Simulation and Pedagogy for Public Administration
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Participants Handouts

1. NASPAA 2016 En-Roads Simulation Case (6 pages)
2. Appendix E: G-2- Engagement Group Sector Overview (2 pages)
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2016 NASPAA Student Simulation Competition
Creating an Implementable Plan to Limit Global Warming

Xiaoai's Career-Launching Opportunity

Xiaoai Ling is thrilled about her recent job offer that will allow her to work on a team committed to solving the problem of climate change. The offer comes from the Climate Change Engagement Group of the G-20, and it is a perfect fit to her background. Originally trained as an electrical engineer in mainland China, Xiaoai's first work experiences were with a high tech start-up firm in Hong Kong. Her MPA, completed in the United States, gave her the tools and concepts to see how innovative policies can shape and lay the groundwork for creative industrial entrepreneurial activity. Her concentration in Environmental Policy gave her the background to understand the many complexities of global climate change as a topic. Her secondary concentration in International Strategy alerted her to the emerging movement in North American businesses oriented toward sustainable entrepreneurship, combining concern for the common good with an emphasis on corporate social responsibility. Her fluency in both English and Chinese coupled with her familiarity with East Asia and North America cultures were key factors in getting her the job. Her MPA has trained her to work at the seams between technical innovation and innovative policy design—all aimed to promote global public good.

The Paris Climate Talks and the G-20's Climate Change Engagement Group

In December 2015, nearly 200 world leaders gathered in Paris, France for the United Nations Climate Change Conference (COP21) and committed to taking action to solve one of the most pressing issues facing Earth today: global warming. In unprecedented agreement, all countries – big, small, rich, poor, developed, developing, island nations, and land-locked nations – found consensus in limiting harmful emissions to mitigate the worst effects of climate change to 1.5 degrees Celsius. While this agreement set the goals, countries and their industries and citizens will be called upon to change their actions, policies, and operating structure to meet the goals and prevent devastating consequences for life on Earth.

Following acceptance of the COP21 plan, talks are underway by influence groups such as the Group of Twenty (G-20) to understand the agreement and begin implementation efforts. The G-20 is an international forum for governments and central bank governors from the 20 largest economies in the world. The G-20 countries are directly involved in about 85% of the world's economic activity, 80% of world trade, and are home to over 65% of the world's population. The G-20 is a forum through which global economic policy can be coordinated while balancing the interests of each individual member economy.

The G-20's has long been focused on economic growth and raising the overall standard of living, but its members increasingly recognize that they should proceed cautiously to ensure that the effects of climate change, exacerbated by economic growth, do not substantially alter life on Earth. The G-20 also must ensure that the present global economy is not overly disrupted by policies intended to address climate change. The G-20 holds a summit each year, at which various *Engagement Groups* discuss key issues that impact the global economy. Given the intersections among climate change, land use, energy, and production, the G-20 leaders decided that a key Engagement Group of the 2016 Summit would be climate change. Each Engagement Group is led by selected Sherpas of the G-20 leaders. The Sherpas are the Chiefs of Staff to the G-20 Heads of State and they meet regularly to consider possible options and agreements in advance of final negotiations by the G-20 leaders, completed at the annual summit. Sherpas are extremely influential and needs to consider all aspects of a potential plan, especially the implementation challenges, before making a recommendation to the G-20 leaders.

The Climate Change Engagement Group will provide the Sherpas with information and recommendations for addressing climate change that attempt to balance future and present needs across seven industry sectors. Xiaoai has been invited to participate in the Climate Change Engagement Group as a representative of one of seven major sectors. The seven sectors represented in the Engagement Group each have the ability to contribute to the effort to reduce global temperatures and the ability to influence other sectors:

- **Carbon Pricing:** establishes a target for the price to be paid per ton for the right to emit CO_2
- **Population and Consumption:** sets population and GDP growth rate per capita goals
- **Agriculture and Land Use:** sets land use and other gas (methane, N_2O, fluorinated gas) emission targets
- **Fossil Fuels:** establishes taxes for carbon-based energy sources and sets targets for reducing methane leakage. This sector is opposed to carbon pricing
- **Sustainable Energy:** establishes subsidies for non-carbon based energy sources and sets targets for technological advances. This sector benefits from carbon pricing policies
- **Energy Efficiency:** commits to improvements in the efficiency of mobile (i.e. cars) and stationary (i.e. houses) capital that reduce emissions
- **Climate Hawks (Environmental Interest Groups):** works diligently to enact a carbon price.

