

**Initial Austin Energy Response to
The Report of the Austin Generation Resource Planning Task Force- 2014**

Austin Energy and the City of Austin have officially recognized since the Austin City Council's 2007 adoption of the Austin Climate Protection Plan that carbon dioxide (CO₂) emissions from some Austin Energy (AE) power plants are greenhouse gases that, combined with emissions from all other sources, are changing the global climate.

Today, 49 percent of AE's power production is CO₂ free.¹ No other fully integrated utility in Texas can make this claim. The percentage of power from renewables in AE's portfolio has risen from zero just 20 years ago to 23 percent today, and is headed to 35 percent by 2017. The movement toward renewables is something the utility's 1,650 employees are especially proud to be part of.

Yet, fossil-based and nuclear power continues to be critical to AE's ability to provide affordably priced electric power. In FY 2013, AE produced 5,527 gigawatt hours (GWh) of electric power by burning coal and natural gas, along with 2,942 GWh of carbon-free nuclear power. This production was sold into the ERCOT wholesale market at prevailing prices, partially offsetting the cost of electricity taken from the grid by the utility's 429,000 customers.² In addition AE procured under contract 2,444 GWh of solar and wind-powered electricity—which were also sold into the market. As a whole, in the sale of its purchased renewable resources into the ERCOT market, AE incurred an above market cost that was passed on to all customers. The revenues from the sale of fossil-based and nuclear power offset those above market costs, and helped to keep the Power Supply Adjustment (PSA) stable and competitive.

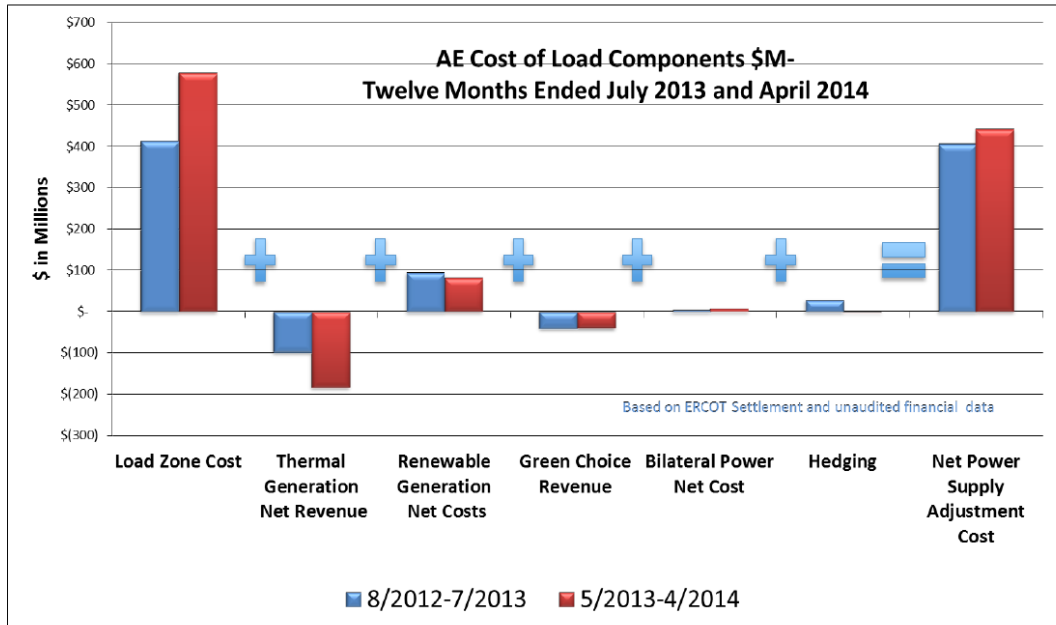
The following chart, which AE most recently presented to Council at the June meeting of the Council Committee on Austin Energy, demonstrates the extent to which operations of thermal generation resources (nuclear, coal, and natural gas) offset the above market costs of AE's renewable portfolio. From May 2013 to April 2014, the total cost of power procured through the centralized ERCOT wholesale market was over \$575 million (the first red bar in the colored version of the chart). The net costs of AE's renewables contracts added approximately \$80 million in costs to customers, which was offset by approximately \$40 million in GreenChoice[®] revenues. *The net revenue from AE's thermal generation was over \$180 million.* In total, while AE's renewables contracts raised the cost of power by approximately \$40 million above the market (\$80 million in costs minus \$40 million in GreenChoice revenues), thermal generation provided \$180 million in net revenue, offsetting the added costs of the current renewables portfolio and further reducing the total costs of AE's power supply. Thus, *AE's thermal generation fleet is critical to offsetting the added costs of the current renewables portfolio and keeping the PSA stable.*

