

## Cap & Trade

1. Cap & Trade is about more than CO<sub>2</sub>, both the Senate and House bill in the U.S. Congress include CO<sub>2</sub>, methane, and nitrous oxide (“NO<sub>x</sub>”), the “greenhouse gases.” In 2009, total U.S. greenhouse gas emissions were 6,965 trillion tons.<sup>1</sup> China has released one report on its greenhouse gas emissions, from 1994. The U.S. Congressional Research Service estimates that China’s 2005 greenhouse gas emissions exceeded the U.S. with 7,527 trillion tons.<sup>2</sup> The U.S. and China are the largest emitters of greenhouse gases.
  - a. Under Cap & Trade, methane and NO<sub>x</sub> are converted to a carbon price by factoring their impact on the environment relative to CO<sub>2</sub>. One ton of “methane has about 33 times as much effect on the climate over 100 years as a ton of CO<sub>2</sub>, rather than 25 times [as was thought in prior] estimates... Methane is acknowledged as the second most important greenhouse gas... after CO<sub>2</sub> and is responsible for about a fifth of warming effects.”<sup>3</sup> Thus 1/33<sup>rd</sup> of a ton of methane emissions should have the same price as one ton of CO<sub>2</sub>.
  - b. Every power plant that uses coal, natural gas, oil, or biomass emits CO<sub>2</sub>, methane, and NO<sub>x</sub>.
2. The Cap & Trade market will be one of the largest and most complex financial markets in history, but nobody knows how large it will become. The U.S. Cap & Trade market faces predictions on market size that are nearly an order of magnitude apart; the low-end estimate is \$300 billion (about the same size as total U.S. prescription drug sales in 2009)<sup>4</sup> and \$2 trillion (about the same size as the entire U.S. expenditure on health care in 2008)<sup>5</sup>, annually.<sup>6</sup>

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<sup>1</sup> U.S. Environmental Protection Agency, “US Greenhouse Gas Inventory, 2010”, [www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010\\_ExecutiveSummary.pdf](http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010_ExecutiveSummary.pdf) [“EPA Greenhouse Gas Inventory”]

<sup>2</sup> U.S. Congressional Research Service, “China’s Greenhouse Gas Emissions and Mitigation Policies”, Sep. 10, 2008 [www.fas.org/sgp/crs/row/RL34659.pdf](http://www.fas.org/sgp/crs/row/RL34659.pdf)

<sup>3</sup> UK Times Online, “Methane’s impact on global warming far higher than previously thought”, Oct. 30, 2009, [www.timesonline.co.uk/tol/news/science/earth-environment/article6895907.ece](http://www.timesonline.co.uk/tol/news/science/earth-environment/article6895907.ece)

<sup>4</sup> Reuters.com, “U.S. prescription drug sales hit \$300 billion in 2009”, Apr. 1, 2010, [www.reuters.com/article/idUSTRE6303CU20100401](http://www.reuters.com/article/idUSTRE6303CU20100401)

<sup>5</sup> KaiserEdu.org, “U.S.. Health Care Costs” background brief, [www.kaiseredu.org/topics\\_im.asp?imID=1&parentID=61&id=358](http://www.kaiseredu.org/topics_im.asp?imID=1&parentID=61&id=358)

- a. Banks are planning to “design and market derivatives contracts that will help client companies hedge their price risk over the long term.”<sup>7</sup> They’re also ready to sell carbon-related financial products to outside investors. “The scale of what’s being contemplated here is absolutely enormous, it’s going to affect your kids and my kids.” [Blythe Masters at JPMorgan Chase & Co, who oversees the bank’s environmental business.]<sup>8</sup> “Wall Street sees profits at every stage of the carbon-trading process. Banks would make money by helping clients manage their carbon risk, by trading carbon for their own accounts, and by making loans to companies that invest to cut greenhouse gas emissions.”<sup>9</sup>
3. Political lobbying plays a massive role in Cap & Trade. In 2009 alone, \$80 million was spent lobbying Congress on the issue.<sup>10</sup> The major issues in Cap & Trade are all defined through legislation and are thus driven by lobbying:
  - a. Offsets
    - i. Offsets allow companies to invest in technologies and projects that reduce carbon emissions. Any project that can demonstrate that it reduces emissions would generate an ‘offset’. Companies could buy and sell offsets to meet emissions standards.
    - ii. Both bills in the U.S. Congress cap offsets at 2 billion tons per year. (Recall that in 2009, total U.S. greenhouse gas emissions were 6,965 trillion tons.)<sup>11</sup>
  - b. Allowances
    - i. The government will give “pollution allowances” to companies in the early years of Cap & Trade. These allowances are marketable – so if a firm has more allowances than emissions, it can bank the credits, or

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<sup>6</sup> Bloomberg.com, “Carbon Capitalists Warming to Climate Market Using Derivatives”, Dec. 4, 2009 [www.bloomberg.com/apps/news?pid=20601086&sid=aXRBOxU5KT5M](http://www.bloomberg.com/apps/news?pid=20601086&sid=aXRBOxU5KT5M) [“Carbon Capitalists”]

<sup>7</sup> “Derivatives are financial instruments whose value is derived from the value of something else. They generally take the form of contracts under which the parties agree to payments between them based upon the value of an underlying asset or other data at a particular point in time. The main types of derivatives are futures, forwards, options and swaps. The main use of derivatives is to minimize risk for one party while offering the potential for a high return (at increased risk) to another.” Source: [www.hedgefund-index.com/d\\_derivates.asp](http://www.hedgefund-index.com/d_derivates.asp)

<sup>8</sup> “Carbon Capitalists”

<sup>9</sup> “Carbon Capitalists”

<sup>10</sup> Energy Biz Insider, “Democracy at Work”, May 29, 2009

<sup>11</sup> “EPA Greenhouse Gas Inventory”

trade them to another company that has more emissions than allowances.

