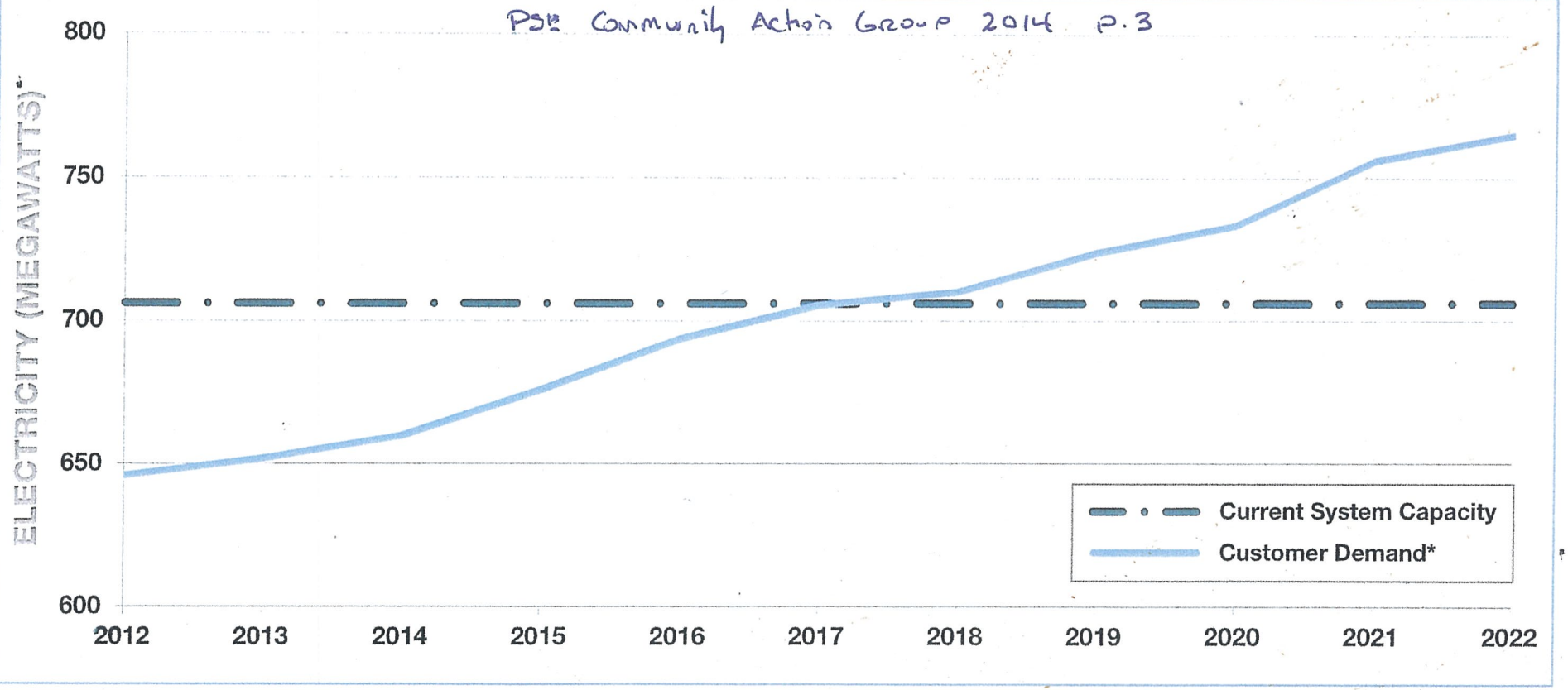
EASTSIDE CUSTOMER DEMAND FORECAST

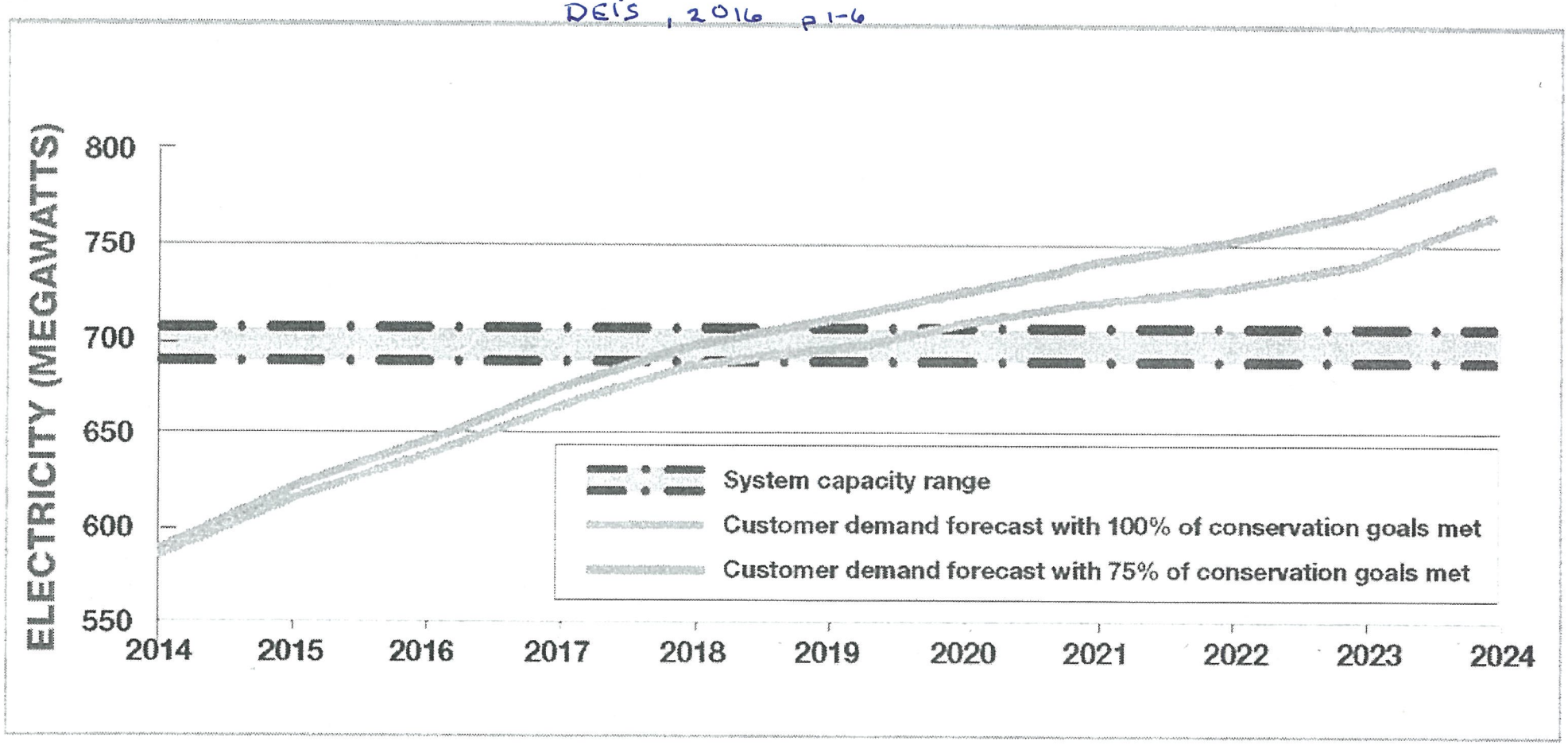
PSE Community Action Group 2014 p.3



*Customer Demand assumes 100% of conservation goals are met.

Figure 1-2. Eastside Customer Demand Forecast

DEIS, 2016 p1-6



Source: Gentile et al., 2015.

