CHAPTER 5
FRANCHISE UTILITIES ELEMENT

Contents

A. INTRODUCTION

The Growth Management Act defines electricity, gas, telecommunications, and cable as utilities. It defines water and sewer systems separately as public facilities. Plans for water supply and sewer are found as separate elements of the Comprehensive Plan. Transportation and circulation-related facilities are addressed in the Transportation Element. The Franchise Utilities Element has been developed in accordance with RCW 36.70A.070 of the Growth Management Act and the King County Countywide Planning Policies. To fulfill the requirements set forth by the Washington Growth Management Act, a utilities element must include the following information:

1. Inventory the general location of existing utilities.
2. Establish the location of proposed utilities.
3. Examine the capacity of existing and proposed utilities.

The Franchise Utilities Element also includes an evaluation of solid waste management in North Bend, focusing on landfill capacity and recycling issues.

King County Countywide Planning Policies (CWPPs) provide local direction to implement the GMA mandate for consideration of utilities needs including, but not limited to electrical, communications and natural gas. Following is a paraphrased listing of the CWPP's with direct applicability to North Bend in 2024. The policy number of each referenced policy is cited. Other CWPP's may be indirectly applicable to North Bend and the CWPP's may be revised in the future. The full list of CWPP's is available on the King County Countywide Planning Policies website at King County Countywide Planning Policies - King County, Washington

Local jurisdictions are to identify the full range of urban services required as growth occurs and how they plan to provide them, while prioritizing historically underserved areas and addressing disparities , and avoiding locating urban serving facilities in the Rural Area (PF-1, PF-17). Service providers shall manage resources efficiently through regional coordination, sharing facilities and conserving resources. Aggressive conservation shall be implemented to address the need for adequate supply of electricity (PF-15).

DEFINITIONS, ABBREVIATIONS, AND ACRONYMS

- *kV – kiloVolt, a unit of electric potential equal to a thousand volts*
- *PSE – Puget Sound Energy*
- *TEC – Tanner Electric Cooperative*
- *V – Volt, The unit for electric potential*

Unlike the Capital Facilities Element, levels of service and concurrency requirements do not apply to private utilities. They are required by state law to provide service to anyone requesting it who has the ability to pay for the extension. The Washington Utilities Transportation Commission (WUTC) requires that privately owned utilities demonstrate that existing rate payers are not subsidizing new customers. Privately owned utilities are not public facilities although they provide a public service. They are required to provide the same level of service to urban and rural customers. The WUTC regulates utility and transportation providers to ensure safe and reliable service to customers at reasonable rates. Most of Washington State's investor-owned gas, electric, water and telecommunications are regulated by the WUTC.

In addition, due to concerns such as the security of facilities and in keeping with competition practices, the specific locations and specific market needs are not identified. Instead, general locations and general capacities are included in this element.

A.1 Financing of Utilities

The principle source of revenue for utility capital financing is charges to customers for utility services provided. Such charges include utility rate charges, other customer charges, fees, and charges for the sale of water and energy to other utilities. Revenue from customer charges is used to finance capital projects on a pay-as-you go basis or through the issuance of revenue bonds. For revenue bonds, principal and interest payments are made with revenue from utility customer charges. The State of Washington statutes permit cities to issue unlimited tax (voter-approved) general obligation debt for utility purposes up to a limit of 2.5 percent of a City's assessed valuation.

A.2 Provision of Utility Service

This section discusses the provisions of utility service by the City and by private entities. Each utility section includes a discussion of the existing inventory, existing facility capacity, and an assessment of future facilities, although financial information for privately-owned entities is not included in this plan.

BONNEVILE POWER

Tanner Electric is a customer of Bonneville Power Administration (BPA). BPA is a federal nonprofit agency based in the Pacific Northwest. It is self-funded and covers its costs by selling its products and services. BPA markets wholesale electrical power from 31 federal hydro projects in the Columbia River Basin, one nonfederal nuclear plant and several other nonfederal power plants. The dams are operated by the U.S. Army Corps of Engineers and the Bureau of Reclamation. About 1/3 of the electric power used in the Northwest comes from BPA.

