Energy Intensive Industries Analysis of Waxman Markey Bill
June 19, 2009

Executive Summary

The following analysis shows that there is a potential annual shortage of allowances for energy-intensive, trade-effected industries [EITEs] beginning between 2018 and 2021, depending on whether McMackin Group or EPA emissions data is used.

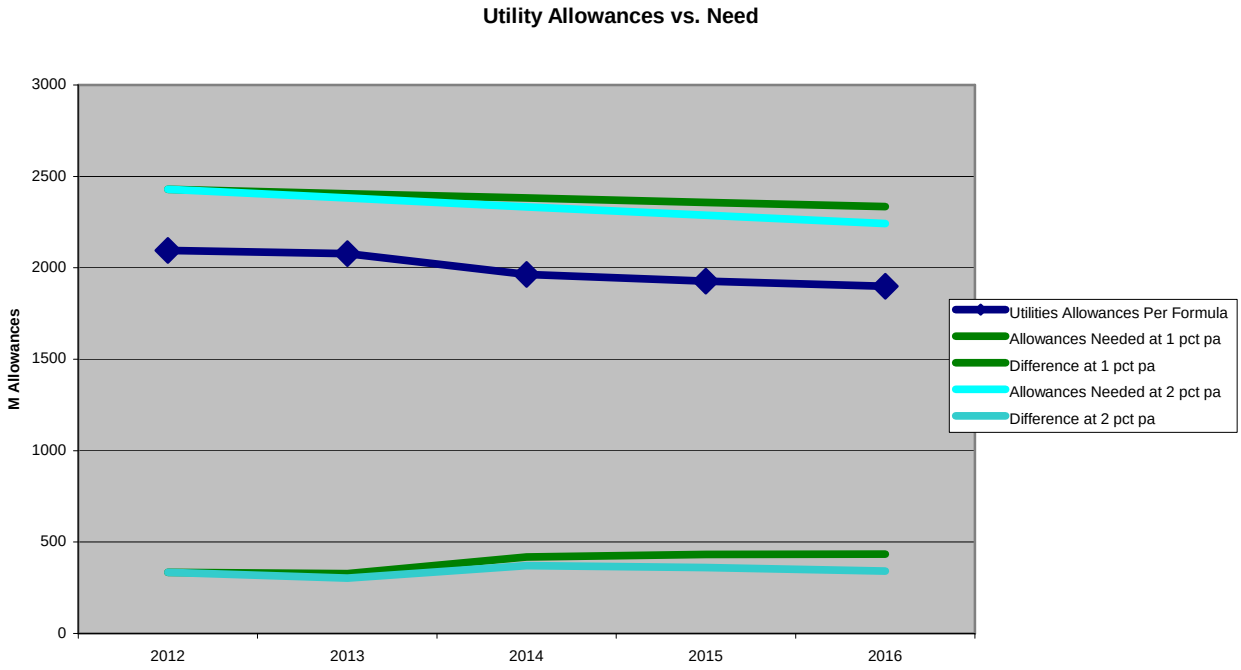
The following analysis does not account for any growth in EITE production, which is expected given the materials intensity of transforming our nation's energy infrastructure [e.g., new wind and solar]. Growth will put more pressure on availability of EITE allowances. Secondly, it is clear that the Doyle Inslee provisions of the bill were designed to handle the costs related to emissions only, omitting purchased steam, and do not consider the many other consequences of climate policy which will also impact energy cost [see Part III].

These points emphasize the critical nature of correcting the EITE allocation formula to where EITEs receive 15% of the Total Pool, declining at only the rate built into the Total Pool [Sec. 721], until 2025. Such a correction could provide an additional 70-80 million allowances annually.

