

Appendix D. Equity variables and sources

The following table shows the equity related variables and data sources we are considering and analyzing.

Variable	Category	Details/ Description	Data Source	Data Source Geographic Scale	Notes
Racial Composition	DEI	% of the census block population is non-white	ACS	Census Block Group	Variable from Greenlink database
Homeownership	DEI	% of households in census block group that is renting	ACS	Census Block Group	Variable from Greenlink database
Households with Above Average, High, or Severe Energy Burden	DEI	Energy Burden is the percent of median yearly income that households pay for electricity and gas bills. Households nationally on average pay about 3% of their income on energy bills. A household that pays more than 6% of their income on energy bills is considered to have high energy burden, while a household that pays more than 10% is considered to be severe energy burden. These indicators show the number of households with energy burdens above the 3% national average, the 6% threshold for high energy burdened, or the 10% threshold for severe energy burden across different census tracts.	DOE LEAD	Census tract	Variable from Greenlink database
Education	DEI	% of households in census block group with no high school diploma	ACS	Census block group	
PGE Payment Issue	DEI	Household with one or more need criteria: payment assistance, disconnection due to lack of payment, late notices (1 or 0)	PGE	Household	
PGE Payment Issue Score		Households with payment issues get a score of 1-3 with a point for each issue: payment assistance, disconnection due to lack of payment, late notices			
Poverty level	DEI	Households at or below 200% FPL OR at or below 60% AMI	ACS	Census block group	

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Tribal Communities	DEI	Oregon’s nine recognized Native American tribes: Burns Paiute Tribe, Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, Coquille Tribe, Cow Creek Band of Umpqua Tribe of Indians, Confederated Tribes of the Grand Ronde Community of Oregon, The Klamath Tribes, Confederated Tribes of Siletz, Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Warm Springs Indian Reservation.	DOE LEAD	Census Tract	
Native American Populations	DEI	% of population in census block group that is Native American	ACS	Census Block Group	
Rural Communities	DEI	The rural-urban commuting area (RUCA) codes classify U.S. census tracts using measures of population density, urbanization, and daily commuting. A second dataset applies 2010 RUCA classifications to ZIP code areas by transferring RUCA values from the census tracts that comprise them. The most recent RUCA codes are based on data from the 2010 decennial census and the 2006-10 American Community Survey. The classification contains two levels. Whole numbers (1-10) delineate metropolitan, micropolitan, small town, and rural commuting areas based on the size and direction of the primary (largest) commuting flows	RUCA	Census Tract	https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/documentation/
Housing Type	DEI	Single or Multi (i.e., single family attached, single family detached, multifamily 2 units, multifamily 3-9 units, up to 50 units or more).	ACS	Census Block Group	Variable from Greenlink database
Lack of Internet Access	DEI	Median percentage of homes that do not have internet subscription.	ACS	Census Block Group	Variable from Greenlink database
Energy Burden	DEI	The percent of median yearly income that households pay for electricity/gas	DOE LEAD	Census Tract	Variable from Greenlink database

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English Proficiency	DEI	% of households in census block group with limited English	ACS	Census block group	
Householder's Age	DEI	Disclosure of ages of heads of household - those in charge of decisions about improvements	ACS	Census block group	
Eviction Rate	DEI	Median percent of evictions per 100 renting households	Princeton Eviction Lab	Census Block Group	Variable from Greenlink database
Electricity Burden	DEI	The percent of median yearly income that households pay for electricity bills.	ACS	Census Block Group	Variable from Greenlink database
Asthma	DEI	Median percentage of adults (populations age 18 or older) with asthma in census tract	CDC 500 Cities	Census Tract	Variable from Greenlink database
Air quality (PM2.5);	Environmental	Daily an Annual PM2.5 Concentrations for US in 1 km grids	EPA EJ Screen	Census block based on particular collection points (4 in Portland metro area)	Variable from EPA EJScreen
Air quality (O3);	Environmental	Daily and Annual O3 Concentrations for US in 1 km grids	EPA EJ Screen	Census Tract	
Air toxics cancer risk	Environmental	Lifetime cancer risk from inhalation of air toxics	NATA	Map layer created using EPA air quality facilities	Variable from EPA EJScreen
Respiratory hazard index	Environmental	Air toxics respiratory hazard index (ratio of exposure concentration to health-based reference concentration)	NATA	Map layer created using EPA air quality facilities	Variable from EPA EJScreen
Proximity to Traffic (Air quality)	Environmental	Traffic proximity and volume by Census Block Group, as a percentile compared to state or compared to US	EPA EJ Screen	Census Block Group	Variable from EPA EJScreen
Proximity to Environmental Hazards	Environmental	Data available for proximity to hazardous waste and superfund sites by census tract as a percentile compared to the state or the US. Count of hazardous waste facilities or proposed or listed superfund sites (TSDFs, LQGs and NPLs) within 5 km (or nearest beyond 5 km), each divided by distance in kilometers	EPA EJ Screen	Census Tract	Variable from EPA EJScreen
RMP Facility Proximity	Environmental	Count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers	EPA EJ Screen	Census Tract	Variable from EPA EJScreen