¹ Austin Energy Annual Performance Report, Year End September 2013, T. 21, 43. July, 2014. Austin Energy's Resource, Generation and Climate Protection Plan to 2020, presentation to the Austin Generation Resource Planning Task Force, April 30, 2014, pp. 8-9.

² In the centralized market for wholesale power in ERCOT, all resources are sold into the market and all load is served by supply purchased from the market. The net cost of AE's ERCOT wholesale financial settlement (total costs of purchases of power and ancillary services minus revenues from AE's sale of resources) is passed on to customers through the Power Supply Adjustment. Austin Energy's sales of power produced from the traditional generation fleet offsets the costs of the purchases of power (including renewables) that supplies AE's load.



PSA COST COMPONENTS



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Austin Energy, as a publicly owned utility, walks a delicate balance to fulfill the Council's goals of maximizing renewables while maintaining affordability. Early investments in AE's renewable portfolio were made at prices above the cost of supply in the marketplace. Austin Energy's more recent experience demonstrates that continuously searching for affordable renewables, relying on market analysis and systematic business practices, can result in the steady growth of renewables within an affordable, balanced portfolio—as demonstrated in the recent Recurrent contract for solar power at historically low prices. By relying on market timing and best business practices, AE has been able to make progress toward the goals while avoiding excessively costly long-term commitments. Prior leading-edge purchase agreements have left legacy expenses that will long continue to be a drag on affordability, potentially for decades to come.

The Austin Generation Resource Planning Task Force has delivered a report to City Council that recognizes the tension between affordability, equity and the need to reduce greenhouse gas emissions. The Task Force's aspirational recommendations are appropriately tempered by their recognition of the Council's affordability goals.

Review of the Task Force Recommendations

This is AE's initial response to the recommendations of the Austin Generation Resource Planning Task Force. At this time specific concerns can be summarized into several high level issues:

1. **Wholesale market reality in planning:** The report recommends that AE disregard its participation in the ERCOT wholesale market in the evaluation of future resource investments. The Texas wholesale electric market is the benchmark by which all potential investors and market participants measure the value of new resource investments. Ignoring that market in AE's generation planning increases the risk of making uneconomic investments at significant cost to AE's customers.
2. **Accelerated timeline for plant shutdowns:** The report recommends shutdown of the Fayette Power Project and the Decker Creek Power Station on accelerated timelines. Today, these units provide net revenues that offset the costs of more expensive legacy renewable resources. In addition debt associated with any retired asset would have to be paid off at closure. Eliminating them prematurely from AE's resource mix would challenge affordability goals.
3. **Arbitrary numerical goals:** Specific goals for Demand Side Management (DSM), solar, and storage without support from cost-benefit and financial studies could result in unacceptable economic burdens on AE and its customers. Future investments should be based on technological feasibility, product maturity, cost, market conditions and timing, and fit within AE's portfolio. Arbitrary technology and numerical targets should be avoided.

The Task Force Report is not an analytic document. To understand fully the impact of its recommendations on finances and rates, the recommendations must be integrated into AE's standard process for refreshing its generation plans and goals. This summer, AE is studying eight broad scenarios and 30 base plans that incorporate many of the goals and recommendations of the Task Force as well as current City Council goals. These will be tested in 210 sensitivity tests spanning the range of price expectations about inputs such as natural gas costs. Each scenario will be assessed using first AE's operational market model and second, AE's financial and rates model. The outcomes of AE's study will be used to develop the updated generation plan and goals that will be presented to City Council, and are then used to guide capital budgets and resource decisions over the next five years and beyond.

Among the concepts to be studied in detail are:

- The impact of becoming 100 percent CO₂ free by 2025,
- The impact of revising anticipated demand-side investments from the current 800 megawatt (MW) goal to either 1,000 or 1,200 MW, and
- The replacement of the Decker Creek Power Station and AE's share of the Fayette Power Project (FPP) with a variety of alternatives, including a new gas plant, renewables and storage.