Background–Sufficiency of the Waxman-Markey Utilities Pool

Part I: Sufficiency of the Utilities Pool

Figure 1 below, Utilities Allowances vs. Need, shows the allowances allocated to the utilities sector per Sec. 782 of Waxman-Markey compared to the allowances needed under certain conditions:



The dark blue line describes the allowances allocated to utilities from 2012 until 2016 according to Waxman Markey. In all cases the CO2 emissions needed in 2012 are based on utilities' emissions of 2.7 billion tons of CO2 in 2007 [per EIA]. This amount is reduced by 10% in 2012, which we are advised is the amount of improvement utilities agreed is possible between 2007 and 2012. Therefore, the cases below all start at 2.43 billion tons of CO2 emissions [90% of 2.7 billion] in 2012:

- The green line at the top shows the allowances utilities will need if they reduce CO2 emissions 1% per annum from 2012-2016
- The light blue line at the top shows the allowances utilities will need if they reduce CO2 emissions 2% per annum from 2012-2016

At the bottom of the graph, the green and light blue lines indicate the shortfall in the Utilities Pool at 1% [green] and 2% [light blue] yearly reduction in utilities' CO2 emissions.

Summary

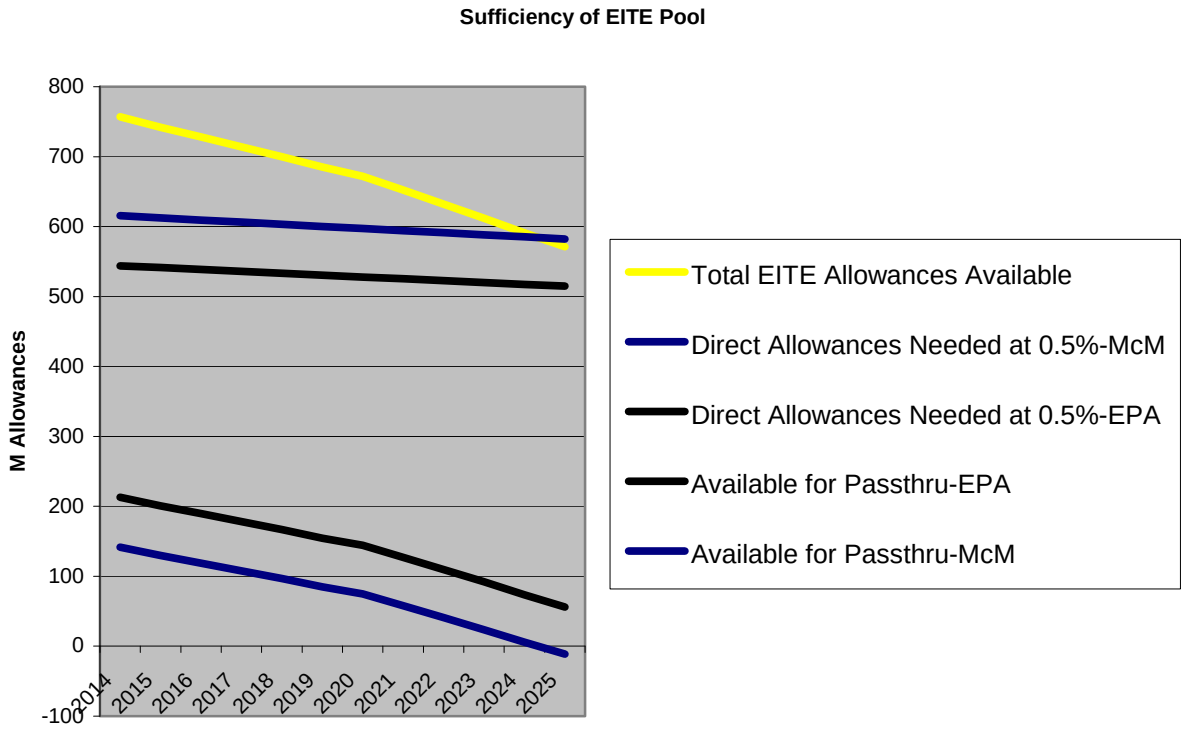
Assuming utilities do achieve a 10% reduction in CO2 emissions by 2012, the utilities pool will fall short by 300-400 million allowances per year depending on whether the utilities achieve average annual CO2 emissions reductions between 1 and 2 percent, between 2012 and 2016. Part of the shortfall in emissions will be "charged" to trade-effected industrial ratepayers according to the Doyle Inslee provisions of Waxman-Markey.