SNOQUALMIE FALLS HYDRO-ELECTRIC PROJECT

Puget Sound Energy's Snoqualmie Falls Hydroelectric Project is one of the oldest hydropower plants in the United States. The project contains a small diversion structure just upstream from the falls, and two powerhouses. Built in 1898-99, the first powerhouse is encased in bedrock 260 feet beneath the surface and was the world's first underground power plant. The second powerhouse was built in 1910 and is a quarter-mile downstream from the falls. The two powerhouses combined have 54 megawatts of generating capacity (enough to meet the peak electricity needs of about 25,000 households). (https://pse.com/inyourcommunity/king/Pages/

B. ELECTRIC SYSTEM

B.1 Description and Inventory

Electricity is provided to North Bend by Puget Sound Energy (PSE) and Tanner Electric Cooperative (TEC). PSE serves the majority of the electricity users within North Bend. PSE and TEC signed a boundary agreement to define their respective service territories in 2013, which are shown within North Bend on Figure 5-1. The City of North Bend and the surrounding area will continue to be served by both PSE and TEC.

PSE is a large investor-owned utility that provides electric service to customers in eight predominantly Western Washington counties: Island, King, Kitsap, Kittitas, Pierce, Skagit, Thurston and Whatcom. North Bend has a franchise agreement with PSE for use of City rights-of-way for PSE's installation and maintenance of electricity and natural gas lines (Ord. 1795).

Contact PSE – Municipal Liaison Manager Brandon Leyritz:
Brandon.Leyritz@pse.com
(425)-417-5925

TEC is a non-profit cooperative, or small utility, serving the electrical needs of its members. TEC serves members in the Ames Lake area of King County and Anderson Island in Pierce County in addition to its service in and around North Bend.

North Bend has a franchise agreement with TEC for use of City rights-of-way for TEC's installation and maintenance of electricity lines (Ord. 1757).

Contact Tanner Electric:
https://www.tannerelectric.coop
(425) 888-0623

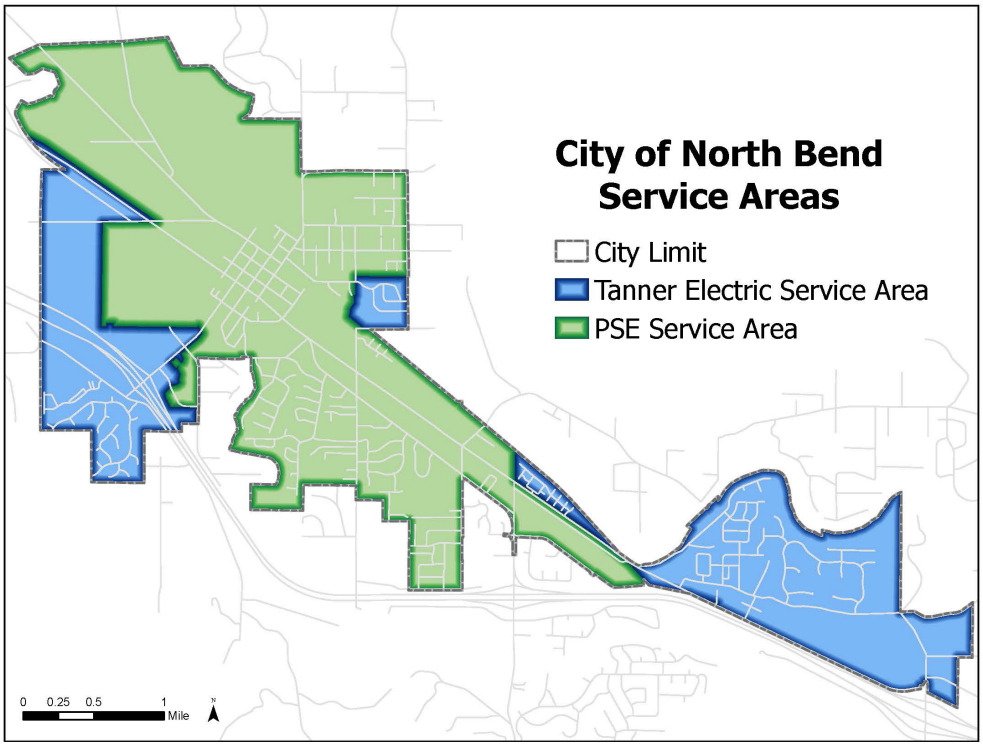

Figure 5-1

The North Bend / Snoqualmie electrical sub-area is located east of Preston and between the Cedar River Watershed and the Tolt River Watershed. It includes the Fall City area, but not Carnation or Duvall. Within the sub-area, there are five hydroelectric developments. The generating plants within this area include the Snoqualmie Falls (owned by PSE), Cedar Falls (owned by Seattle City Light), and Weeks Falls, Twin Falls, and Black Creek (owned by independent power producers). Four distribution substations are located in the North Bend / Snoqualmie sub-area.

