(a) This is the official U.S. pledge to COP21: it basically projects the continuation of the downward trend since 2005 all the way to 2020 and then a steeper descent.

(b) Instead of growing at 1.6% per year, as was the case in 1990-2000, the pledge is to decrease emissions by 1.3% per year.

How can this be done?

1. Substitution of coal by NG in power plants (250 → 150, \(\frac{66\text{ Gt CO}_2}{66\text{ Gt}}\))
2. More wind- and/or nuclear-based electricity.
3. Higher car efficiency = Save on oil, or replace by hybrids/electric

Best bet? (both social and economics OK)

Social support lacking Economics OK

Socially lukewarm Economics marginal

Over 20yrs one 1Gw MW coal plant emits X tons CO_2

\(\approx \text{Need 1 wind turbines!} \)

\(\approx \text{Compare whether possible at } 1.3\% \text{ yr}^{-1} \text{ growth rate!} \)

lrr3@psu.edu (last modified 12/08/2015)