These facts make it very clear that:

- The Utilities Pool was only constructed to deal with utilities emissions [it was in fact sized on that basis]
- There is no room left for it to deal with any other factors causing electricity rate increases [see Part III]

<u>Part II: Sufficiency of the EITE Pool:</u>
Per Waxman Markey, any shortfall in the Utilities Pool is passed along to ratepayers, including EITEs, to which it is "charged" as an indirect emission under the Doyle Inslee provisions of the bill. Based on the above-calculated shortfall in the Utilities Pool, we can now re-evaluate the sufficiency of the Energy-Intensive Trade-Effected industries' Pool [EITE Pool].

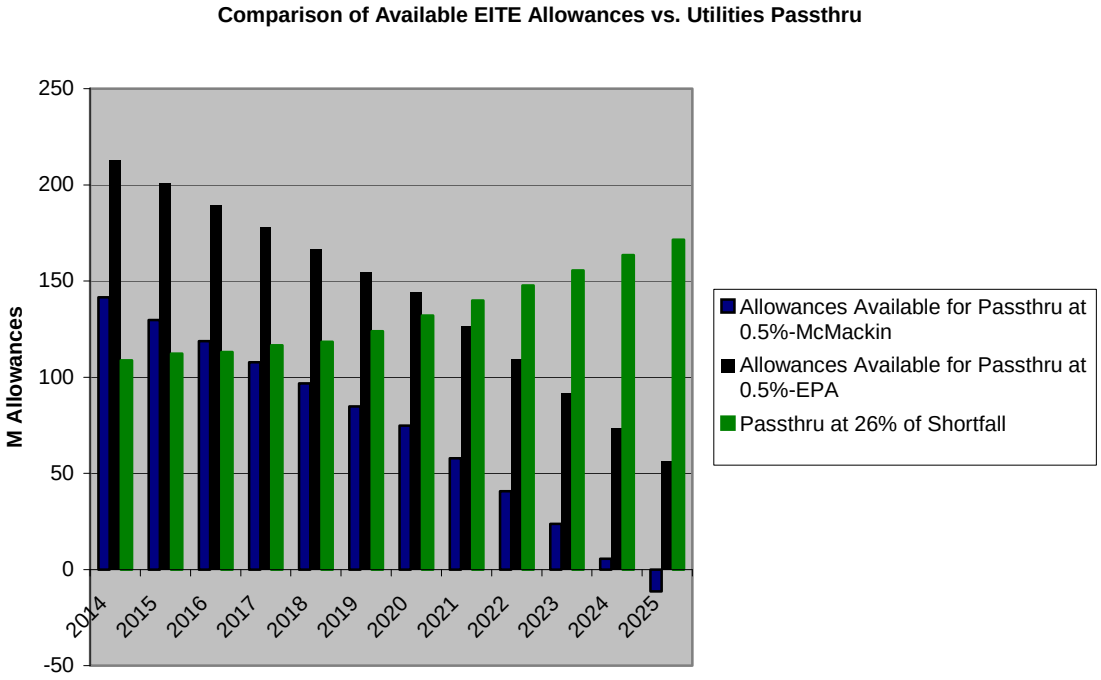
First, it is necessary to calculate how many allowances are left in the EITE Pool for indirect charges from utilities. Subtracting EITE direct emissions from the EITE Pool does this. A revised assessment of EITE direct emissions was done by McMackin Group showing a total for EITEs of 828 million tons of emissions total [vs. earlier 771 Mt]. Of these, 628 million tons were combustion and process ["direct"] emissions. In addition, EPA's assessment of EITE emissions was at total of 738 million tons of which 555 are direct emissions. Both cases are shown in Figure 2, Sufficiency of EITE Pool.



The top of the graph above shows the allowances available in the EITE Pool [yellow line] per Sec. 782 of the bill, and the allowances needed for EITE direct emissions

under different cases. The top blue line shows EITE direct allowance needs, according to McMackin Group, if EITEs improve at 0.5% per year. The top black line shows EITE direct allowances needs, according to EPA, if EITEs improve at 0.5% per year. The lines at the bottom show the corresponding number of allowances left over for indirect charges from utilities for each case.

The chart below compares the allowances available in the EITE Pool for indirect emissions charged by utilities [taken from Figure 2] to the to the amounts that may be passed through ["charged"] by utilities.



