Frequently Asked Questions

Q. How much solar did you model being built? Why not the full 1,600 MW in the SREC II program?

A. We modeled approximately 715 MW of solar PV capacity being installed in Massachusetts in the first six years of GCA implementation. We did not model an expanded SREC program because such rules and the size of a program are not yet official, and our study attempts to limit our analysis to known future conditions and programs.

Q. Did you include Cape Wind? With its generating power starting in what year?

A. Yes, Cape Wind was included in our "with GCA" case, because long-term contracts between Cape Wind, NSTAR (now Northeast Utilities), and National Grid have been approved by the Massachusetts Department of Public Utilities. The full 468 MW of capacity have been modeled coming online in 2016, with 77.5 percent of this capacity under contract.

Q. Did you include additional hydro imports as envisioned in the GWSA 2020 plan?

A. We modeled the level of hydro imports consistent with the most recent levels from ISO New England's Forward Capacity Auction and detailed in their most recent Forecast Report of Capacity, Energy, Loads, and Transmission ("CELT Report"). We did not include any potential additional imports of hydro from Canada because there are none that have been approved.

Q. Why do your results show coal consumption and generation decreasing more in 2017-2021 compared to 2022-2025?

A. This results from the long-term implications of generating assets in place or approved today. Our modeling includes demand forecasts prepared by regional system operators that increase over time, while our supply mix includes the current fleet with any generation asset additions needed to meet New England's electric reserve margins. We do not model future retirement decisions beyond those that have been announced, so some coal resources do remain in operation through the end of our study period. With increased regional demand requirements over time, supply conditions tighten over time in not only New England but also the surrounding regions including New York and Eastern Canada. As such, there are fewer imports available to meet New England's generation needs, and therefore underutilized coal generation in New England increases in the later years of our modeling period.

Q. How did you account for RGGI in your study?

A. We recognize that the GCA incorporated provisions that formally accepted Massachusetts' participation in RGGI. But Massachusetts was a participant in deliberations related to the design and implementation of RGGI well before passage of the GCA. Therefore, we viewed RGGI as a program that would have gone forward with or without the additional energy policies introduced in the GCA. As a result, we assumed for our analysis that Massachusetts' participation in RGGI was not a result of the GCA, and assumed in both the "with GCA" and "without GCA" cases that RGGI proceeds are used to fund energy efficiency programs. We did not model RGGI-related benefits as part of this analysis. Such benefits were, however, identified as part of an Analysis Group study completed in November 2011.

Q. Can you characterize/summarize the jobs impact? Where are the new jobs?

A. Our study finds that the first six years of GCA implementation result in the creation of over 16,000 jobs throughout the study period (2010-2025). These reflect "job years," equaling one full-time position over the course of one year. For example, a 6-month full-time position would equal 0.5 job years, and a 12-month half-time position would also equal 0.5 job years. These new jobs are created in all sectors of the economy, from restaurants to health care facilities to office workers, but are driven strongly by the installation and construction of energy efficiency measures and renewable assets, both small- and large-scale.

Q. How have energy prices changed since the Green Communities Act was signed in 2008?

A. Natural gas prices were at near-record levels in 2008 when the GCA was signed, and are now significantly lower and anticipated to be lower in the future compared to the long-term outlook as of 2008. Gasoline prices were also at near-record levels in 2008. Electricity prices from 2008 to 2012 dropped 20 percent. Across all these energy sources, prices were at or near their historical peaks, and have come sharply down in current times. Even including the modest bill impacts associated with the GCA, electricity bills are significantly lower today than they were at the time the GCA was passed. Our analysis of the "with GCA" case and "without GCA" case relies on the same natural gas price assumptions – including the actual price reductions since 2008 and the lower price forecasts currently reflected in the markets.

Q. If power demand is lower, how can electricity bills be higher in the near term?

A. Electricity bills are comprised of two main parts: a supply and a delivery portion. For the supply portion of an electric bill, consumption and price are the only factors, and our study shows that as a result of the GCA, both of these decrease compared to a world without the GCA. For the delivery portion of an electric bill, the utilities charge the consumer for all the services that are required to get electricity to the consumer, which includes various delivery, customer service, and GCA program costs and tariff impacts. So while the supply portion of the electric bill is lowered as a result of the GCA, the delivery portion increases slightly, resulting in a net increase in the near term as investments in energy efficiency and renewable generation sources are made.