The analytic results will be brought to the Electric Utility Commission in the fall, followed by presentation to the Council.

High Level Summary of Recommendations from the Task Force Report

The Task Force report envisions a scenario in which Austin Energy would, by 2030, produce no net CO₂ through its sales of electric power. To achieve this objective, it suggests that AE would:

- Close 750 MW of natural gas-fired Decker Creek Power Station in Northeast Travis County before 2016;
- Combine its partial ownership in two units of the Western coal-fired Fayette Power Project (570 MW owned by AE) into a single unit, thereby allowing AE to accelerate retirement of that unit;
- Enter into agreements to acquire energy produced from solar power plants as its first recourse, including 600 MW of new solar resources to replace the Decker Creek Power Station;
- Further reduce the amount of power needed to serve customers by significantly expanding energy efficiency programs to as much as 1,200 MW from the current goal of 800 MW; and
- Buy a minimum of 200 MW of fast response storage capacity to back up wind and solar energy contracts or plants, which cannot deliver electric power on demand.

The report emphasizes that the Task Force recognizes that all the recommendations must take place within the affordability limits set by the Austin City Council in 2011. However, the prescriptive nature of many of the recommendations (*e.g.*, acquire a minimum of 200 MW of storage capacity) may prematurely lead readers to expect that the recommendations are immediately achievable. Austin Energy emphasizes that the recommendations must be subject to rigorous analytic modeling to assess fully their affordability.

The report also recommends a new approach for evaluation of new resource alternatives, which would have Austin Energy make decisions on the least-cost investment alternative, without benchmarking to the centralized wholesale market in which AE is *required* to participate. Relying on such an approach would have AE operate as if it were a stand-alone entity not engaged in the centralized nodal dispatch market operated in ERCOT since 2010. This approach would require the utility to ignore market risk and the economic viability of a resource in the marketplace into which AE's power must ultimately be sold. The recommended approach also appears to be at odds with the affordability metric of keeping AE's rates at or below the 50th percentile of Texas retail rates since those rates are largely determined by the cost of wholesale electricity in the market. This issue is identified below as a key threshold issue from the report.

Wholesale Market Reality in Planning: A Threshold Issue

While the report offers a number of concepts that advance thinking about Austin Energy's generation planning decisions, it also calls for an unworkable approach to investment decision-making that could put at risk the economic viability of the utility. In essence, the report tells AE to ignore the centralized ERCOT wholesale market and the prices in that market when making decisions about resource investments that will ultimately produce power sold into that market.³ In a simplified example, AE can invest in non-carbon producing power that costs \$50 per megawatt-hour (MWh) in a market where the price of power averages \$30 per MWh. Austin Energy customers would pay for the difference through the PSA. AE has chosen to invest in above-market resources through renewable purchase power agreements to achieve our goals. However rigorous analysis and market forecasts were used to support those decisions as over the

³ "...in modeling the value of new generation, it should be compared with the cost of other new generation, not the value in the nodal market." The Report of the Austin Generation Resource Planning Task Force, July 2014, p. 24.

contract life those contracts are expected to have a neutral or slightly beneficial impact on the customer PSA. It would be irresponsible to enter into future contracts without fully evaluating the market risk and potential for above market costs to be paid by AE's customers.

As discussed above, AE can purchase or produce a limited amount of above-market renewable power because it currently has thermal plants (coal, nuclear, and gas) that produce positive net revenues (*i.e.*, cost of production is below market prices). The report calls for the accelerated closure of some of those plants, eliminating the ability of AE to offset legacy investments in solar, biomass, and wind projects at above market rates (or any future renewables above market). The report says that AE and the Council should assess these decisions without reference to the ERCOT market benchmark.

