

## **Recommendation on Building Codes – Revised Version August 10, 15**

The Task Force finds that continued improvement in base energy codes to reduce peak and overall energy use is of benefit to low-income and middle-income residents and to Austin Energy overall. Austin Energy has consistently worked with the City and its departments to improve base energy codes every three years, making new homes and remodeled homes and other buildings more energy efficient. By reducing the energy use of new and rehabilitated buildings Austin can lower emissions and water use from existing fossil fuel plants, reduce the need to buy expensive peak power off the market and potentially provide demand response capabilities to meet peak demand or even participate in energy markets. The Task Force reaffirms the goal of making new home construction in Austin, Texas to be net-zero energy capable by the end of 2015, while recognizing the challenges with fully meeting this goal.

We recommend in 2015 that Austin Energy work with the relevant advisory committees, city departments and city council to adopt:

1. The 2015 IECC codes for residential construction, including local amendments to reach the net-zero-energy capable homes approved by City Council in 2007. The Task Force believes that the net-zero-energy capable home goal is achievable, but recognizes that certain homes will be unable to meet this goal in 2015 depending on whether the home is all-electric or includes gas heating and gas water heating, the size of the home and other issues like orientation of the design and the behavior of occupants. Assuming Austin Energy recommends and city council approves an updated more energy efficient code for new and remodeled homes, Austin Energy should continue to consider other amendments and programs to fully realize the net-zero capable homes goal beyond 2015;
2. To further the goal of net-zero energy capable home, Austin Energy should consider local amendments to the energy code and suggest amendments to other building codes to encourage the adoption of new technologies like solar PV, demand response, energy storage and electric vehicle charging technologies as appropriate. As an example, Austin Energy should work with the electrical code to assure that there is sufficient panel capacity to allow for EV charging stations.
3. Encourage the widespread adoption of solar PV technology by:
  - a. Adopting a version of Appendix RB of the 2015 IECC which requires that all new homes be “solar-ready.” Austin Energy should work to make sure there are appropriate exceptions to this solar ready requirement for homes that are being built in areas with existing shade trees, in areas where the homes have not been oriented correctly, or where the homes are so small, solar-ready is not cost-effective.
  - b. Working as part of Code NEXT to assure that future developments are oriented and designed correctly to take full advantage of solar PV potential.

- c. Work with developers of new homes or remodeled homes or multi-family properties to consider an optional solar package, either on their roofs, or through a programmatic association with Austin Energy's community solar projects. Thus, for new homes, Austin Energy could create an optional community solar option where new homeowners could invest directly in a community solar project, if solar were not available on their own roofs. Austin Energy and City Council should consider creating a "neighborhood" rate for low-income residents to make the community solar affordable to nearby homeowners or apartment renters.
4. If Austin Energy allows an alternative compliance path through the adoption of a 2015 IECC such as a Home Energy Ratings Index (HERS), the number should be set appropriately so as not to undermine the net-zero energy capable goal or overall building envelope performance. We would suggest that Austin Energy look both at the ERI (Energy Rating Index) scores incorporated within the 2015 IECC, which is 52, or to a recent decision by San Antonio to allow no higher than a 59 ERI for new single-family homes.
5. Either the 2015 IECC codes for commercial construction – including larger multi-family units -- or an equivalent code such as the ASHREA 90.1 – 2013 code.
6. Consider local amendments to the commercial codes to incorporate onsite renewable energy, demand response, storage and electric vehicle charging stations as appropriate. Again, for multi-family buildings, Austin Energy should work to create a community solar option for residents where solar is not available on their roofs, and consider a "neighborhood" rate to make the solar affordable to lower income residents.
7. Consider setting a net-zero energy capable, or net-zero load capable goal for multi-family buildings by 2020 by creating a task force to research and provide recommendations on achieving net zero energy for multi-family buildings.
8. Updating our Austin Green Building Programs to inspire builders to go beyond base codes.
9. Improving coordination between the Austin Energy Green Building Program, the Planning, Development and Review Department and Code Compliance so that builders actually comply with energy and related codes. Among our specific recommendations, we would suggest that
  - a. Austin Energy work with PRD to review building plans to make sure that cooling and heating requirements are met with appropriately sized technology;
  - b. PRD assure that they hire and utilize a commercial ~~inspector~~ reviewer to specifically look at mechanical heating and cooling systems to assure they match the building plan and are appropriately sized;
  - c. Increase funding for dedicated energy code plan reviewers and inspectors;
  - d. Increase in general the enforcement of the energy code through Code Compliance
  - e. Increase in general education to builders, particularly of multi-family units, to encourage compliance with and appropriate sizing of heating and cooling equipment.

The Task Force believes that by updating our base energy code, Austin can continue to be a leader on producing carbon-free energy the old fashioned way – not using it in the first place.