Ensuring Consistency and Affordability for New Homes in a Restructured Energy Market

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Affordability – Key dynamics for new home buyer

- IECC – Requires increased requirements for insulation, window glazing, water heaters, ventilation, etc. A new international code is produced every three years.
- Federal Mandates – Efficient Mechanical Equipment (heating and cooling) on equipment manufacturers ratchets up every 3-5 years independent of building codes.
  - Example: the required SEER rating of HVAC units or AFUE of furnaces.
- Cost per lot – Line Extension Agreements with electric utility are required. Bringing electric service to a lot can range between $9,000 - $15,000 per home.
  - A 50% increase in LEA costs would price over 14,000 homebuyers out of the new home marketplace in Clark County.
- FHA loan limit – 1st time homebuyers and "boomerang buyers" who cannot qualify or meet the down payment requirements of a traditional mortgage must purchase a home in Clark County for less than $294,515.

Homebuyers need certainty that their home will have access to power

- In some restructured markets, ensuring power is provided in an economically feasible manner to all new communities has been challenging.
- Our members have also experienced this challenge after the provider of last resort requirement for telecommunications companies was removed for areas with cell service.
  - Cable and private gate service has required significant price participation for new communities and in some cases, telecommunications providers are unwilling to serve communities in which the builders pay for all infrastructure cost.

Cost of Line Extension

- Line Extension Agreements follow the PUCN's Rule 9
  - Allow for a utility to estimate their costs to serve a new building or community and charge the customer for some or all of the estimate.
  - The price is driven by estimated energy use, location, existing capacity in area.
- Here, new homes can pay the price for efficiency and utilizing the newest technology to keep customer bills low. The utility could increase the upfront cost for a buyer by thousands of dollars because their future cost-recovery is diminished because of the low purchase-power needs of the modern home.

Disrupting Technology

- Battery
- Non-panel energy-producing components, solar roof, windows, EVs battery storage and “connected” components within home.
- Community solar and larger community storage
- Slow to be incorporated into codes, federal requirements, creating further disconnect between value for customer and market realities (power purchase need decline per $1 vs traditional methods), which delays the customer realizing savings.

Distributed renewable energy and smart home technology can be a benefit to neighboring utility customers, not just the new home buyer.

Benefits to Grid

- By aggregating together distributed, small-scale resources (solar panels, batteries, fuel cells, smart appliances and HVAC systems, etc.), a microgrid can present to the larger grid as a single entity
  - We can help supply the grid, reducing peak loads, benefiting all customers.
- City of Las Vegas “Smart City”
  - Garbage can sensors when full
  - Cameras that can pick up graffiti
  - https://www.reviewjournal.com/news/politics-and-government/las-vegas/las-vegas-continues-work-to-become-a-smart-city/
- Brooklyn’s $190 M Marcus Garvey Apartments 625 unit renovation brings first microgrid to NYC affordable housing units
  - https://microgridknowledge.com/marcus-garvey-microgrid/

Benefits in Innovation

- Microgrids hold great promise for the future. Technology is rapidly expanding the possibilities.
- Electricity use is becoming more controllable and adaptable, as every system and appliance learns to communicate over the internet.

Benefits in Innovation

- Small-scale and community-scale electricity generators are getting cheaper, cleaner, and more diverse; they now include solar panels, small-scale wind, efficient natural gas generators and fuel cells, CHP (combined heat and power), and more.
- Energy storage is also becoming cheaper and more diverse, from various kinds of batteries and fuel cells to thermal storage in hot water or ice.

Benefits in Innovation

- Software, artificial intelligence, and machine learning are enabling intelligent integration of all these diverse resources.
- Smart design and software can create microgrids specifically designed to integrate distributed renewable energy

Best Practices for Addressing Affordability and Disruptive Technology for New Construction

We urge the committee to consider the following best-practices from other areas of the country. These practices will ensure that buyers are not denied access to new technology and that the value of grid innovation is passed along to new homebuyers:

- Applicant Design/Install – Allow a developer to design their own internal grid to meet safety specs, but also allow innovation.
  - Example: Southern California Edison
- Joint Trench – Allow a developer to place multiple dry utilities in same trench, this will save lives and create construction efficiencies.
  - Example: NV Power/Sierra Pacific (Reno); Berkshire Hathaway in Wyoming and Colorado

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- Provider of Last Resort – Provide certainty to property owners, rural communities and homebuyers that economically viable energy service will continue to be available for new construction.

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- Monitor LEAs/CIAC for compliance – Ensure that costs of new market are not shifted completely to LEAs. New homebuyers should not have to finance thousands more in energy costs. In the deregulated market, LEAs should be reasonable and taxes/fees should reflect only those required to be collected by state and federal regulators.