WHY LOCAL, RENEWABLE GENERATION?

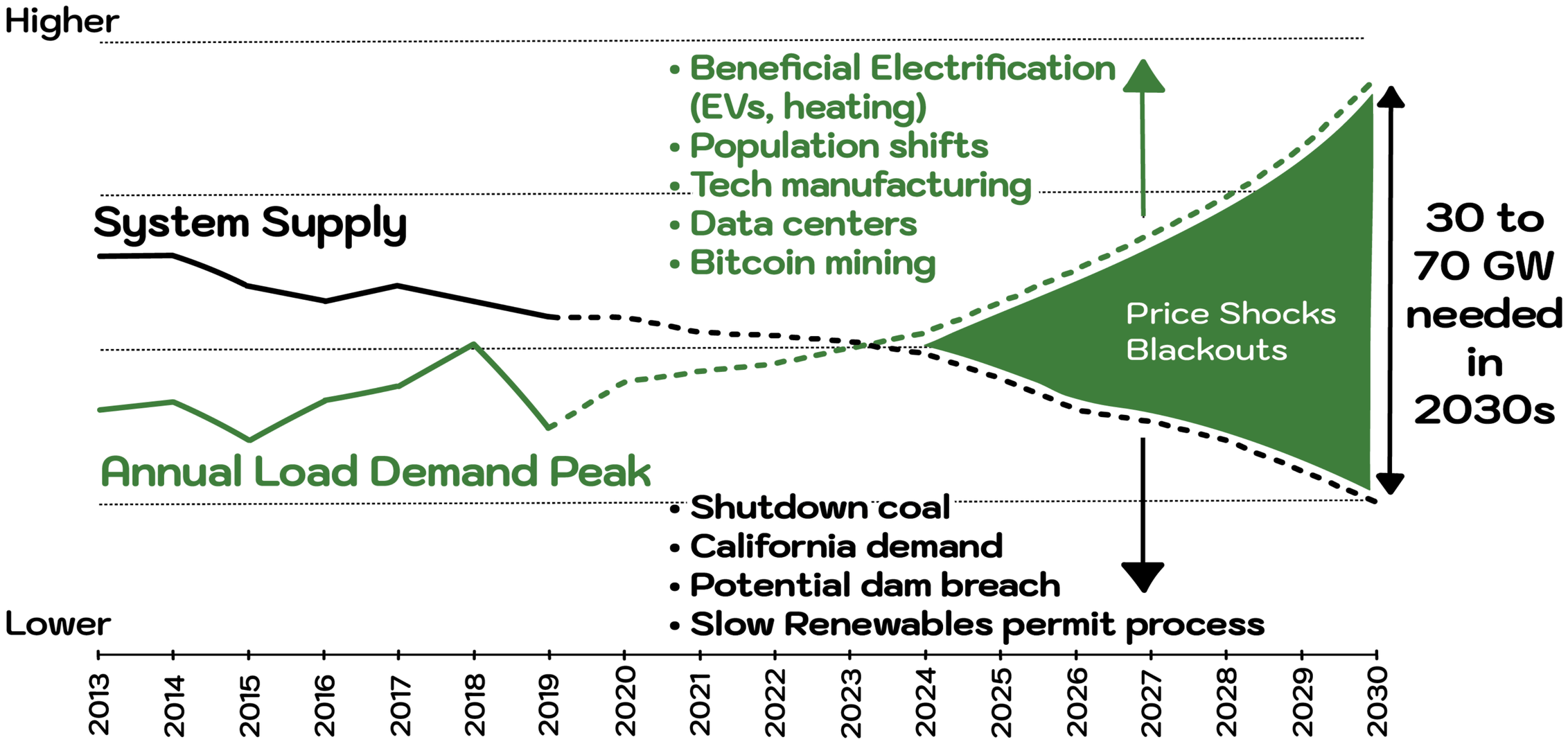
INCREASE IN DEMAND

- More demand for carbon free resources
- WA State climate mandates that require a shift from fossil fuels with financial penalties
- Increase in energy intensive data centers and AI tech
- Regional switching to electricity for heating and transporation

REGIONAL ENERGY SUPPLY AT CAPACITY

- Regional hydro system maxed out – no new hydro
- Renewable energy projects are delayed or cancelled due to public pushback & permitting challenges
- At least 30 GW of new energy supply will be needed to meet the rapidly growing demand
- Rolling blackouts and market price shocks will increase until supply can meet demand