The Climate Change Simulator

The G-20's Sherpas have already hired a team of economists, climate change scientists, and energy policy experts to create a simulation model that captures much of the objectively known data in the climate change discussions, see *Reference Data* below. The core of the simulation model that the Climate Change Engagement Group will be using is a long-term (years 2015 to 2100) system dynamics[1] simulation of global climate change that was developed by Climate Interactive.[2] Climate Interactive has built and tested many models and one was used during the Copenhagen and Paris climate change talks. The model being used by your Engagement Group today keeps track of carbon and other greenhouse gas emission targets and projects the long term impact of all commitments in terms of global temperature rise, sea level rise, and other key climate variables. The simulation model also contains data capturing the dynamics of most sources (and sinks) for greenhouse gases divided up into the seven policy sectors discussed above. Climate Interactive recently extended this model to the Sherpas to allow them to explore how policies might help the world achieve the goals outlined in the Paris climate talks. The model's graphical interface allows users to easily explore "what if" scenarios by adjusting a number of policy levers. Today, you have access to the simulator so you can test an unlimited number of scenarios and determine their impact on global temperature[3].

The COP21 agreements in Paris specified a commitment to limiting temperature rise to no more than 1.5°C. As you work through this exercise, you will learn that limiting temperature rise to no more than 1.5°C is indeed technically feasible, but political infeasibility generated by stakeholder resistance of many sorts will make this goal very hard to achieve in the simulator as well as in reality. For your policy package to be considered as the winner in this global competition, it must limit the temperature rise to below 2 degrees Celsius; you should still strive for the lowest rise in temperature possible.

Your Role in this Case

Your role in this case study is to assume the identity of Xiaoai. You have been hired as a staff member of the Climate Change Engagement Group to represent the interests of one of the seven sectors in a series of meetings. Information on your assigned sector is below. Your primary goal today is to protect sector interests and represent sector priorities and concerns during negotiations. As one of only a few representatives of your

[1] For a brief overview of systems dynamics: http://www.systemdynamics.org/what-is-s/

[2] Climate Interactive is a not-for-profit organization who helps people see what works to address climate change and related issues like energy, water, food, and disaster risk reduction https://www.climateinteractive.org.

[3] This simulator was built by Climate Interactive and has been adapted to include a set of scoring equations.

sector in your Engagement Group, you will be asked to commit your sector to compromises which mitigate climate change while minimizing disruption to your existing constituency. In support of this goal, you will also have the opportunity to lobby and negotiate with other sectors to influence their willingness to compromise.

Your performance is scored in three ways – by model calculation, by the judges, and by your peers. First, each run of the model will provide a World Energy Score based off of the temperature rise, the political feasibility of your solution, the GDP of your solution, and the interests of your stakeholders. Stakeholders in your sector are resistant to change, and they will be most pleased with solutions that remain close to the current status quo. To help you keep stakeholder interests in focus, each run of the simulator that your sector makes will generate a Stakeholder Contentment score. This score (scaled between 0 and 10) predicts how satisfied your particular stakeholders will be with the policies being implemented in the simulator, based on how much they need to change current practices. This is not a perfect predictor, rather a general indicator of how the proposed policies meet the self-interests of a broad assembly of stakeholders (recognizing that not all of your stakeholders share the same values and objectives). A key part of your job is to craft policy positions that will mitigate possible adverse impacts on your key stakeholders. That is, if a policy package predicts a low stakeholder contentment score for your sector, you need to convince your Engagement Group to change the policies or find ways to implement the policies that mitigate your stakeholder dissatisfaction.

