



Pacific Northwest
NATIONAL LABORATORY

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Getting to the Core of Sustainability (EStar Award - Change Agents)

SUSTAINABILITY ASSISTANCE NETWORK (SAN)

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Outline

▶ PNNL
Sustainability
Program

▶ EMS Core Team

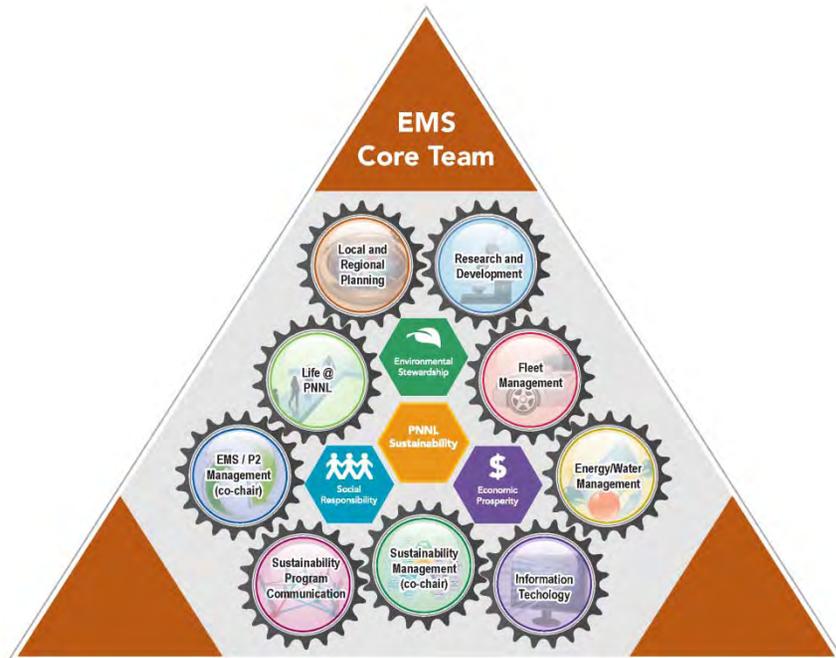
▶ Example Success
Stories - FY 11
Performance

▶ FY 12 Projects
Underway

PNNL Sustainability Priorities



EMS Core Team Enable Success



EMS Core Team is an authorized working group of cross cutting stake holders, including S&T experts in GHG and EMS program leaders.

- ▶ Established a charter that align with sustainability priorities and define roles and responsibilities of the team members.
- ▶ Synergies is created through quarterly Core Team meetings to social with team members; share issues or opportunities; develop innovative solutions; and brainstorm to create projects that foster culture behavior changes Lab-wide.