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Underground Storage Tanks (UST)	Environmental	Count of LUSTs (multiplied by a factor of 7.7) and the number of USTs within a 1,500-foot buffered block group	EPA EJ Screen	Census Tract	Variable from EPA EJScreen
Wastewater Discharge	Environmental	Modeled toxic concentrations at stream segments within 500 meters, divided by distance in kilometers (km)	EPA EJ Screen	Census Tract	Variable from EPA EJScreen
Public Safety Power Shutoff Zone	Resiliency	Sites are marked as in a PSPS zone and are more likely to experience safety shutoffs due to natural disasters like fires.	PGE	Household	
Wildfire Risk - Expected Annual Relative Housing Unit Risk (EAHUrisk)	Resiliency	EAHUrisk is an index of the expected damage to, or loss of, housing units within a summary polygon due to wildfire in a year. This is a long-term annual average and not intended to represent the actual losses expected in any specific year. It is calculated as the product of HUexposed (housing units exposed) and MeanRPS (MeanRPS is the housing-unit weighted mean of the Risk to Potential Structures raster within a summary polygon).	US Forest Service	Raster	https://www.fs.usda.gov/rds/archive/Catalog/RDS-2020-0016
Flood Risk	Resiliency	The National Flood Hazard Layer (NFHL) data incorporates all Flood Insurance Rate Map (FIRM) databases published by the Federal Emergency Management Agency (FEMA), and any Letters of Map Revision (LOMRs) that have been issued against those databases since their publication date. The primary risk classifications used are the 1-percent-annual-chance (or 100-year) flood event, the 0.2-percent-annual-chance (or 500-year) flood event, and areas of minimal flood risk.	RLIS-FEMA	Polygons	
CMI	Resiliency	Average annual customer minutes interrupted - total customer outage time for a sustained outage.	PGE SAM	Feeder level	Variable from PGE
CELID24	Resiliency	Average percentage of customers exceeding 24 hours of outage duration including Major Event Days	PGE SAM	Feeder level	Variable from PGE
Loss of supply substation - count	Resiliency	Average annual number of loss of supply substation outages at feeder level. Major event days excluded	PGE SAM	Feeder level	Variable from PGE

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Loss of supply substation - hours	Resiliency	Average annual customer hours interrupted due to loss of supply substation outages. Major event days exclude	PGE SAM	Feeder level	Variable from PGE
Loss of supply transmission - count	Resiliency	Average number of loss of supply transmission outages. Major event days excluded	PGE SAM	Feeder level	Variable from PGE
Loss of supply transmission - hours	Resiliency	Average customer hours interrupted due to loss of supply transmission outages. Major event days excluded	PGE SAM	Feeder level	Variable from PGE
MED	Resiliency	Average number of major event days that occurred during the year (SAIDI exceeding a threshold value)	PGE SAM	Feeder level	Variable from PGE
SAIFI	Resiliency	SAIFI for the feeder (frequency of outages). Major event days excluded	PGE SAM	Feeder level	Variable from PGE
SAIDI	Resiliency	SAIDI for the feeder (duration of outages). Major event days excluded.	PGE SAM	Feeder level	Variable from PGE
Sustained outages	Resiliency	Average number of sustained outage events (classification based on exclusion criteria). Major event days excluded	PGE SAM	Feeder level	Variable from PGE