

Electrification Summary Report

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CHELAN COUNTY
POWER

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Why Are We Here?

- Provide some background on electrification discussion/efforts
- Review results of analysis of fleet electrification
- Review recommendations for fleet electrification and education
- No Board action required – looking for input and support for recommended direction

Background (1)

- The 2015 – 2019 Strategic Plan has specific actions in support of electrification including:
 - Installation of 9 (level 2) electric vehicle charging stations at District facilities
 - Make electrification education part of the education and mentoring program
 - Continue evaluation of conversion of fleet vehicles and equipment to electric when cost effective

Existing Investments in Electric Equipment

Equipment Description (28)	Department Served
GEM Elec Utility Transport Vehicles (6)	Generation
Electric Personnel Scissor Lifts (4)	CM/Generation
Toro Electric UTV/Work Trucks (1)	RR Visitor Center
Toro/Cushman Elec UTV/Work Trucks (5)	Parks
Electric Forklifts (3)	Warehouse/Facilities
Electric Personnel Transport Carts (8)	Generation
Electric/Hybrid Toyota Prius (1)	Pool

Examples of Electric Equipment



Examples of Electric Equipment (2)



Examples of Electric Equipment (3)



Existing Investments in Other Alternative Fuels and Idle Reduction

- Currently running B5 biodiesel (5% biodiesel/95% diesel) in all diesel vehicles
- Currently using up to 10% ethanol mix in all regular unleaded fuel
- Have 26 trucks with anti-idle technology installed
- Currently run 3 sweepers and 15 forklifts on propane

Background (2)

- Jeff Smith and Gregg Carrington acting as the Executive Sponsors created a team to address some of the electrification issues
- The team consisted of Steve Currit, Craig Weddle, Tracy Yount, Andrew Grassell
- The team has some recommendations to present and is looking for BOC support to move forward

Deliverables Assigned to team

- 1) Create a feasibility analysis and make recommendations for fleet/vehicles and other equipment
- 2) Make recommendations on how to incorporate electrification education into the District
- 3) Create a list of future opportunities or technologies

Technologies Evaluated

- All-electric cars and trucks
- Hybrid electric cars
- Hybrid electric pickups
- Plug-in hybrid electric cars
- Electric PTO's for boom trucks
- Alternative fuels
- Future technologies

Summary of Analysis

- ❖ The technology is rapidly changing
- ❖ Current technology for the larger trucks and booms is not cost effective for the District
- ❖ Use of electric and hybrid electric utility vehicles and cars can be cost effective
- ❖ Expanded use of other alternative fuels has good potential for reducing our carbon footprint
- ❖ GPS systems with strong anti-idle programs provide the most effective method of reducing carbon emissions

Recommendations (1)

- ❖ Purchase 1 all-electric passenger car
- ❖ Replace the next pool car with a hybrid electric car
- ❖ Continue to purchase electric utility vehicles where appropriate
- ❖ Continue to monitor and evaluate electric mowers and other similar equipment
- ❖ Develop a business case for a cost effective GPS solution and anti-idle policy

Recommendations (2)

- ❖ Provide an in-house electrification expert as part of the education and mentoring program
- ❖ Monitor legislation
- ❖ Monitor emerging technology
- ❖ Obtain Electrification Advisory Committee review of recommendations