At this time, Austin Energy's renewable portfolio raises the costs of energy passed on to customers, while the coal, gas, and nuclear fleet helps reduce the cost, more than offsetting the costs of renewables. The ERCOT market is integral to AE's operations and planning decisions. Benchmarking against the ERCOT wholesale market allowed AE to assess fully the recent decision to enter into an agreement for 150 MW of West Texas solar resources. That investment promotes the Council's renewables goals and makes good long-term business sense for AE and the community. Austin Energy recognizes that its traditional fossil fuel fired plants create emissions of CO₂, which AE is working to mitigate, but ownership of those traditional power plants has allowed AE to be a leader in renewable energy and still meet affordability goals. Several of these plants, including the Decker Creek Power Station and Fayette Power Project, will likely reach their economic end of life within the foreseeable planning horizon. Accelerating closure of those plants without a strong business assessment risks both affordability and the utility's status as a leader in renewable energy. The wholesale market for electricity in ERCOT is an inescapable reference in conducting that analysis. Any move toward making resource decisions in isolation risks imposing extraordinary costs on AE customers.

Initial Response to the Individual Recommendations of the Task Force

In the following table, each specific recommendation of the Task Force report is reproduced, along with a brief initial response from Austin Energy.

Task Force Recommendation	Austin Energy's Preliminary Response
Austin Energy should continue to adhere to the affordability goal as passed by the Austin City Council in February of 2011.	Agree. The goal allows a balanced way of looking at all resource investment options. It should not be implied that affordability is the only hurdle to an investment. Each resource investment should be based on a sound business case.
Austin Energy should abide by Council Resolution and reduce CO ₂ emissions to zero as early as 2030 providing affordability metrics are maintained.	Austin Energy will continually study the extent to which the Council's goal for carbon neutrality can be accelerated from 2050 to 2030. Austin Energy is wary of arbitrary compliance timelines that are not based on comprehensive analysis.

Task Force Recommendation	Austin Energy's Preliminary Response
Council should set a new Energy Efficiency Goal for saving energy in the underserved customer population.	Additional study is required to determine a target for energy efficiency for underserved customers. As has been pointed out by stakeholders in the Task Force process, there is a tension between setting ever-increasing demand-side management goals and providing energy-saving programs for small and low-income power users. Cost effectiveness of specific energy efficiency goals for this customer segment should be explored further.
Council should not approve any future gas plant or value of solar tariff without seeking broad expert advice and counsel on the long-term gas price outlook.	Agreed. Austin Energy seeks expert advice in its resource investment decisions. Long-term gas outlook is always a key variable. The price of natural gas remains volatile. Consistent with standard practice across the country, AE subscribes to expert industry gas pricing/forecasting services as well as using market information provided by NYMEX.
Solar Energy generation should become the default new generation resource through 2024. Furthermore, Austin Energy should consider acquiring additional solar if a unique buying opportunity for solar exists between now and 2016.	Austin Energy is closely watching market conditions and the state of technology in the solar market to assess securing additional solar resources. Austin Energy cautions against preselecting any particular technology/resource. Investments should be based on a full cost-benefit analysis of each resource alternative, cost, affordability, technical feasibility, market conditions and timing, and integration with AE's resource portfolio.
The Task Force endorses the report of the Local Solar Advisory Committee establishing a goal of 200 MW of local solar by 2020. Austin Energy should develop a comprehensive long-term strategy to facilitate the deployment and use of local solar to the fullest extent.	Austin Energy is following an investment path to achieve the Council's goals for local solar deployment. The scale of adoption of local solar is under continual study by AE. As with any technology, the pace of AE's investments in local, distributed solar should be based on technological feasibility, cost, affordability, market conditions and timing, and integration with AE's resource portfolio.
Austin is an early adopter of climate protection and we must insure that State rules are written that do not punish early action.	Agreed. This is a key goal of AE in its promotion of sound regulatory and legislative policies for the protection of the investments made to date on behalf of AE's customers. Nevertheless, AE must consider the emerging federal and early CO ₂ regulatory framework as it assesses new resource investments.