NW ENERGY SUPPLY DECLINING, DEMAND INCREASING



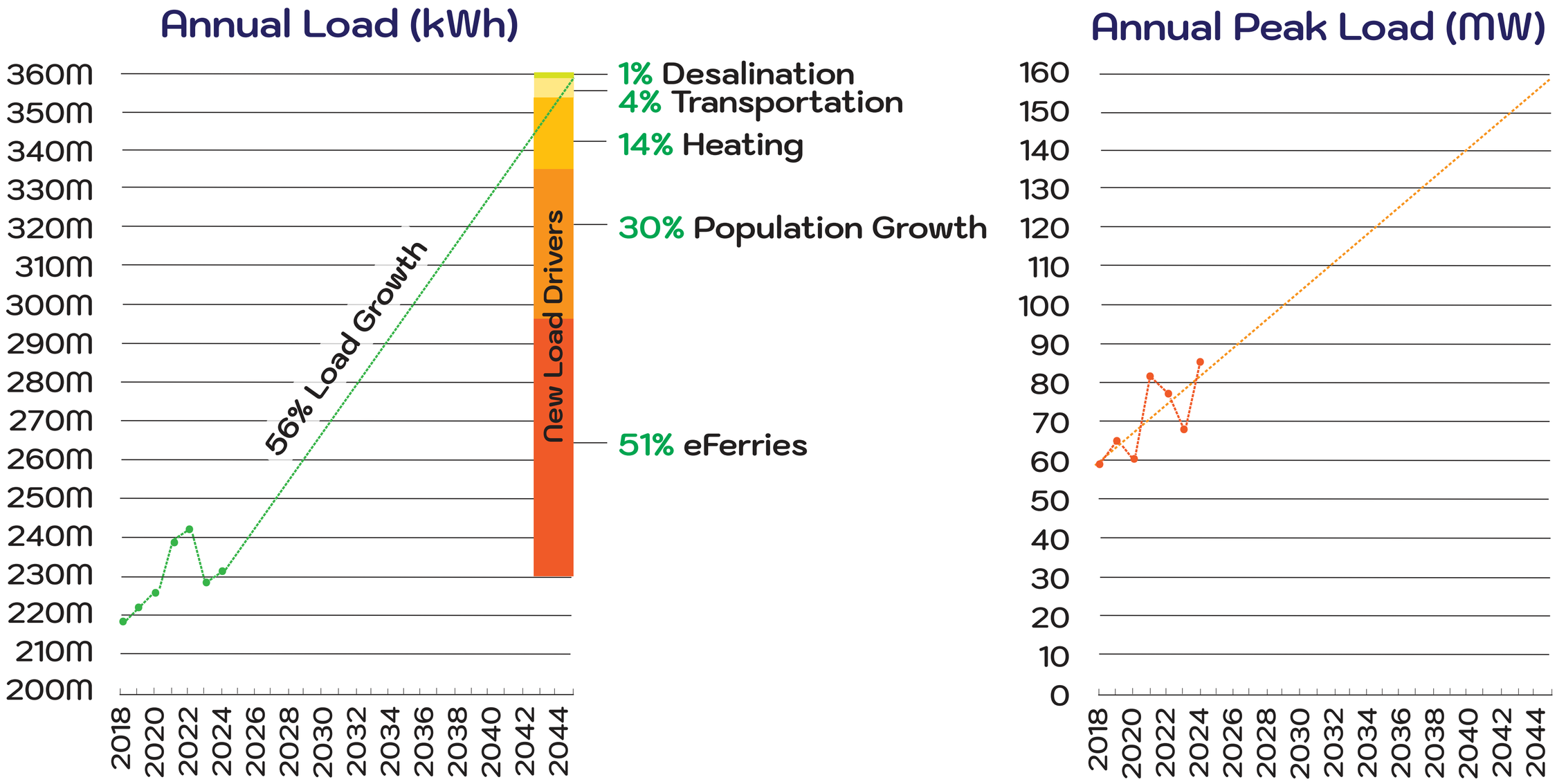
Source: NWPCC, 6 August 2024 Planning and Analysis Study; PNUCC; Transportation Electrification Strategy, 2023; WA DOC

DO OPALCO MEMBERS WANT LOCAL, RENEWABLE ENERGY?

