

Economic Analysis

Changing the Climate Game

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- **The Clean Power Plan has both political and diplomatic benefits for the White House**
- **Ambitious targets to reduce CO2 emissions will boost renewables**
- **Banks should seize the opportunity in this new energy environment**

On August 3, 2015, President Obama unveiled The Clean Power Plan (CPP) that establishes carbon pollution standards for power plants. The CPP aims at decreasing CO2 emissions by 870 million tons by 2030. This would represent a reduction of around 16% and 2.5% of U.S. and global CO2 emissions, respectively. Power plants that burn fossil fuels or materials made from fossil fuels account for 40% of total CO2 emissions in the country. In addition, the Environmental Protection Agency (EPA) also finalized the CO2 emission standards for new, modified and reconstructed power plants.

The CPP assigns emission targets to states and allows them to decide their own reduction plans. In addition, the new rule requires states to submit their proposals between 2016 and 2018, and start meeting targets no later than 2022. The CPP also provides incentives to switch to zero-emissions alternatives like wind and solar instead of replacing coal with natural gas.

At the state and local level, this is not the first initiative aimed at curbing CO2 emissions. In fact, 50 states have utilities that run demand-side energy efficiency programs, 37 states have renewable portfolio goals and 10 states have market-based greenhouse gas emission programs. However, the CPP is the first initiative to regulate carbon pollution standards for existing power plants at the federal level, adding to a series of environmental regulations on air pollution dating back to the 1955 Air Pollution Control Act, the 1963 Clean Air Act and subsequent amendments (1970, 1977 & 1990), the 1998 NOx SIP Call, the 1999 Regional Haze Rule, the 2005 Clean Air Interstate Rule, the 2005 Clean Air Mercury Rule, the 2011 Cross-state Air Pollution Rule and the 2012 Mercury Air Toxics Rule.

If CO2 emissions are not cut significantly, the costs associated with climate change and rising temperatures such as more severe and frequent natural disasters would continue to increase. Over the last 25 years, overall losses from natural catastrophes average \$20 billion per year. The White House calculates that in 2012 the economic costs of natural disasters including wildfires, droughts, heat waves, hurricanes, super-storms and combined severe weather reached \$100 billion. The main purpose of the CPP is to balance the financial costs of reducing greenhouse gases with the economic and social benefits associated with mitigating climate change.

Implications

International relations: The CPP reinforces the U.S. leadership in the fight against climate change. This November, the 2015 United Nations Climate Change Conference will try to reach a global agreement to keep the Earth's average temperature from rising further. In this context, the CPP serves as an effective negotiation tool for the U.S. to convince high CO2 emitters like China to embrace more aggressive reduction targets.

Political: Given that public opinion is evenly divided, it would seem that the objective goes beyond partisan politics. The lack of political costs in the final two years of the Administration allows the President to take bold actions and show a genuine commitment to tackle climate change, while reinforcing his legacy. As the

presidential election approaches, independent environmentalists and supporters of climate change are likely to gravitate toward the Democratic Party as a result of the initiative. However the impact appears to be limited as 61% of independent voters believe that the Earth has been warming but only 44% see climate change as a major threat.¹ This distribution is similar for the entire population as 52% of Americans believe that climate change is “mostly caused by human activities”². Moreover, climate change still falls behind other concerns such as the expansion of ISIS in the Middle East, Iran’s nuclear ambitions and global economic instability, in contrast to other countries where it is considered the most important threat.³

Public health: The White House expects the initiative to have a positive impact on public health through a significant reduction in the number of non-fatal heart attacks (-1,700), hospital admissions (-1,700), premature deaths (-3,600), asthma attacks (-90,000) and missed school and work days (300,000). Savings from public health improvements are projected at \$54 billion.