This stakeholder score solely takes into account the degree of change required by stakeholders and their likely reaction to that. Not included in this model is the idea of multisolving. Multisolving is the search for solutions which have very positive secondary benefits. For example, if a city builds bicycle infrastructure, they are encouraging exercise, improving health, and reducing car pollution. Many issues that might make stakeholders dissatisfied will have large secondary benefits. You should consider multisolving in your final presentation and policy brief which you will create during Task Three. You should pay attention to, and consider, the stakeholder score and the overall World Energy Score, but no not place the entirety of your focus on it.

The second performance indicator comes from a judge evaluation. The judges will be playing the role of the Sherpas and interacting with you all day. They will ask you questions to test your understanding of climate change and the solutions you are devising. They will assign you a score based on your performance in Tasks One through Three and then they will assign you a score based on your final presentation. The third performance indicator comes from peer evaluation. During Task Four, peers from other Engagement Groups will judge your presentation and assign you a score. Judges and peers will use Appendix D to rate the presentations.

On February 27, the judges will identify one Engagement Group as the semi-finalist for each regional site; a global winner will be selected from these eight Engagement Groups. This winner will be announced on March 1.

Four Tasks Facing Your Sector on February 27, 2016:

In preparation for your presentation to the G-20 leaders, your work today is divided into four tasks. Each sector also has sector-specific instructions. Each of you, as individuals, may have your own ideas about this sector, and what needs to be done to accomplish the temperature goal, but you should challenge yourself to assume your assigned sector role for the day and to advocate for policies that reflect your sector's priorities. A prize will be awarded for the team that best plays the role of their stakeholders.

Task 1: Create a Preliminary Policy Position. Your first task is to identify a name for your Engagement Group and familiarize yourself with your sector description and the interests of your stakeholders. Then, you will design a package of recommendations that your sector believes will limit global warming to no more than 2°C. This proposal will be created without the help of the simulator – just use good policy reasoning and critical thinking skills. You should not discuss your decisions and proposals with other sectors; at the end of Task One, each sector's decisions will be entered into the model and discussed.

Task 2: Refine Your Policy Position Using the Simulator and Negotiation. Your second task is to explore and experiment with the simulator to identify a comprehensive policy package for your entire Engagement Group that limits global warming. It will begin with a structured learning exercise so you understand how the simulator works. Then, you will use the simulator on your own to test scenarios and understand their impact through the year 2100. Armed with scenarios from the model, you now must negotiate with the other sectors to collectively achieve climate goals. Your Engagement Group will come up with two proposals in this Task – identified later as 2b and 2c. During this task, the simulation will help you see unintended consequences and benefits of actions and should spur you to think creatively about building consensus and appeasing stakeholders. Throughout Task Two, your group should be using pre-prepared worksheets to document lessons learned from using the simulator, which will help you develop your final products in Task Three.

Task 3: Think Through Policy Implementation and Adaption. Actually stopping global warming requires more than just conversations and commitments from each sector. It involves getting into the specifics of policy implementation and adaption – the real work of a public administrator. At this time, your Engagement Group should have an agreed upon policy package (from Task 2c), and you will now create an implementation plan. At this point, the hard work begins: moving to action. After completing Worksheets 3.1 and 3.2, your Engagement Group will split up into three different focus groups composed of representatives from each sector. These new groups will create three different final products to represent your proposal to the G-20 Leadership.

Group A: Final Presentation
Product: Presentation of Plan's Implementation Opportunities and Stakeholder-Based Support
This PowerPoint presentation will be created in Task Three and delivered in Task Four, and it will outline key aspects of your G-20 Engagement Team's Climate Change Policy Proposal. This is intended to be a public-facing statement. The tone of this product should be positive and upbeat, reflecting an attitude that reaching our climate goals is possible. This group is responsible for delivering the presentation on behalf of your engagement group in Task Four. *Reference Template C for a suggested outline.*

Group B: Two-Page Confidential Implementation Briefing Memo
Product: Confidential Analysis of Plan's Implementation Barriers and Stakeholder-Based Resistance
A key component of a solid implementation plan will be a clear analysis of where policy resistance is likely to occur and what might be done about it. Since these are likely to be sensitive issues, this product takes the form of a confidential policy memo to the G-20 Sherpa group. The memo identifies policy implementation challenges and areas where stakeholder support is lacking. *Reference Template B for a suggested outline.*