PLANNING FOR LOAD GROWTH

Our local energy needs are growing rapidly.
The chart below shows our current and projected local energy consumption (left) and peak demand (right) based on numbers outlined in the Comprehensive Plan (Comp Plan)

OPALCO ANNUAL LOAD FORECAST THROUGH 2045



Source: BPA, OPALCO Load Forecast

According to the Comp Plan, County energy demand is projected to increase by more than 50% over the next 20 years

UNDERSTANDING FUTURE LOAD GROWTH:

- County population growth drives 30% of the load growth
- Decarbonization of heating, transportation, and ferries drives about 69% of growth
- Peak load is driven by extreme weather events and eFerry charging

SHOULD OPALCO INVEST IN OFF ISLAND NATURAL GAS TO IMPROVE REGIONAL RELIABILITY?

ROOFTOP SOLAR

CAN ROOFTOP SOLAR SOLVE OUR ENERGY NEEDS?

- There is a misconception out there that if you put solar on all rooftops and parking lots, the problem is solved.
- If we max out rooftop solar it can only supply about 5% of our projected annual local energy needs.
- A single utility scale microgrid can produce the same amount of energy as all rooftop solar systems combined, with just one inverter – making it more cost effective and more efficient.

SAN JUAN COUNTY ROOFTOP SOLAR

- Currently, ~720 home/business rooftop solar systems supply about 2% of county electric energy use; projected to supply 4% by 2030.
- OPALCO's solar program generates over 10 times more solar than the state average.
- OPALCO's Switch-It-Up program doubled the rooftop solar growth rate by making it more affordable for the average member.

WHY DOESN'T OPALCO LEASE ROOFTOPS OR OTHER IMPERVIOUS SURFACES?

- Any OPALCO member with a rooftop, parking lot, or other impervious surface can install solar.
- OPALCO wants to make the best use of member capital. Rooftop solar on large rooftops and parking lots is six to ten times more expensive than utility-scale solar.
- Increased liability with decreased cost benefits makes this option more expensive and risky for OPALCO.

WHAT SORTS OF UTILITY SCALE PROJECTS DO OPALCO MEMBERS WANT TO SEE?

TRADE-OFFS OF RENEWABLE ENERGY PROJECTS

Do Nothing – Live with energy blackouts and increasing price shocks

More investment into rooftop solar and battery storage – won't solve the problem but helps some local households

Invest in off island energy solutions – could help with price shocks but doesn't help with local reliability and would likely be natural gas (more efficient but carbon based)

Invest in local energy solutions – may have some environmental and aesthetic affects but offers local reliability and reduces the need for more carbon-based energy sources

WHAT TRADE-OFFS ARE MEMBERS WILLING TO MAKE?

THE REALITIES OF CONSERVATION

- OPALCO can't force people to conserve – we are obligated legally to provide as much power as members can pay for

- Policies and enforcement would need to come from government agencies

- Efficiency helps but the move away from carbon-based fuels means electrical usage is still going up.

- Conservation depends on sustained behavioral changes, which tend to vary over time and lack enforcement.

- Conservation doesn't address aging transmission and distribution infrastructure.

- Conservation offsets but does not eliminates demand

Conservation can reduce the amount needed but does not generate electricity or provide backup power during outages.

PART OF THE SOLUTION, NOT THE SOLUTION:

Conservation is critical—but must be combined other solutions such as:

- Local and utility-scale renewable generation (e.g., solar, wind)
- Energy storage systems (batteries)
- Demand response programs
- Grid modernization and resilience investments

OPALCO strongly encourages conservation through our strong rebates and on-bill financing program

OPALCO REBATES & SWITCH IT UP SNAPSHOT

- $15.5M in Switch It Up Conservation projects
- $10M in Switch It Up solar and energy storage projects
- $2.5M in efficiency rebates since 2014

WHAT WOULD ENCOURAGE MORE LOCAL CONSERVATION EFFORTS?

CLIMATE CHANGE

Carbon emissions have jumped over 30% during the last 100 years

Quickly reducing carbon emissions is the key to halting the dangerous warming of the planet, acidification of the oceans, and collapse of our planetary ecosystem.