The dark blue columns show the allowances available for utilities pass through using the McMackin Group figures and a 0.5% annual emissions improvement by EITEs. The black columns show the allowances available for utilities pass through using the EPA figures and a 0.5% annual emissions improvement by EITEs.

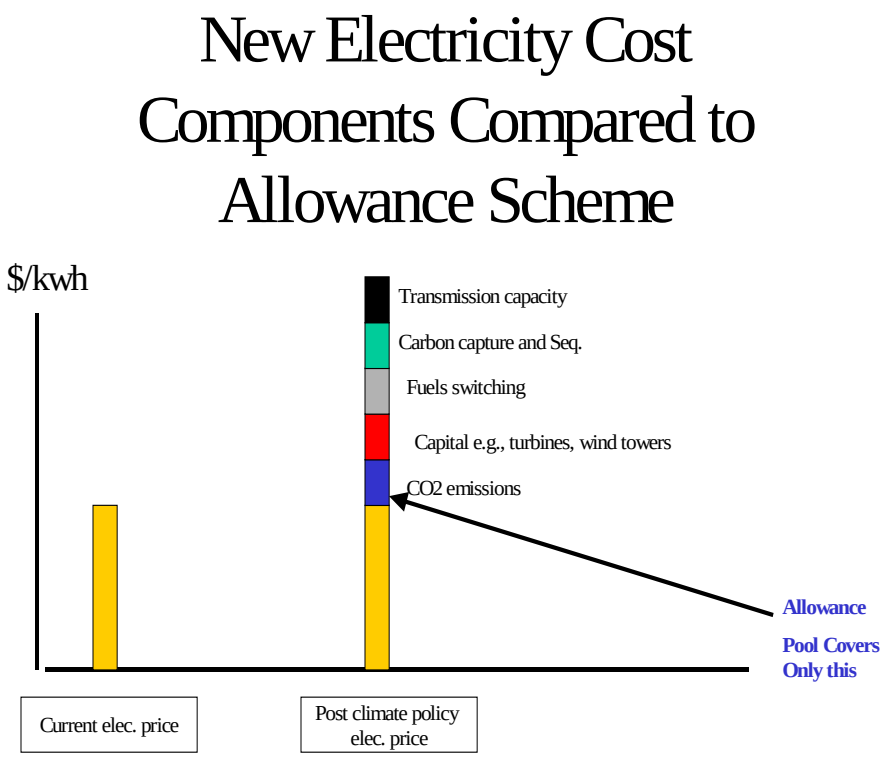
The green columns show the utilities pass through. The utilities pass through is calculated by distributing the utilities shortfall proportionally by rate class. From EIA's website, Commercial and Residential Sectors used 69.5% of electricity. The Industrial sector consumed 26% of electricity. There is not a breakdown of EITE electricity use on the EIA site, but it is a subset of the Industrial Sector. The Industrial Sector percentage is used to apportion the pass through for EITEs.

Because the cap is declining for both EITEs and Utilities faster than either can reasonably lower emissions [the cap declines at 1-2% per year and EITEs and utilities improve at 0.5% and 1% per year in this example, which is based on historical performance], eventually the pass through is larger than the available allowances

remaining in the EITE Pool. Using the 26% pass through, the EITE Pool is sufficient to satisfy EITE allowance needs until 2018 using the McMackin data and 2021 using the EPA data. The EITE Pool could be sufficient for a longer period of time depending on how much of industrial electricity use actually goes to EITEs [i.e., how much less it is than 26%].

It's also clear from the above that the rate of decline of the Total Pool has an impact on sufficiency. The Total Pool would be increasingly sufficient if the rate of decline matched more closely our ability to reduce emissions [was less steep]. Second, indirect costs associated with purchased steam are also not considered.

Part III: Other Factors Causing Electricity Rate Increases



The chart above shows other factors that will increase electricity rates as a result of domestic climate policy including CO_2 emissions, new capital equipment for green electricity such as wind towers, fuels switching, carbon capture and sequestration and new transmission capacity.

The chart and previous section also show that the Doyle-Inslee provisions of Waxman-Markey only account [and fall short] for the CO_2 emissions' contribution to rate increases [blue bar]. The cost impact of the other items above is not covered.