Q. Are consumers just paying more to add renewables to the mix?

A. While consumers do incur costs associated with renewable project development, they also receive the benefits of reduced wholesale electricity prices. And the Massachusetts economy has economic gains from the installation and construction development of renewable resources. Our study analyzes these various direct, indirect and induced impacts of payments for and investments in energy efficiency, contracting, and renewable construction programs of the GCA, with a singular focus on in-state economic activity (e.g., investment, jobs, etc.). Consequently, the analysis captures all these monetary flows – for renewable development along with the other components of the GCA – within the Commonwealth, and finds a net positive economic impact on the state.

Q. How does net metering really work? If more customers install behind-the-meter, on-site generation, will overall prices go down or will we still see an increase in the near-term?

A. Any consumer that installs an eligible net metering resource will likely see lower electricity bills. The extent to which net metering leads to – on average – higher or lower costs for consumers as a whole depends on the degree of net metering implementation and changes over time in regional fuel mix, prices for natural gas, and changes to distribution company rate structures. Our study only looked at the first six years of GCA implementation as a whole, including all GCA energy efficiency, net metering, contracting for renewables, and RPS programs. Through this period we found overall modest electricity cost increases for all programs combined.

Q. Realizing that the report focused on GCA programs implemented within the first six years, how different do we think these numbers (net economic impact, power generation and demand, mix of renewables in the overall energy portfolio) may look by 2025 when anticipated new GCA programs go online?

A. Our study looks only at the first six years of implementation. We have not studied the continuation and/or expansion of the GCA components beyond their status at the end of 2015.

Q. How significant is the impact of the 1,700 MW in out-of-state regional behind-the-meter renewable resources on energy prices in Massachusetts?

A. Our analysis only models changes in Massachusetts programs. All other investments in EE, renewable energy, or other resources outside Massachusetts are held constant in the "with GCA" and "without GCA" cases.

Q. Why is the growth in solar and biomass/hydro so minimal compared to growth in wind generation?

A. We modeled approximately 715 MW of solar PV capacity being installed in Massachusetts in the first six years of GCA implementation. The study also includes 1,000 MW of wind capacity throughout New England by 2016, and a smaller amount of hydro and biomass increases. Beyond these first six years, we model incremental wind capacity increasing 2,000 MW by the end of the study period (2025), and similarly smaller increases in hydro and biomass. This build out is based on the current mix of resources in the Interconnection Queue with ISO New England, and represents the best known mix of future renewable generation assets.

Q. How does price suppression work and how does it play into the GCA's longer-term impacts?

A. Wholesale electricity price suppression occurs from the GCA from two sources. First, the installation of energy efficiency measures decreases consumer demand for electricity. This reduced demand means that higher-priced generation is needed less often, reducing the wholesale cost of electricity supply. Second, the installation and construction of renewable assets means that more zero-cost generation is available in the market, again pushing out the need for the higher priced generation, and again lowering wholesale electricity prices. The GCA provides and expands funding for both of these sources, leading to lower wholesale electricity costs to electricity consumers in Massachusetts and across New England.

Q. How much greater are the benefits for individual Green Communities compared to other municipalities across MA?

A. The 123 Green Communities have received $30 million to date, and this represents investments that communities who have not been designated will not have made. These investments have and will continue to lead to substantial savings and emissions reductions. We did not attempt to estimate how the benefits of being a Green Community compare to municipalities that have not engaged in the Green Communities program.

Q. How did you determine the direct, indirect and induced effects of value-added impacts?

A. We used the IMPLAN model to analyze the macroeconomic flows and impacts within the Massachusetts economy. IMPLAN provides the user with the ability to break out direct, indirect, and induced impacts from expenditures within the region of study, along with providing the user a wealth of information on economic value added, jobs created, federal, state, and local taxes generated, among other results. For more information on the IMPLAN model, please see the Appendix to our study.