Economy: From an industry perspective, renewables will benefit the most as electricity generation is expected to rely more on these sources. The White House expects renewables to grow by 30% by 2030 and account for 28% of power generation, from 12.5% in 2012. To achieve this goal, the new rule provides a series of incentives for states to embrace wind and solar options relative to clean coal or natural gas. As a result, renewables are likely to expand and increase job creation. Even before the plan was announced, employment in solar energy had been growing at a fast pace. According to the Solar Foundation, between 2010 and 2014, employment in the solar industry went from 93,502 to 173,807, an 86% increase, with most of the jobs created in the installation sector. On the other hand, the wind industry currently supports around 50,000 jobs in manufacturing, installation and maintenance; but, the Department of Energy predicts that it could support around 600,000 jobs by 2050.⁴

The coal industry will continue to be under pressure in this new environment. Coal companies have been struggling to cope with the emergence of natural gas as a primary input for power generation and increasing regulatory initiatives to reduce greenhouse gas emissions. According to Haerer and Pratson (2015), between 2008 and 2012, the coal industry lost more than 49,000 jobs, as opposed to the natural gas, wind and solar industries, which in the same period, created nearly 175,000 jobs.⁵ As the energy market reaches a new equilibrium, thousands of coal workers may transit to renewables or other industries, a process that could be facilitated by retraining programs.

For consumers, according to the White House, the CPP is expected to generate \$155 billion in savings from 2020 to 2030, as lower generation costs reduce utility bills. The assumption is that renewable plants can operate at minimum cost once they are fully operational, which may seem too optimistic. In the short run, CPP will likely lead to higher prices to cover greater investment in renewables. In the long-run, some places may not see the expected price reduction if the cost of compliance and transition is prohibitive. Thus, the implied gamble is that investment and innovation continue to lower renewables production costs.

¹ <http://goo.gl/xzCSRT>

² <http://goo.gl/UzTBGS>

³ <http://goo.gl/UTuHj8>

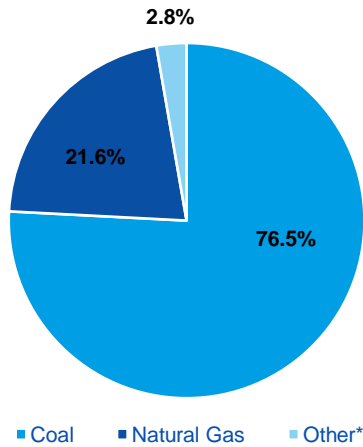
⁴ <http://goo.gl/7GrqG0>

⁵ Drew Haerer and Lincoln Pratson (2015), “Employment trends in the U.S. Electricity Sector, 2008–2012”, Energy Policy, Vol. 82, July 2015, pages 85-98.

Bottom line

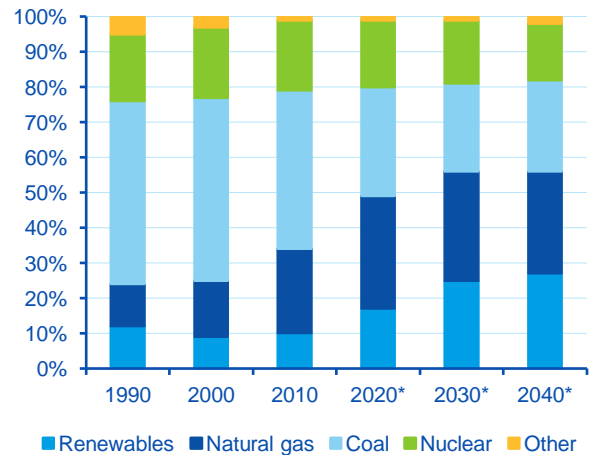
The CPP aims at reducing CO2 emissions by creating targets and incentives for renewable energy, and quickly transition to a more balanced mix of energy sources. This is a step toward addressing climate change, which is considered the most critical global problem. Efforts to challenge CPP are already underway and thus its success is uncertain. Nevertheless, from a business perspective, CPP promises to boost investments in renewable energy, and banks should be ready to finance these projects. Private equity, project-finance, corporate debt and public finance could benefit from CPP. Finally, although CPP only applies to power plants, banks should also be aware of trends in green energy employment and explore the possibility of financing households that will be looking to install renewables infrastructure and storage devices, and purchase energy-efficient appliances and materials.

Chart 1
U.S. Carbon dioxide emissions from energy consumption: electric power sector.



*Distillate fuel, petroleum coke, residual fuel oil, petroleum, geothermal and non-biomass waste. Source: Energy Information Administration.

Chart 2
U.S Total electricity generation (1990-2040), share of total kilowatt-hours



*Forecasts. Source: U.S. Energy Information Administration, Analysis of the Impacts of the Clean Power Plan.

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