B.2 Existing Service

Power plants throughout the region generate electricity that is then delivered via the electrical grid to customers through transmission and distribution power lines. Electricity can be generated from all different sources and sizes. They are all joined together to create what is called a "Fuel Mix." This mix is specific to each utility, but in Washington, generally consists of large and small hydroelectric, nuclear, and renewables. High-voltage transmission lines carry large scale electricity over long distances from generating plants to local distribution substations. Distribution substations then reduce voltage through transformers from (in the case of the North Bend/Snoqualmie sub-area) 115 kV to 12 kV, which is PSE and TEC's standard distribution voltage. From the distribution substations, 12 kV feeders distribute the power to the individual customers.

On a more local level, household solar/wind and residential hydro can also provide some generation. In these cases, power not utilized by the homeowner is put back on the distribution system and utilized by neighboring users. System capacity is planned for based on existing and projected use. In residential areas, which is the predominate user in North Bend, winter outage scenarios usually determine when new distribution capacity improvements are needed.

PSE and TEC are powered by two separate substations with their own dedicated 115kV transmission lines. From these substations, each respective utility powers their individual customers via both overhead and underground distribution power lines.

B.3 Future Demand

The forecasted load for the next 30 years will require systems improvements which are listed in this section as construction projects that are in progress, or as plans for the future. A project is considered in progress if specific site selection, preliminary engineering, permitting, or construction activities are currently underway.

New projects can be developed in the future at any time due to:

- new or replacement of existing facilities to increase capacity due to new building construction, as well as conversion of existing homes and businesses to other preferred fuel types;
- the need for replacement to facilitate improved maintenance of facilities;
- replacement or relocation of facilities due to municipal and state projects; and
- system upgrades required to accommodate third party interconnection of transmission or generation facilities.

Other system improvements may be needed within a 30 year horizon to serve forecasted load. PSE has two major substation projects planned in the 10 year horizon in the North Bend/Snoqualmie area. One near-term substation improvement project is anticipated to expand and upgrade PSE's existing North Bend substation to enable improved transmission connections. This will provide reliability improvements to customers served by the North Bend substation.

The other near-term substation improvement project is planned to expand PSE's existing Snoqualmie Switching

Station to enable interconnection of a proposed small hydro project.

There are three possible long-range issues that need to be addressed in order to best serve the growth in the Snoqualmie/North Bend area:

1. Existing 115 kV transmission lines may become inadequate to serve the projected load increases in the area;
2. the lack of capacity to get power into the area when local generation may become inadequate to serve the local load; and
3. the existing substations may become insufficient to supply adequate 115-12 kV substation transformer capacity.

Construction projects in progress / Plans for the future/Recently Completed

Middle Fork Substation and 115kV Transmission Line
In 2020-2021, TEC completed the installation of a new 115kV Transmission Line through the existing utility corridor along the Snoqualmie Valley Trail. This transmission line runs to a new substation location along North Bend Way. TEC's Middle Fork Substation is to be built in 2024-2026 in order to better serve future growth on the East side of town as well as provide power supply redundancy for all TEC members.

Additional Small Hydro
There are numerous proposals for small hydroelectric generation plants in the North Bend/Snoqualmie area. Most of these are located on the North Fork of the Snoqualmie River and its tributaries, including Hancock Creek and Calligan Creek. In addition, there are possibilities for others along the Middle Fork and the South Fork of the Snoqualmie River. Puget Sound Energy may need to construct facilities to interconnect these generation plants to the electric transmission system. A possible interconnection substation to integrate new generation would be a Reinig Switching Station located near the Snoqualmie-Cedar Falls line to connect the existing system to new generation with a new 115 kV line.

Transmission Line Rebuild
The Cedar Falls-Snoqualmie 115 kV line contains low capacity wires. At some point this line will need to be rebuilt.

