political citizen.
- We need to kill off some chronically and inherently polluting industries to show that sustainability is a matter of survival for industry.