Group C: Two-Page Confidential Staffing Proposal
Product: Action Plan for Moving forward with G-20's Proposed Policies on Global Climate Change
The G-20 leaders seek advice and guidance on how to begin longer term development and implementation of their policies. The Sherpa group has already committed to hiring a long-term staff secretariat to work on this important policy issue. In this memo, your Engagement Group will provide guidance on how to manage and organize this effort including staffing suggestions based on skills and competencies. *Reference Template C for a suggested outline.*

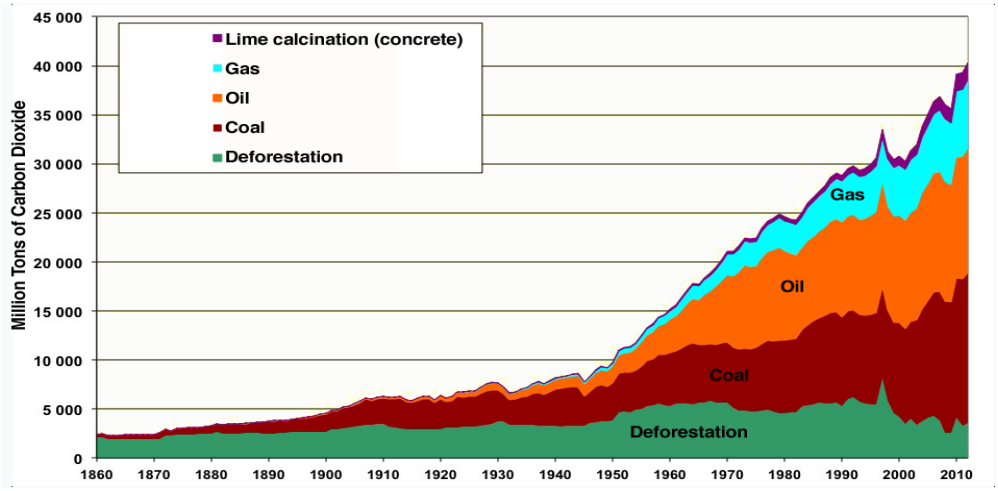
Task 4: Present Your Policy Implementation Package to Peers and Judges. Representatives from Group A will give the presentation to judges and peers. The presentation should be no more than 10 minutes with an additional 5 minutes allowed for questions. Presentations will be evaluated by the judges and your peers using Appendix D. You will not evaluate your own group.

Reference Data

The graphs below show historical trends in global Carbon Dioxide (CO_2) and other greenhouse gas emissions, as well as population and other economic measures.

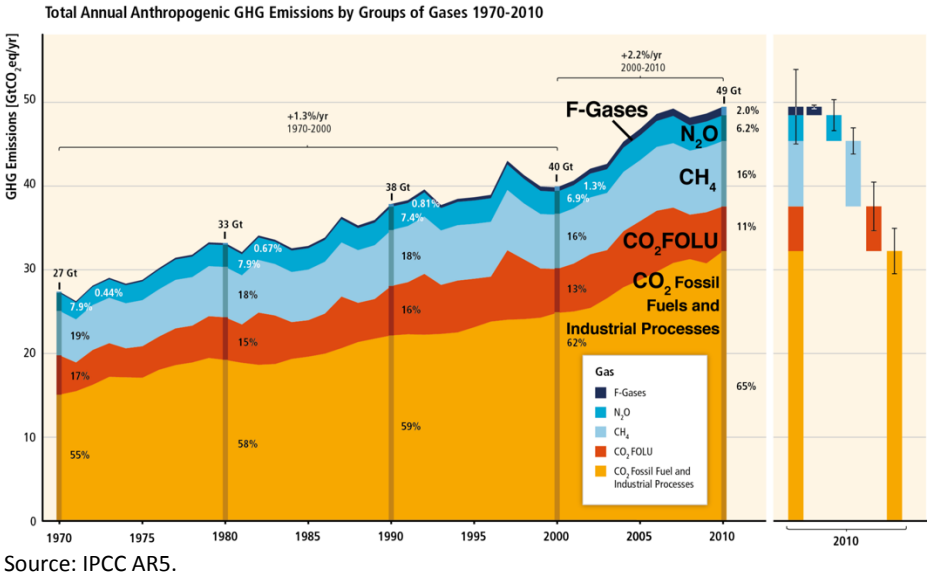
The graph below shows total CO_2 emissions from 1860 – 2012, as a stacked graph, where each source of CO_2 is layered on top of the others. Notice several features:

1. Substantial growth in CO_2 emissions, accelerating after World War II
2. The growth in the share of emissions from burning coal, oil, and gas in the past several decades.
3. Progress in reducing emissions from deforestation in the past twenty years.



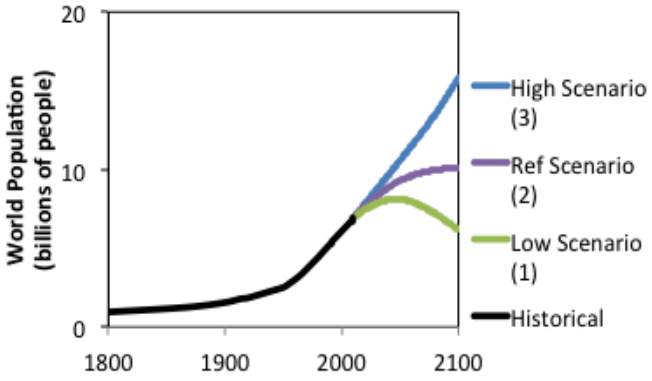
Source: Data from BP Statistical review, compiled by Manicore.

The graph above shows only emissions of CO_2. The graph below shows emissions of other greenhouse gases (GHGs), including error bars, on the right, showing uncertainty. Emissions of the other GHGs are measured in billion tons of CO_2 equivalents per year, or $GtCO_2e$/year (Global Total CO_2 equivalents per year). "FOLU" stands for "Forestry and Other Land Use." After CO_2, the most important GHGs today are methane (CH_4) and nitrous oxide (N_2O).

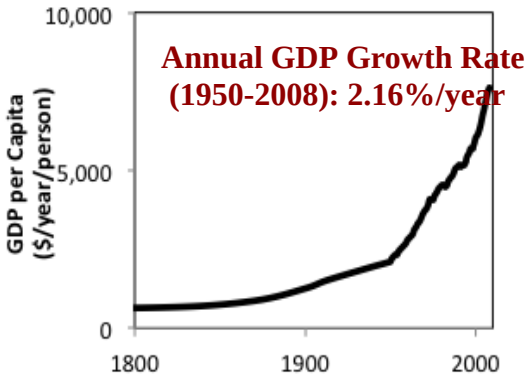


Source: IPCC AR5.

Relevant trends appear below. Some show historical data only; others also include projections to 2100.

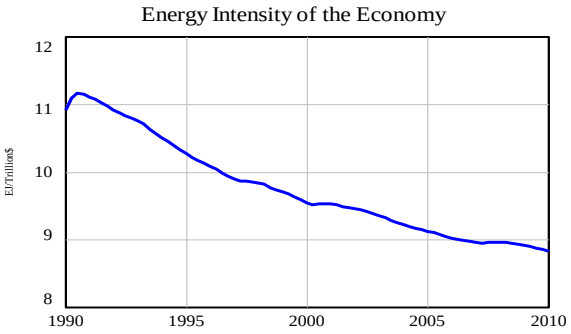


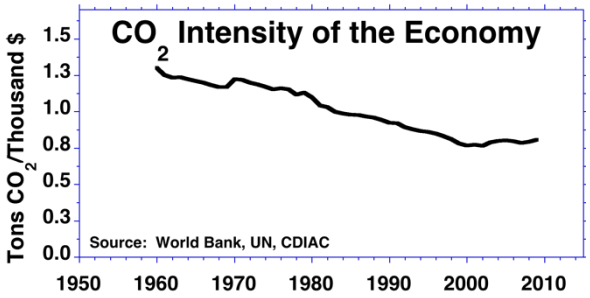
Source: UN, DESA, Pop. Division (2011)



Source: A. Maddison (2008)