Rattlesnake-Lake Tradition 230 kV Line
The Rattlesnake-Lake Tradition transmission line is a planned new 230 kV line, which would connect the existing cross-Cascades transmission line near Rattlesnake Lake southeast of North Bend to the existing Lake Tradition substation near Issaquah. This line would allow power generation in Eastern Washington to be supplied to King County as well as strengthen the power system in the North Bend area and the rest of King County.

Lantern Substation and 115 kV Transmission Line
The planned Lantern substation, located south of

DEFINITIONS, ABBREVIATIONS, AND ACRONYMS

- **Btu** – *British thermal unit, One Btu is the heat required to raise the temperature of one pound of water by one degree Fahrenheit.*
- **cf** – *Cubic feet*
- **Mcf** –*equals the volume of 1,000 cubic feet of natural gas.*
- **Natural Gas** *is a fossil fuel formed when layers of buried plants, gases, and animals are exposed to intense heat and pressure over thousands of years. The energy that the plants originally obtained from the sun is stored in the form of chemical bonds in natural gas.*
- **psig** – *pounds per square inch gauge measures a unit of pressure. Psig indicates that the pressure is relative to atmospheric pressure, opposed to psia (absolute) which is relative to a vacuum.*
- **PSE** – *Puget Sound Energy*
- **Therm** – *One therm equals 100,000 Btu, or 0.10 MMBtu.*

DEFINITIONS, ABBREVIATIONS, AND ACRONYMS

- **DSL services** – *digital subscriber line (originally digital subscriber loop) is a family of technologies that are used to provide internet access by transmitting digital data over telephone lines.*
- **Optical fiber cable** *is a cable containing one or more optical fibers that are used to carry light. The optical fiber elements are typically individually coated with plastic layers and contained in a protective tube.*
- **WUTC** – *Washington Utilities Transportation Commission*

North Bend at a site to be determined in the future, would provide electric power to customers in the Southeast North Bend area. This would provide a possible interconnection point for existing and future transmission lines to improve reliability and capacity in the North Bend area.

Future Distribution Substations
At present, the timing of future distribution substations cannot be determined due to the uncertainty of load growth in this area, an island of utn a rural area. It is likely that the Snoqualmie/North Bend area may need an additional substation or an additional transformer in an existing substation in the near future.

C. NATURAL GAS

C.1 Description& Inventory

Puget Sound Energy is an investor-owned natural gas utility that supplies natural gas to six Western Washington counties: Snohomish, King, Kittitas, Pierce, Thurston, and Lewis. Puget Sound Energy provides natural gas service to customers in six Western Washington counties: Snohomish, King, Kittitas, Pierce, Thurston, and Lewis.

PSE serves natural gas to many customers in North Bend that find that fuel essential for their space and water heat. The UTC requires PSE to maintain and serve natural gas based on demand. Extension of service is based on request and the results of a market analysis to determine if revenues from an extension will offset the cost of construction. PSE will install natural gas service to anyone who requests it.

Natural gas comes from gas wells in the Rocky Mountains and in Canada and is transported through interstate pipelines by Williams Northwest Pipeline to Puget Sound Energy's gate stations.

Supply mains then transport the gas from the gate stations to district regulators where the pressure is reduced to less than 60 psig. The supply mains are made of welded steel pipe that has been coated and is cathodically1 protected to prevent corrosion. They range in size from 4" to 20".

Distribution mains are fed from the district regulators. They range in size from 1-1/4" to 8" and the pipe material typically is polyethylene (PE) or wrapped steel (STW).

C.2 Existing Service

According to the PSE rate department, the average house (using natural gas for both heat and hot water) consumes about 1,000 therms per year. Ten therms equals approximately one "mcf" (thousand cubic feet) of gas so 1,000 therms per house equals approximately 100,000 cubic feet of gas per household per year.

Individual residential service lines are fed by the distribution mains and are typically 5/8" or 1-1/8" in diameter. Individual commercial and industrial service lines are typically 1-1/4", 2" or 4" in diameter.

C.3 Future Demands

When planning the size of new gas mains, PSE uses a saturation model, which assumes all new households will use natural gas since 99% of new homes constructed where builders have the choice are using natural gas. PSE forecasts customer additions using a forecast analysis calculation based on PSE's revenue report which is generated by town tax codes established in our Exception Billings Department and based on historical customer counts.