AS MANY AS 1 MILLION SPECIES ARE NOW AT RISK OF EXTINCTION.
-UNITED NATIONS INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM

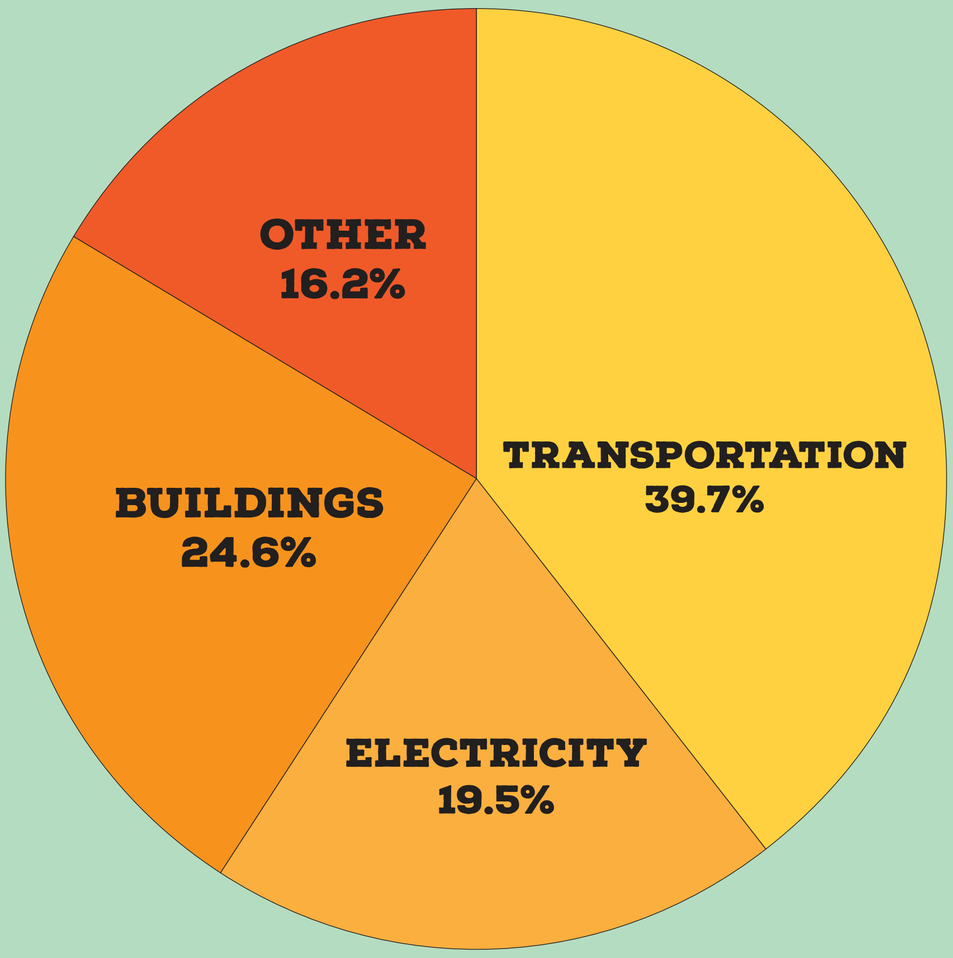
Washington state is leading the way in decarbonizing the two largest uses of energy in a typical home:

- Fossil-fueled transportation (gasoline, diesel)
- Heating (propane, heating oil, natural gas)

Converting fossil-fueled driving and heating to clean electric energy is estimated to reduce carbon emissions by 72% by 2050.