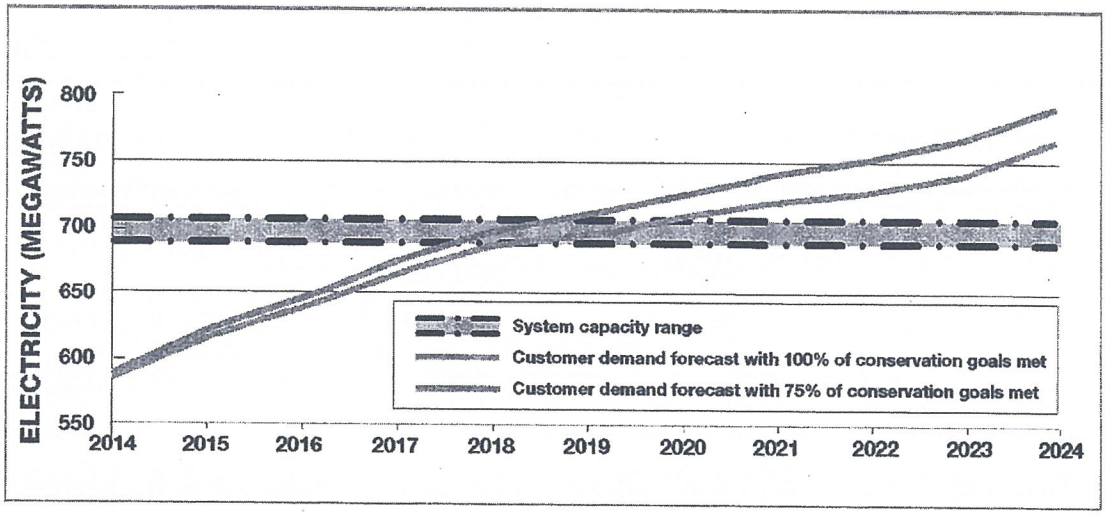
Statistics and Bureau of Economic Analysis, and local organizations such as the Washington Builders Association (Gentile et al., 2015).

This forecast is based on the assumption that economic activity has a significant effect on energy demand. Given the nature of expected development, PSE has projected that electrical demand will grow at an annual rate of 2.4 percent. As described in PSE's Eastside Needs Assessment, this growth rate takes into account population and employment growth as well as expected "block load" growth that PSE is aware will be coming in the next 10 years (Gentile et al., 2014, 2015).

What is a block load? A block load is the expected increase in energy demand from a specific customer or group of customers. PSE regularly asks its largest customers if they anticipate substantial increases in their electrical demand, to help estimate energy consumption growth expected to occur independent of employment or population growth rates.

Without adding at least 74 megawatts (MW) of transmission capacity for local peak periods in the Eastside, a deficiency could develop as early as winter of 2017 - 2018 or summer of 2018, putting customers at risk of *load shedding* (forced power outages) (Stantec, 2015). According to PSE projections, the 74 MW would marginally meet the demand through 2018 (Gentile et al., 2015). Figure 1-2 shows PSE's projected growth in load for the eastside from 2014 to 2024 and the capacity of its transmission system.

Figure 1-2. Eastside Customer Demand Forecast



Source: Gentile et al., 2015.

Based on these projections, load demand could increase to a point where, if adverse weather conditions occur and one or more components of the system are not operating for any reason, load shedding could be required in order to protect the Eastside and the rest of the regional grid. This is because, once the threshold is crossed, the physical limitations of the system are such that even the slightest overload will produce overheating that can damage equipment, and larger overloads will produce overheating more quickly. Once equipment is in an overload condition, the options are to let it fail or take it out of service. Both conditions leave the Eastside in a vulnerable state where the system is incapable of reliably serving customer

Bellevue
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IT'S YOUR CITY
FALL 2017

Getting 'smart' about energy conservation

By Brad Harwood, Deputy Communications Officer

The city is making strides in energy conservation thanks to two successful programs, spearheaded as part of the Environmental Stewardship Initiative.

In 2015 to 2016, the city participated in the Georgetown University Energy Prize – a national competition for cities to reduce energy use. During the two-year span, Bellevue's per capita residential energy use decreased by respectable 3.6 percent from 2015 to 2016. Nearly 700 residents took the "Smart Energy Pledge," and 818 students participated in the program.

"Urban Smart Bellevue" is a partnership between Puget Sound Energy and the city that aims to make the downtown core a smarter, more efficient, more sustainable place to work. The goal is for businesses to reduce collective annual electricity use by 5 percent.

Participating companies have cut energy usage by inspiring friendly competition and prizes for employees, who:

- take the stairs instead of the elevator;
- power off or safely unplug computers and other workstation devices at the end of the work day;
- turn off the lights in all common rooms and work spaces when not in use; or
- power off or safely unplug unused equipment in common areas.

Over 100 businesses have signed up for the program so far, with an average electricity savings of 7 percent for large companies and 11 percent for smaller ones.

"We're encouraged by the positive community response to these energy-saving programs," said Jennifer Ewing, Environmental Stewardship program manager. "Bellevue embraces the value of conservation and is leading with innovation and collective action."