Minimum pressure delivery through distribution pressure mains from a design standard is approximately 15 psig. If design pressures fall below 15 psig, there are several methods of increasing the pressure in the line, including:

1. Looping the distribution and/or supply lines to provide an alternative route for the gas to travel to an area needing additional supply. This method often involves construction of supply mains district regulators, and distribution mains;
2. Installing mains parallel to existing mains to supplement supply of natural gas to a particular service area; and
3. Replacing/upsizing existing pipelines to increase volume.

New projects can be developed in the future at any time due to:

1. New or replacement of existing facilities due to increase capacity requirements due to new building construction and conversion from alternate fuel;
2. Main replacement to facilitate improved maintenance of facility; and
3. Replacement or relocation of facilities due to municipal and state projects.

PSE makes an effort to coordinate construction work with municipal projects in order to minimize cost and impacts to the surrounding community. Due to franchise agreements, PSE is required to relocate existing facilities when construction projects require upgrades.

D. TELECOMMUNICATION, CABLE & INTERNET

Telecommunication is a branch of technology that allows communication over a distance by transmission of electrical impulses, electromagnetic waves, or optical pulses, such as telephone, radio, television, or computer network. These services are provided by private firms and are often provided as packages.

D.1 Telephone

The local telephone service is provided by CenturyLink/Quantum Fiber, which currently serves North Bend, Fall City, Carnation and surrounding areas. The system consists of a network of copper and fiber optic cables, and other equipment facilities including central office and remote switches that support the fiber and copper infrastructure, which are located throughout the area.

To meet North Bend's future needs, CenturyLink/ Quantum Fiber follows the policy of extending its lines to serve customer needs within its territory boundary in accordance with its tariffs as filed under the WUTC. The City has a master use permit with Century Link/ Quantum Fiber for use of City rights-of-way for installation and maintenance of their lines.

Contact Quantum Fiber: quantumfiber.com, (833) 250-6306.

D. 2 Cable Broadband, Television, and Internet

As telecommunication technologies have evolved, convergence of these technologies has occurred, resulting in multiple communication services migrating into consolidated networks. This typically involves the convergence of previously distinct media, such as internet, telephone, video and data communications being transmitted over fiber optic or other infrastructure. Internet and cable services are offered by multiple providers with North Bend, including Comcast/Xfinity, Century Link/Quantum

Fiber, T-Mobile Home, and others. Land-line cable television service is offered through Comcast, which has a franchise agreement with the City of North Bend (Ord. 1081) for their use of City rights-of-way for maintenance and operation of their cable network.

E. SOLID WASTE & RECYCLING

The King County Comprehensive Solid Waste Management Plan guides solid waste disposal in King County. The current version of this plan was adopted in 2019. The Plan proposes strategies for managing the solid waste over the next six years, with consideration of the next 20 years. This is the first management plan that looks at ways to address climate change. The core mission of the KCCSWMP is to ensure the citizens of the county have access to safe, reliable, efficient, and affordable solid waste handling and disposal services.

CEDAR HILLS LANDFILL

Cedar Hills is the only landfill still operating in King County. King County was able to extend the life of Cedar Hills from the expected closure in 2012 to 2028 (lifespan depends on a variety of factors, including tonnage received). The 2019 Solid Waste Plan recommends exploring a range of emerging technologies for future disposal other than exporting waste to a distant landfill when max capacity is reached at Cedar Hills.

E.1 Description and Inventory

North Bend, like most cities in King County, has signed an Interlocal Agreement with King County to provide solid waste planning within the City. The terms of the Solid Waste Interlocal agreement are in effect from March 19, 2013 through December 31, 2040. A number of responsibilities are designated to the County and cities in order to implement the King County Solid Waste Management Plan. The plan identifies that cities need to provide for collection of solid waste and ensure the provision of the minimum levels of collection service for recyclables and yard waste. Cities are also directed to implement requirements for new construction to accommodate recycling collection systems such as the following: a procurement policy (a policy favoring the use of recyclable products and materials), variable can rates and a monitoring program. Cities are also asked to enforce City litter control ordinances. The cities are authorized under the plan to regulate and plan for the collection of special waste, to adopt and implement the solid waste plan, and to participate in the Solid Waste Advisory Committee and Regional Policy Committee.

