

Policies for debate on Climate Change

Note: The next few slides (up till international trade) are really only for your information. I won't be going over them much in class, but you may find it helpful to read it to help you formulate thoughts for the platform debate.

Gas Tax

- If we set **high taxes on gas** like Europe:
 - Very good for the environment
 - Bad for the economy, aside from environmental impacts (Why? What decreases?)
 - Government surplus increases, since demand for gas is relatively inelastic in the short run
 - Revenue could go toward various things such as public infrastructure, education, or taxes can perhaps be cut in other industries
 - In principle, a tax could be set up that is **revenue neutral**. Income taxes could be lowered to exactly offset the increased revenue from gas taxes. Critics of a gas tax could argue, with some justification, that even if a gas tax was sold as something that would be revenue neutral, it might not be believable that the government would actually lower the income tax rates by that much. That is, when new taxes are added, total taxes tend to go up, not stay the same.

Gas Tax

- **World oil price will be affected**, since the US has a large share of the demand in the world oil market. US consumption is about 25% of world consumption, even though 5% of population
 - Example: If US cuts its oil consumption by 20%, the world oil demand will fall by about 5%
 - This decrease in world oil demand will decrease the world oil prices
 - Is this good or bad for the US? (Think about whether we import or export oil more)
- What if **just Minnesota** passed a substantial gas tax and cut consumption by 20%? Would we still get this effect?
 - No. MN is only about 1/50 of U.S., such a cut would have a negligible impact on the world oil market.
- But as we said last class, gas tax is not very popular politically

Cap and Trade: SO₂ regulation

- In 2000, SO₂ capped at 9.5 million tons
- In 2010, final cap of 8.95 tons
- SO₂ cut by half from 1980 emission of 17.3 tons. (Many lives saved as well as trees)
- For every ton emitted, need one allowance.
- Average trade in 2007 was \$325 per ton.
- More recently price has plummeted to under \$10.

Cap and Trade of CO₂

Europe. Legally binding caps

- Can find more information at the European Union Emissions Trading Scheme website
http://ec.europa.eu/environment/climat/emission/index_en.htm
- Go to FAQ tab for some interesting discussion about the program.
- The price has collapsed from over €22 a few years ago to €5 a ton of CO₂.
 - Can check today's price:
<http://www.eex.com/en/Market%20Data/Trading%20Data/Emission%20Rights>
- UK is moving to adding a carbon tax to power plants burning coal to offset declines in allowance price. The tax will be on the order of €20 and will rise to €40 by 2020. Key idea is to provide incentives to reduce carbon production.

Cap and Trade of CO₂

United States

- Currently no mandatory carbon allowance system
- But a voluntary system is up and running. There exists a market in carbon offsets. Pay \$10 and in return one ton CO₂ is offset
- Minimal gas tax
- EPA is planning to introduce command and control regulations for new power plants:
<http://epa.gov/carbonpollutionstandard/basic.html>
- Fuel efficiency standard for automobiles
- Cash for clunkers program (subsidy to destroy old inefficient car and buy new car)
- Subsidies for clean energy technology

Subsidies for Green Energy

- With no externalities, **subsidies** reduce total surplus. However, if fossil fuels have a **negative externality**, then if we subsidize clean energy it raises total surplus as it induces people to substitute clean energy for dirty energy.
- Politically, we are more likely to see this. Politicians can pitch this as a **jobs program**. Subsidizing windmills means more jobs for people who make windmills.

Problem 1: Where's the money?

- One obvious problem with subsidies is coming up with the money to fund them in this era of **budget deficits**.

Subsidies for Green Energy

Problem 2: Picking Winners and Losers

- The government won't necessarily be able to pick out the winners and losers. There was much controversy now about a solar panel company called **Solyndra** that received a \$535 million loan guarantee from the Obama Administration. Solyndra went into bankruptcy, so taxpayers are on the hook for this loan. Critics of subsidies point to this case as clear evidence that the government should not be in the business of giving out subsidies. Advocates of subsidies argue that this is just one failure out of a larger package of loans, and in the larger package they point to successes.
- One thing to think about: If a **carbon tax were set at the Pigovian level**, you wouldn't need to subsidize alternative energy. Entrepreneurs would have plenty of incentive to create new low-carbon technologies.

Why is U.S. regulating SO₂, but only minimally regulating CO₂?

- Why is Republican platform basically saying it will undo the EPA regulations, pull back on fuel efficiency standards, top subsidizing clean energy, etc...
- But Republicans (at least 1990 variety including George H.W. Bush who signed the 1990 clean act) were on board with regulating SO₂
- A key point is that the level of acid rain in the U.S. is mainly determined actions taken in the U.S. If we cut SO₂ emissions by half in the U.S., we cut acid rain in the U.S. by half.

Why is U.S. regulating SO₂, but only minimally regulating CO₂?

CO₂ is different.

- Not only are the impacts further down the road, what happens with climate change depends not only on what we do, but also **what other countries do**. We can cut back by a half and it won't make any difference if our cutbacks are completely offset by expansions by other countries. A key difference then is that **CO₂ is an externality at the global level in a way that SO₂ is not**.
- For example, we can think of the people in Econland as being countries, D1 could be the U.S., D2 could be Germany. We can think of the **SO₂ issue as just D1 keeping his own house clean**. It is a private good for D1 relative to his dealings with D2. But CO₂ is an externality, where D1's behavior impacts D2. So we see that getting efficiency for CO₂ will be more of a problem.

Your Turn

- On Tuesday in recitation, you will be presenting evidences and economic support for your platform, while trying to defend the critiques of others about your policy. Be creative in your platform – it can be something small and modest like making permitting process easier for setting up offshore windmills or something extreme. Whatever you choose, it should be specific and not general (i.e. don't just say "let's tax"... tax what? How? When?)
- On the subject of windmill and solar panel manufacturing jobs and solar panel jobs...it seems like most of them are going to China. This is a nice transition to our next **Global Issue: International Trade.**