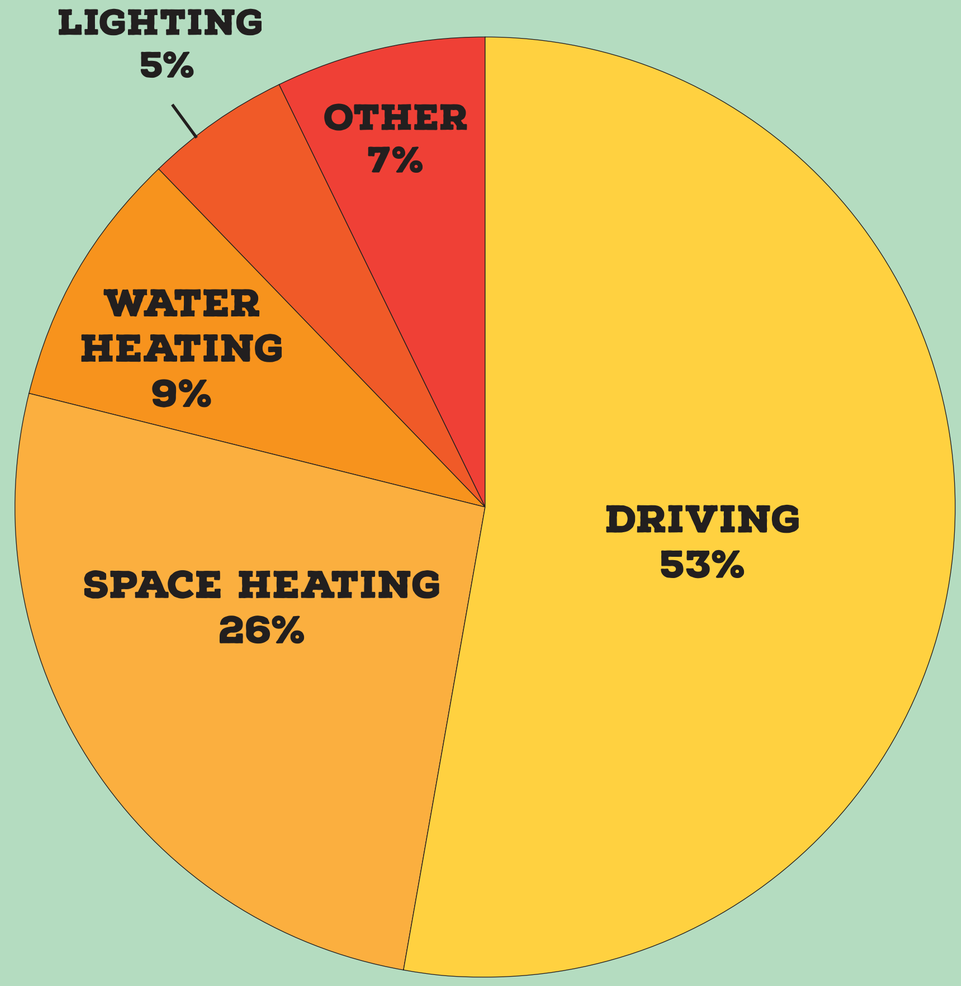
And, while it will reduce consumption of fossil fuels significantly, it is estimated that it will increase electric energy load by 37% by 2030.

WA GREENHOUSE GAS EMISSIONS 2020-2021



Source: WA Department of Ecology (2021) *ecology.wa.gov*

TYPICAL RESIDENTIAL ENERGY USE



Source: *Buildings Energy Data Book*, DOE, Department of Transportation, OPALCO

WHY IS OPALCO CONCERNED?

OPALCO is legally required to provide reliable, 24/7 electricity to every member, regardless of how much they use.

OPALCO currently relies almost entirely on hydropower from the Bonneville Power Administration (BPA). But BPA isn't planning to expand the federal hydro system. That means all new energy load growth will have to come from other sources.

We predict that the mainland grid will periodically run out of power during times of peak usage such as peak weather events. When that happens, the region and San Juan County go dark.

At night and during the winter, when solar isn't producing, we must either use expensive energy storage or import dirtier power, much of it from fossil fuels. What trade-offs are we willing to make for reliable power?

This is why we are working to invest in local, utility scale renewable energy and storage -- to ensure a reliable, affordable, and clean energy future for our islands.

DELAY ALERT!

Each year we delay the Bailer Hill Microgrid:
4 million LBS OF CO_2 is emitted into the environment

OPALCO is committed to being part of the solution - keeping the lights on, protecting our environment, and building a stronger, more resilient energy future for the people of San Juan County.

DO MEMBERS WANT OPALCO MEMBERS TO INVEST IN LOCAL UTILITY SCALE PROJECTS?

PERMITTING & LAND USE CHALLENGES

RIGID LAND USE RESTRICTIONS

Rigid land use restrictions significantly delay or even prevent renewable energy projects.

Existing land use restrictions mean that OPALCO has very little options when it comes to siting renewable energy projects, as most land use designations do not allow for utility scale renewable infrastructure.

COMPLEX PERMITTING PROCESS

Current permitting requirements make the permitting process onerous.

Delays due to the current permitting process can result in a loss of critical grant funding for our community and delay projects. OPALCO is working with San Juan County to get a higher level of permitting predictability so OPALCO can plan and deploy projects in a reasonable timeframe.

PUBLIC PUSHBACK

Pushback from the public for every proposed renewable energy solution leads to projects being delayed or canceled entirely. If we say no to every option, there will be no solution to the growing energy issue.

Public input is important and members need to understand that each renewable energy solution comes with tradeoffs.

WOULD YOU BE WILLING TO HOST A RENEWABLE ENERGY PROJECT IN YOUR NEIGHBORHOOD?

Submarine Cable Infographic