E.2 Existing Service

Under the Interlocal Agreement, King County is responsible for solid waste management, planning, and technical assistance to cities. North Bend is responsible for solid waste and recycling collection. Recology is under contract with North Bend for weekly solid waste and curbside recyclable collection, and for every other week, collection of yard debris/compostables for disposal/recycling, as well as for collection of public garbage and recycling from public street receptacles and at city parks and facilities and at certain City-sponsored special events.

Contact Recology: North Bend – Recology King County (425) 448-6220.

Toxic and hazardous wastes are disposed of at facilities in South Seattle and Bellevue. Waste collected in North Bend that cannot be recycled is transported by Recology to King County's Factoria Transfer Station in Bellevue. King County then trucks the garbage to the Cedar Hills landfill; this facility received all of the mixed municipal solid waste (MMSW) generated in King County.

E.3 Future Demand

The City of North Bend and King County will continue offering service to existing and new residents meeting the standards found in the KCCSWMP. Refer to the most recent edition of King County Comprehensive Solid Waste Management Plan for additional information regarding County inventory and policy.

GOALS & POLICIES

Utility - Goal 1: Provide utilities needed to accommodate growth and development according to adopted plan policies.

Policies:

U - 1.1 Continue to serve all customers that request utility service in the service area.

U - 1.2 Maintain the integrity of the utility infrastructure system to provide service to customers as a high priority for utility capital expenditures.

U – 1.3 Work to ensure communication providers are capable of providing advanced communication services utilizing the most current technology.

Utility - Goal 2: Cooperate with utility suppliers in the development, siting, maintenance, and repair of utilities.

Policies:

U - 2.1 Provide timely and effective notice to utilities of the construction, maintenance, or repair of streets or other facilities, and coordinate such work with utilities to ensure their needs are met.

U - 2.2 Require utilities notify the City before utility work is done to discuss the best means to preserve vegetation from utility work.

U - 2.3 Review utility permits simultaneously with development proposals requesting service.

Utility - Goal 3: Work with citizens, other jurisdictions, and utility providers to ensure cooperation in the siting of utilities and to ensure that reliable and cost effective suppliers of energy are available to meet increasing demands.

Policies:

U - 3.1 Encourage the multiple use of corridors for trails, transportation right-of-way and utilities.

U - 3.2 Encourage the consolidation of utility facilities and communication facilities by prohibiting duplication of electrical substations, above ground electrical transmission lines and communication antenna structures within one mile of another similar facility.

U - 3.3 Require installation of fiber optic conduit at locations approved by City Engineer when roads are built or substantially reconstructed to facilitate future construction of local area fiber optic communications networks.

U-3.4 Partner with electrical utility providers to effectively meet rapidaly increasing electrical demand as the city and region work to achieve a Clean Energy Transition.

U-3.5 Support EV charging infrastructure throughout the community in order to support the decarbonization of our sector.

Utility - Goal 4: Ensure the compatibility of and minimize the environmental impacts associated with the siting, development, and operation of utility services and facilities on adjacent properties.

Policies:

U - 4.1 Work with the utilities to eliminate existing overhead power lines in the Urban Growth Area, with an emphasis on the downtown commercial zoning district.

U - 4.2 Develop regulations for siting and landscape requirements for utility meter cabinets, terminal boxes and similar above ground utility features.

U - 4.3 Where feasible, require installation of new power and communication lines to be placed underground.

Utility - Goal 5: Promote conservation through cooperative efforts of regulations, programs, and educational literature.

Policies:

U - 5.1 Work with the County and utility suppliers to develop public education and information materials that promote conservation.

U - 5.2 Handle and dispose of solid waste in ways that minimize pollution and protects the public health.

U - 5.3 Work with the City's solid waste collection agencies to establish cost-effective policies and regulations designed to minimize waste generation and meet King County's adopted waste reduction goals.

U - 5.4 Encourage utility providers to convert to cost effective and environmentally compatible alternative technology and energy sources.

U - 5.5 Require the provision of recycling opportunities in new construction projects.

U - 5.6 Encourage utility providers to develop outage reduction plans, develop initiatives to lower energy costs, create clean power sources and reduce greenhouse gas emissions.

U- 5.7 Promote and support the growth and use of customer-owned distributed energy resources such as customer-connected solar, battery walls, and other technologies that operate "behind the meter