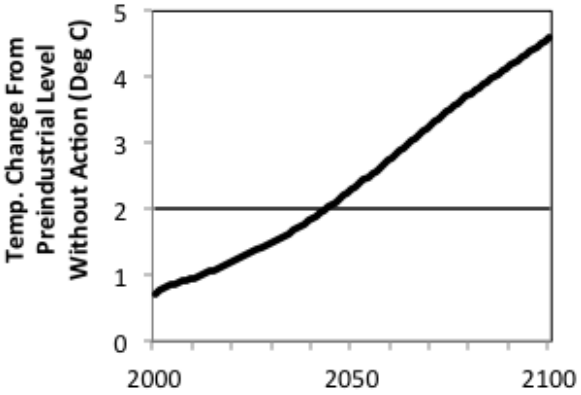
The graphs below show the Energy and CO_2 intensity of the economy. Energy Intensity is a measure of the energy efficiency of the economy. This is calculated as units of energy used per unit of GDP (Gross Domestic Product). If the number is high, then it requires a lot of energy to produce GDP. If low, it requires less. In this graph, we see that Energy Intensity is falling and we are becoming more efficient. CO_2 intensity is a similar measure relative to GDP.





Sources: En-ROADS and US EIA (2012)

The graph below shows the temperature change above preindustrial levels (pre-1750) that has occurred and is projected for the future. It is this trend that you are tasked to reverse. The table below shows relevant data for various countries.



Source: En-ROADS, calibrated to SRES A1FI

(2010)	Population	GDP/ capita	Energy/ capita (kg of oil equiv. per capita)	CO_2/ capita (metric tons per capita)
U.S.	309m	$48,358	7,162	17.6
Italy	60m	$33,761	2,815	6.7
China	1.34b	$4,433	1,881	6.2
India	1.21b	$1,417	600	1.7
Brazil	195m	$10,978	1,362	2.2
Zambia	13m	$1,225	609	0.2

Source: World Bank

APPENDIX E: G-20 Engagement Group Sector Overview

Each G-20 Engagement Group consists of seven sectors, one of which you will represent. The following is a brief overview of the other sectors to prepare you to negotiate effectively.

CARBON PRICING

This sector represents government officials from the world's leading economies and makes decisions in two areas:

- The global average carbon price ($/ton of CO2), if any,
- How the revenue collected from that price will be split among various constituencies including the fossil fuel industry, the sustainable fuel industry, and the public at large through tax cuts.

Government officials and leading emitters are quite content to do nothing until forced to. Carbon pricing will cause a direct cost to the fossil fuel industry and will drive demand from their energy supply to renewables. This will reduce their revenues and could lead to them having to retire business units before they have fully exhausted their earning capacity. At the same time, government officials gain from powerful industry lobbying. To avoid upsetting major donors, they will avoid the need to raise carbon prices.

CLIMATE HAWKS

This sector does not make any decisions. Their goal is to promote the strongest possible agreement to limit greenhouse gas (GHG) emissions, starting immediately. Unlike other groups, they are not beholden to vested interests and are free to advocate for policies and actions that could move society to swiftly and effectively address climate change.

ENERGY EFFICIENCY

This sector represents the combined public voice of the car and truck industries, airline industries, public transit authorities, industrial machinery and appliance manufacturers, energy efficiency incentive programs of electric utilities, residential/commercial builders, and the real estate industry. They make decisions related to:

- Improvements in Energy Intensity
- The annual rate of energy efficiency improvements for mobile (transportation) emission sources
- The annual rate of energy efficiency improvements for stationary (buildings and utilities) emissions sources.

The energy efficiency sector is made up of automobile manufacturers and developers responsible for building and modifying existing stationary buildings. Initially, these stakeholders are very content with the status quo. They feel that they are already making good progress on their annual increases in energy efficiency requirements. If your policy packages require them to become more efficient than this status quo, they will be less content because of these policy mandates.