Task Force Recommendation	Austin Energy's Preliminary Response
Austin Energy should strive to reduce water use and aid in water management.	Agreed. Austin Energy assesses and practices best water management objectives at all of its current and future facilities, as demonstrated by the switch to reclaim water at the Sand Hill Energy Center.
Replace the Decker Creek Power Station with 600 MWs of West Texas solar PV before 2016.	Further study, within the framework of the generation planning process, is needed to determine the proper date for the retirement of the Decker Creek Power Station. As noted above, solar should be a consideration but not the default replacement. All resource investments should be based on a full cost-benefit analysis of each resource alternative, affordability, technical feasibility, market conditions and timing.
To begin the retirement process independent of LCRA, Austin should seek 100% ownership of one of the Fayette units by directing AE to begin negotiations and provide an initial report no later than Dec. 31, 2014.	Disagree. Austin Energy does not believe that the status of each plant reflected in the ownership agreement is a binding impediment to the retirement path for the Fayette Power Plant. As previously addressed in conjunction with the City Council, early retirement will cause a significant increase in rates that would be well beyond the affordability goal due to the required defeasance of debt used to fund construction of SO ₂ scrubbers on Units 1 and 2.
The existing 800 MW goal of energy efficiency should be increased to 1200 MWs by 2024 with 200 MW of the goal being met by demand response.	This topic will be studied further as part of the generation plan. Much of the most cost-effective efficiency work has been accomplished. Austin Energy has already performed extensive analysis that shows that such a goal will require substantial financial investments. There could be a significant rate impact.
Council should adopt a zero energy building ordinance that accelerates distributed solar through third party leasing, on-bill financing and other financial mechanisms.	To be studied further. Austin Energy supports third party leasing to the extent that leasing does not undermine AE's exclusive franchise to sell electricity at retail within the service territory. Austin Energy is working with Keeping PACE in Texas and other stakeholders to implement a regional Property Assessed Clean Energy financing program for renewables and energy efficiency.

Task Force Recommendation	Austin Energy's Preliminary Response
City Council should adopt a policy that builders of all new single family homes built after 2019 should offer buyers an optional solar package, either on the rooftop or as part of a community solar project.	Austin Energy can incorporate this program into its solar energy initiatives. City Council policy involves many additional stakeholders and interest groups.
A task force should be formed to research and provide recommendations on achieving net zero energy for all new buildings.	Austin Energy can incorporate this program into its energy-efficiency initiatives. City Council policy involves many additional stakeholders and interest groups.
Austin Energy should return to a planning methodology that compares generation alternatives to actual generation costs not just nodal market income alone.	Disagree strongly. This recommendation and the supporting discussion do not accurately represent AE's planning methodology. Please see the discussion under "Threshold Issue" above (p. 5).
Austin Energy should develop a comprehensive strategy for the deployment and use of storage technologies with a target of a minimum of 200 MWs of fast response storage resources by 2024.	Disagree. Storage is an emerging technology that should be adopted based on technical feasibility, cost, market conditions, and integration with AE's generation portfolio. Arbitrary numerical targets and timelines should be avoided. Austin Energy is today a leader in thermal energy storage as demonstrated in the scope of AE's chilled water system downtown, at the Domain, and at the Mueller Energy Center. Austin Energy will be entering into small scale demonstration storage projects to increase its understanding of the technological requirements for connecting large batteries into the distribution network.
Austin Energy should transform itself into an integrated utility that employs an expanded business model that goes beyond the traditional utility model of selling kWhs.	Agree. Austin Energy is well on its way to transforming its traditional utility business model, as demonstrated by the rate restructuring adopted in 2012 and AE's leading position in energy efficiency, renewable supply, solar DG and electric vehicles. Austin Energy does note, as discussed above, that its traditional resources offset above market costs of the existing renewable fleet and help maintain affordability.

The Task Force also discussed several issues to which AE is in agreement, though the Task Force adopted no formal recommendations: Austin Energy's portfolio contains sufficient West Texas wind for the foreseeable future; the Sand Hill Energy Center remains a valuable resource

today and for the future⁴, and Austin Energy risks being overly reliant on purchased power agreements for renewable resources.

The discussion in this document is preliminary. Austin Energy is concerned that the recommendations of the Austin Generation Resource Planning Task Force are not based on an analytic assessment of costs or market conditions. As discussed above, this summer and fall, AE will apply rigorous analytic scrutiny to the recommendations of the Task Force. That analysis will be incorporated into AE's resource planning update to be delivered to commissions and to the Council in the fall.

⁴ The 200 MW expansion of the Sand Hill Energy Center is a component of the 2010 Austin Resource, Generation, and Climate Protection Plan to 2020 and is included in AE's five year forecast.