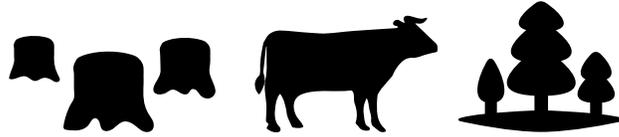


LAND AND AGRICULTURE



To: Land and Agriculture Representatives

Subject: Your Negotiating Goals in “World Energy”

Welcome to the global climate and energy policy conference. As leaders for the land use, forestry, and agriculture sectors, you will make decisions regarding global policy over the coming decades.

Your group includes representatives of large agricultural producers and landowners, government ministries of forests and agriculture, agriculture-oriented and land conservation think tanks, and agriculture and forestry-related industry and manufacturing.

You will make decisions regarding the greenhouse gas emissions from global forestry, agriculture, and other land use over the coming decades. Your goal is to achieve the best outcome for the groups you represent. Do your best in the time allotted.

As a group, you will:

1. **Decide** on actions that reduce the percentage of GHG emissions in land use and forestry.
2. **Advocate for or against** the *Carbon Pricing* group setting a price on carbon emissions and where the revenue will go.
3. **Lobby and negotiate** with the other parties to encourage them to take actions that contribute to solving the climate change problem while improving the welfare of the people and groups you represent.

The best available science shows that greenhouse gases (GHGs) emitted by human activity are already changing the climate, that the risks of further climate change to our economy and to human welfare are serious, and that avoiding the worst impacts is possible. The internationally agreed upon goal is to limit the increase in global average temperature to well below 2°C above preindustrial levels. Warming above this level threatens the economy and human welfare of all nations.

However, you must balance the imperative to prevent dangerous climate change with the needs of your key stakeholders, including the public (your customers, in some cases), shareholders, and the policymakers who provide you license to operate, regulate your industry and affect your operating costs.

You represent the people and companies who feed the world. World population is now about 7.7 billion and heading for more than 9 billion by 2050. Growing incomes are increasing demand for meat, wood, fiber, and other land-intensive products, which requires land for crops and the associated development. Still, today about one billion people lack adequate, reliable food supplies, resulting in malnutrition and starvation in many nations. Unfortunately, expanding crop area also contributes to deforestation, habitat loss and greenhouse gas emissions, including carbon dioxide (from deforestation), methane (from meat and dairy production and decomposition of food waste in landfills), and nitrous oxide (from fertilizers and food waste).

Policies promoting reductions in deforestation emissions over the past twenty years, primarily in Brazil and Indonesia, have been only partially successful. Adoption of forest and soil conservation and less carbon-intensive practices for livestock, agriculture, and fertilizer manufacturing and use have the potential to reduce greenhouse gas emissions from land use and agriculture.

In much of the world, it will be challenging to change land use and agriculture to climate-smart methods. This is especially true in many developing countries, where the potential benefit of climate-smart agriculture is high but corruption and lack of oversight make it difficult to implement land use policies. At the same time, the impacts of climate change pose serious risks to assets. These impacts include rising sea levels, more intense droughts and floods, heat waves, and the geopolitical disruption these impacts may create. Investing in new capabilities and shaping policy and regulations would be advantageous to

World Energy role play simulation developed by Climate Interactive, MIT Sloan School of Management, and UMass-Lowell. Last updated March 2019.

your industry, particularly if there is a price on carbon that helps you profit from conservation of forested lands and climate-smart agriculture practices. To that end, you are actively exploring how you might use your financial capital, your expertise, and society's existing infrastructure to compete in a changing world.

Many trends point in the direction of change in towards low-emission alternatives:

- Globally, plant biomass has increased by almost 4 billion tons of carbon since 2003, roughly equivalent to the carbon emissions from India and Brazil in 2010.
- Brazil's greenhouse gas emissions fell nearly 39% between 2005 and 2010, according to an inventory released by the country's government.
- China plans to increase their forests by 4.5 billion cubic meters from their 2005 levels by 2030, which builds on China's massive afforestation effort that is already underway (China's forest stocks were estimated to be 15.1 billion cubic meters from 2009-2013).

Notes on actions:

1. **You can propose actions that reduce CO₂ in land use and forestry and the emissions of other GHGs, such as Methane, N₂O, and the f-gases.**

- Cutting CO₂ emissions from deforestation and afforestation means limiting development of tropical and boreal forests, which prevents people, including the poor and corporations, from using those lands for farming and logging.
- Other gases** (CH₄, N₂O, and the f-gases). Gases other than CO₂ cause 24% of global warming. Actions here result in reductions in emissions from: methane in the meat and dairy sector, nitrous oxide from fertilizers, and f-gases from refrigerants. This is a significant place to make an impact on climate change.

2. **Take a position on carbon pricing.** Your economists acknowledge that internalizing the environmental and social costs of greenhouse gas emissions with a carbon price would be an effective way to reduce global GHG emissions. A carbon price would harm carbon-intensive energy production, by cutting demand for fossil fuels, increasing costs, and decreasing shareholder value for firms heavily dependent on fossil fuels, at least in the near term. However, a carbon price would create profit opportunities for low-carbon, renewable sources, bring capital into startups in these areas, and stimulate innovation. If there is a carbon price, consider the effect on your land, forestry, and agriculture investments along with the ways in which it can promote investment and profitability in a low-emission world.

3. **Lobby and negotiate.** Other groups have the ability to take actions that can mitigate GHG emissions and limit climate change without placing the greatest burden on the people and corporations you represent. The *Renewable Energy Supply* group can subsidize renewable energy. The *Conventional Energy Supply* Group can tax fossil fuels, and regulate methane emissions from natural gas. The *Energy Efficiency* group can invest in energy efficiency for buildings, industry, appliances and vehicles, saving money and advancing technology while also reducing carbon pollution.

US\$/ton CO ₂	Examples of existing carbon prices
139	Swedish carbon tax
101	Swiss carbon tax
77	Finland carbon tax
64	Norway carbon tax (upper)
55	France carbon tax
36	Iceland carbon tax
29	Denmark carbon tax (fossil fuels)
27	BC carbon tax
25	UK carbon price floor
23	Alberta carbon tax
21	Slovenia carbon tax, Korea ETS
16	EU ETS
15	California CaT, Ontario, Quebec
9	Beijing pilot ETS
8	Portugal carbon tax, Swiss ETS
7	Shenzhen pilot ETS
6	Shanghai pilot ETS, Tokyo CaT, Colombia, Latvia
4	RGGI, Chongqing pilot ETS
3	Mexican carbon tax (upper)
1	Tianjin pilot ETS
<1	Poland carbon tax

World Bank, Ecofys (2018). *State and Trends of Carbon Pricing*