FOSSIL FUEL

This sector includes representatives of the fossil fuel producers—coal, oil, and natural gas. The fossil fuel industry includes publicly traded oil and gas companies (e.g., ExxonMobil, BP, Shell), national oil and gas companies (e.g., Petrobras, Saudi Aramco), coal companies, electric utilities heavily dependent on fossil fuels, and firms that supply equipment to these industries (e.g., Halliburton, Schlumberger; the fossil-supplying divisions of firms like Siemens and GE). This sector makes decisions in three areas:

- Decide taxes (labeled price in the model) for oil, coal, and gas energy supply
- Determine breakthrough cost improvements from R&D for oil, coal, and gas energy supply
- Implement policies to reduce methane leakage from natural gas production and distribution

Attempts to intervene with policy actions can create two kinds of powerful reactions among your stakeholders and within the scoring logic of the simulator. First, instituting taxes on fossil fuels will be heavily resisted by powerful industry interest groups. It can also create a public outcry as the cost of gasoline and heating houses and businesses rises.

LAND AND AGRICULTURE

This sector represents leaders for the land use, forestry, and agriculture sectors, your constituency includes 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. Your sector makes decisions in two areas:

- Global forestry, agriculture, and other land use
- Emissions in greenhouse gases other than CO_2, including Methane, N2O, and the F-gases

These stakeholders are initially quite content with the status quo, but as your policy packages push them to further reduce land use, forestry, or other green house gases, they will become less content.

POPULATION AND CONSUMPTION

This sector represents the combined public voice of government ministries, the United Nations, NGOs across nations and the political spectrum (such as, Zero Population Growth, and the Club for Growth), religious organizations, social change movements and business organizations such as Chambers of Commerce. They make decisions that effect the following areas:

- Population
- Economic Development, measured specifically in terms of growth in Annual Gross Domestic Product (GDP) per capita

These stakeholders are very powerful, difficult to keep satisfied, and interested in quite different things. Attempts to intervene with policy actions to change population growth can create two kinds of powerful reactions among their stakeholders First, global changes to population growth, especially efforts to decrease population growth, typically involve global changes in lifestyle. A second and related point is that some very powerful stakeholders, especially religious organizations, may be deeply tied to the status quo.

SUSTAINABLE ENERGY

This sector includes representatives of producers of low-carbon and renewable energy—nuclear, hydro, biofuels, wind, solar, geothermal, etc. Renewable energy leaders include established wind, solar, hydro and nuclear companies (e.g., FirstSolar, Areva), renewable energy start-ups (including firms in solar, wind, smart grid, and storage) and the low-carbon or renewable energy divisions of oil and gas companies, electric utilities, and firms that supply these industries such as Siemens and GE. This sector makes decisions in two areas:

- Taxes and/or subsidies for renewable, biomass., and nuclear energy sources
- Breakthrough cost improvements from R&D for renewable, biomass. nuclear energy, and radical new technology for sustainable energy sources

Attempts to intervene with policy actions will usually require federal spending that is not currently in the budget. The pressure to raise taxes or cut spending in order to support this spending will cause an uproar.

WORKSHEET 2.1: MODEL INPUTS

Identified below are all of the levers in the model organized by which stakeholder group controls them. Use this worksheet to help you understand who controls which levers. The "Business as Usual" (BAU) column replicates the current actual situation in 2016. The "Extreme Policies" column replicates the situation that would keep global temperature the lowest if every solution were to be implemented tomorrow; it could also be called *Full Throttle.* Reference this worksheet if you are uncertain which direction a lever moves in or to determine the minimum/maximum settings. When printed, this worksheet is in 4 pages; please arrange accordingly.