- ii. Allowances are included in Cap & Trade legislation – thus every industry that has emissions has lobbyists arguing for high levels of allowances.
- iii. Since the goal of Cap & Trade is to drive down emissions, over time the government will reduce allowances. Thus the question of when they reduce and by how much is a major element in the legislation and rules – which will be extremely heavily lobbied by affected industries and by the banks and financial institutions. Affected industries will want a longer, slower transition away from allowances; banks and financial institutions will want a quicker, faster transition.
- iv. The government will have a “strategic reserve of allowances that the government could use to flood the market if the price of carbon shoots up.”<sup>12</sup> Under Kerry-Boxer, that reserve releases at \$28 a ton in 2012, with the price trigger increasing over time.<sup>13</sup> Waxman-Markey uses a formula based on market costs.
- v. “Emissions allowances will have substantial value. On the basis of... policies now being debated, CBO estimates that by 2020, the value of those allowances could total between \$50 billion and \$300 billion annually (in 2006 dollars).”
  1. “[T]he prices of [affected] goods and services would go up, regardless of whether producers were required to purchase the allowances or received them for free (because the price increases stem from the restriction on emissions.) Those price increases would reflect the value of the allowances. If companies benefited from the price increases but did not have to purchase the allowances, they would receive windfall profits, which could be very large. For example, in 2000, CBO estimated that if emissions were reduced by 15 percent and all of the allowances were distributed free of charge to the producers in the oil, natural gas, and coal sectors, the value of the allowances would be 10 times the combined profits of those producers in 1998.”<sup>14</sup>

## c. Floor Pricing of Carbon emissions

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<sup>12</sup> “Carbon Capitalists”

<sup>13</sup> Duke School of the Environment, the Dean’s blog, “What’s Different? Waxman-Market vs. Kerry-Boxer Climate Bills”, Oct. 2, 2009

[www.nicholas.duke.edu/thegreengrok/waxmanmarkey-vs-kerryboxer](http://www.nicholas.duke.edu/thegreengrok/waxmanmarkey-vs-kerryboxer) [“Duke School”]

<sup>14</sup> U.S. CBO Testimony before the House Ways and Means Committee by Terry Dinan, Mar. 12, 2009 [“CBO Testimony”]

- i. The U.S. Senate legislation (Kerry-Boxer) sets a price floor of \$11 per ton of CO<sub>2</sub>, the House legislation (Waxman-Markey) sets a price floor of \$10 per ton of CO<sub>2</sub>.<sup>15</sup>
    - ii. On June 9, 2010 the European Climate Exchange price was \$18.69 a ton of CO<sub>2</sub> (converted).
  4. Cap & Trade will drive up energy prices for consumers, and will disproportionately impact the poor.
    - a. The U.S. Congressional Budget Office estimates that “the price increases from a 15% cut in CO<sub>2</sub> emissions could cost the average household roughly \$1,600 (in 2006 dollars).” And CBO cautions that households in the bottom 20% of income pay 21.4% of their income for utility bills – while households in the top 20% pay only 4.1% of their income for utility bills. Thus, Cap & Trade “would have a greater impact, relative to income, on lower-income households.”<sup>16</sup>
    - b. The U.S. Energy Information Administration estimates that one of the bills in Congress (Waxman-Markey, in the House) would cost raise U.S. residential electricity bills by \$83 a year, but cautions that the costs by region could vary from \$59 to \$292.<sup>17</sup>
      - i. This has led “CO<sub>2</sub>-intensive” electricity states to adopt very aggressive lobbying efforts with their Senators and Representatives to protect their own state’s economic interest.<sup>18</sup>
      - ii. As electricity prices rise, manufacturers and other energy-intensive industries will be motivated to relocate away from CO<sub>2</sub>-intensive states.<sup>19</sup>
      - iii. This increase in electric costs is being cited as a reason to drive more and more government financing and tax breaks to “alternative energy” providers such as solar and wind companies, which become economic as the price of CO<sub>2</sub> increases.

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<sup>15</sup> “Duke School”

<sup>16</sup> “CBO Testimony”

<sup>17</sup> The Arizona Republic, “Keeping the lights on will cost more if greenhouse-gas legislation becomes law”, Aug. 23, 2009

<sup>18</sup> US News & World Report, “Obama Cap-and-Trade Will Meet Coal-Fired Energy Political Opposition”, Mar. 25, 2009 [www.usnews.com/blogs/barone/2009/03/25/obama-cap-and-trade-will-meet-coal-fired-energy-political-opposition.html](http://www.usnews.com/blogs/barone/2009/03/25/obama-cap-and-trade-will-meet-coal-fired-energy-political-opposition.html)

<sup>19</sup> Treehugger, “Post Cap & Trade, Manufacturing Jobs Will Move to U.S. State with Greener Power, Not China”, Mar. 7, 2010 [www.treehugger.com/files/2010/03/post-cap-trade-manufacturing-jobs-will-move-us-states-with-greener-power-not-china.php](http://www.treehugger.com/files/2010/03/post-cap-trade-manufacturing-jobs-will-move-us-states-with-greener-power-not-china.php)