STAKEHOLDER GROUP	LEVER GROUP	LEVER	UNITS	MIN	MAX	Business as Usual (BAU)	Extreme Policies
CLIMATE HAWKS	GLOBAL						
POPULATION & CONSUMPTION	GLOBAL	Population Scenario	Scenario 1, 2, or 3	1	3	3	1
		GDP per Capita Growth Rate	% growth	0	4	2	0.00
AGRICULTURE & LAND USE	GLOBAL	Land Use & Forestry	% reduction	0	0.99	0	0.99
		Other Gases	% reduction	0	0.99	0	0.99
FOSSIL FUEL SUPPLY	COAL	Tax/Subsidy	$/GJ	-10	10	0	-10.00
		Start Year	Year	2015	2100	2015	
		Stop Year	Year	2013	2100	2015	
		Breakthrough improvement	fractional reduction	0	0.99	0	0.00
		Breakthrough Year	Year	2020	2100	2020	
		Accelerated retirement	%/yr	0	10%	0	0.10
	OIL	Tax/Subsidy	$/GJ	-10	10	0	-10.00
		Start Year	Year	2015	2100	2015	
		Stop Year	Year	2013	2100	2100	
		Breakthrough improvement	fractional reduction	0	0.99	0	0.00
		Breakthrough Year	Year	2020	2100	2020	
	GAS	Tax/Subsidy	$/GJ	-10	10	0	-10.00
		Start Year	Year	2015	2100	2015	
		Stop Year	Year	2013	2100	2100	
		Breakthrough improvement	fractional reduction	0	0.99	0	0.00
		Breakthrough Year	Year	2020	2100	2020	
		Methane Leakage Reduction	%	0	6	3	0.00

SUSTAINABLE ENERGY	RENEWABLES	Tax/Subsidy	$/GJ	-10	10	0	10.00
		Start Year	Year	2015	2100	2015	
		Stop Year	Year	2013	2100	2100	
		Breakthrough improvement	fractional reduction	0	0.99	0	0.99
		Breakthrough Year	Year	2020	2100	2020	
	BIOMASS	Tax/Subsidy	$/GJ	-10	10	0	10.00
		Start Year	Year	2015	2100	2015	
		Stop Year	Year	2013	2100	2100	
		Breakthrough improvement	fractional reduction	0	0.99	0	0.99
		Breakthrough Year	Year				
	NUCLEAR	Tax/Subsidy	$/GJ	-10	10	0	10.00
		Start Year	Year	2015	2100	2015	
		Stop Year	Year	2013	2100	2100	
		Breakthrough improvement	fractional reduction	0	0.99	0	0.99
		Breakthrough Year	Year	2020	2100	2020	2020
	NEW TECH	Tax/Subsidy	$/GJ	-10	10	0	10.00
		Start Year	Year	2015	2100	2015	
		Stop Year	Year	2013	2100	2100	
		Breakthrough improvement	fractional reduction	0	0.99	0	0.99
		Breakthrough Year	Year	2020	2100	2020	2020
ENERGY EFFICIENCY	GLOBAL	Energy Efficiency: Stationary	improvement %	-1	7	1.2	7.00
		Energy Efficiency: Mobile	improvement %	-1	7	0.5	7.00
CARBON PRICING	GLOBAL	Carbon Emissions Price	$/ton	0	200	0	200
		Start Year	Year	2015	2100	2015	
Allocation of Collected Carbon Taxes	GLOBAL	Fraction to Fossil Fuel Industry	fraction	0	1.0		
		Fraction to Sustainable Energy	fraction	0	1.0		
		Fraction to Public	fraction	0	1.0		

Logon Information for April 7, 2018 Seminar Beijing, China

How to run simulator for 2015 NASPAA ReThink Health Simulation:
URL to get into the model:
forio.com/app/rippel/rethink-health-naspaa
Usename: NASPAATrainer
Password: NASPAATrainer1

How to run simulator for 2016 NASPAA En-Roads Simulator: World Energy
URL to get to the model:
https://forio.com/simulate/climateinteractive/naspaa2/simulation/#p=page18
username: climateinteractive
password: Ask David Andersen

How to run simulator for the Governors Office of Regulatory Assistance Case
https://forio.com/simulate/lluna-reyes/gora/simulation/#p=page1
No Username or password needed

How to run simulator for the Coastal Protect SIM Exercises
https://forio.com/simulate/lluna-reyes/pointclaire2016/run/#p=page5
No Username or password needed

If you experience trouble during login using the Safari browser, try using Firefox or Chrome. Make sure the Adobe Flash-Player plug-in is up to date.

References to materials discussed in this presentation

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Climate Interactive, En-Roads Simulations. https://www.climateinteractive.org/tools/en-roads/

Harvard Business Publications:
Simulations. https://cb.hbsp.harvard.edu/cbmp/pages/content/simulations

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