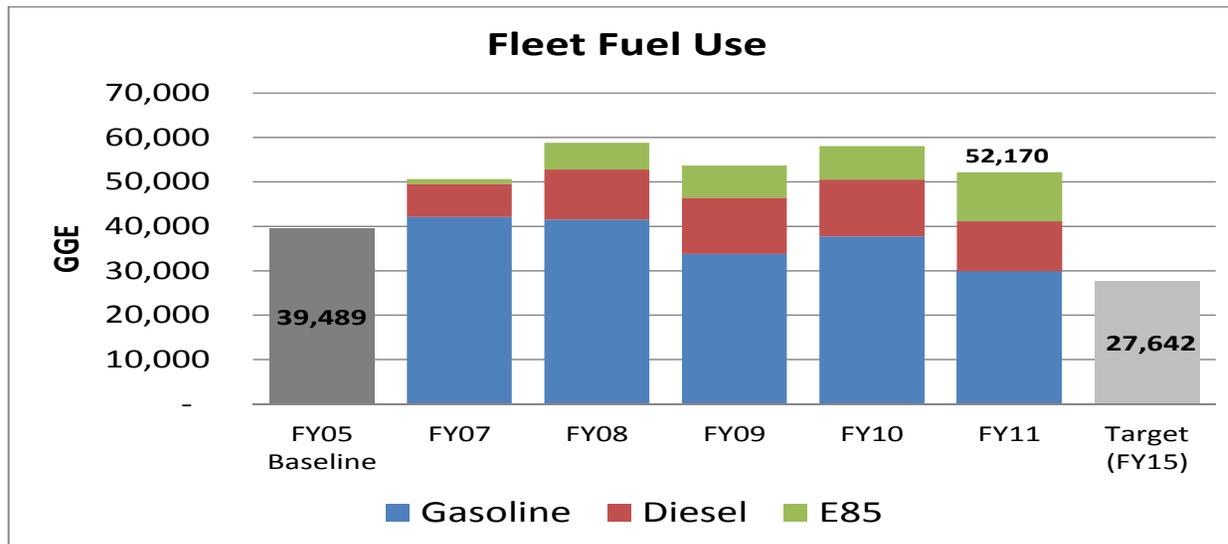
EMS Core Team Charter - Purpose

The Laboratory's specific actions and contributions toward achieving DOE's sustainability targets and goals are identified in the PNNL SSP, which is fully integrated into PNNL's ISO 14001 certified Environmental Management System (EMS).

Advancing sustainability goals while minimizing disruptions to ongoing PNNL research will be a complex process and require significant coordination and integration. As outlined in the Sustainability Project Management Plan, the SSP deliverables and associated projects are **implemented** by an EMS Core Team.

This Team is a diverse, authorized working group composed of leads and managers of key EMS programs. The Core Team also provides a platform for sustainability project managers to collaborate and discuss cross-cutting issues or opportunities.

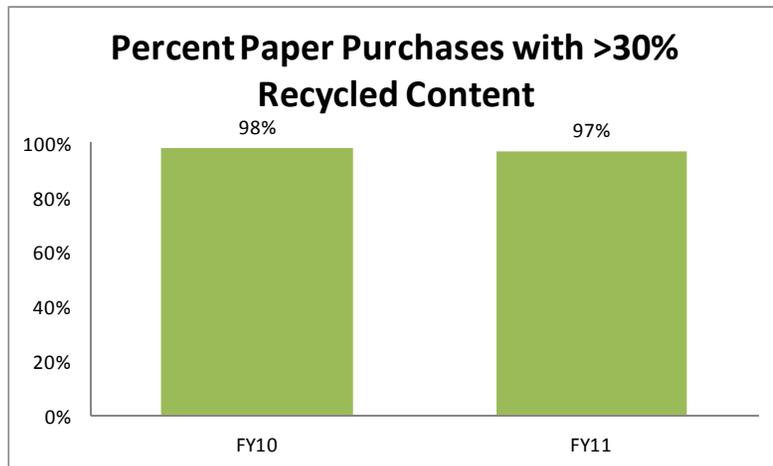
Travel Smarter: Fleet Fuel Use



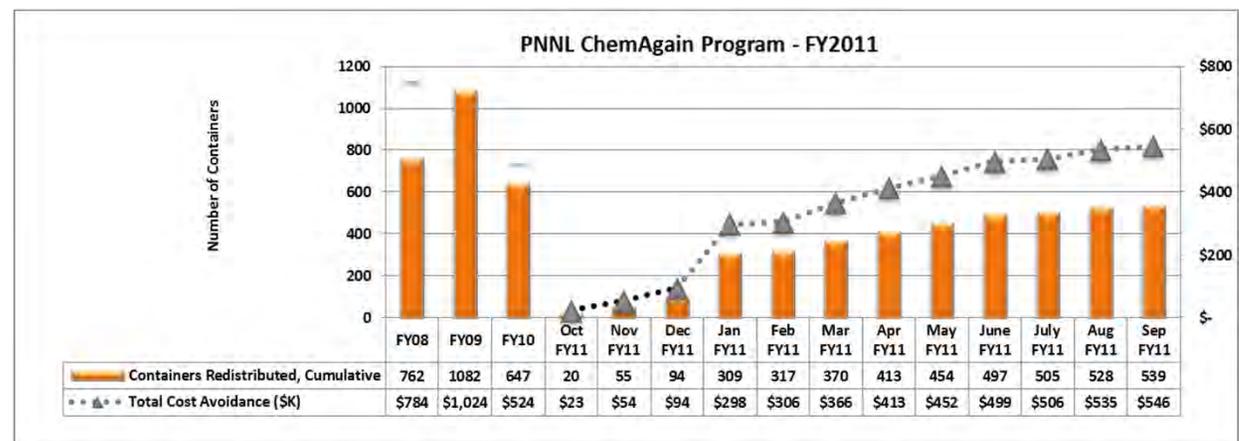
Reduced fleet fuel use by 11% in FY11

- ▶ Fleet Management worked with EMS Program Manager to add alternative fuel use to environmental stewardship goals.
- ▶ Facility Operations installed charging stations enabling electric fleet vehicles and R&D testing of emerging vehicle charging technologies.

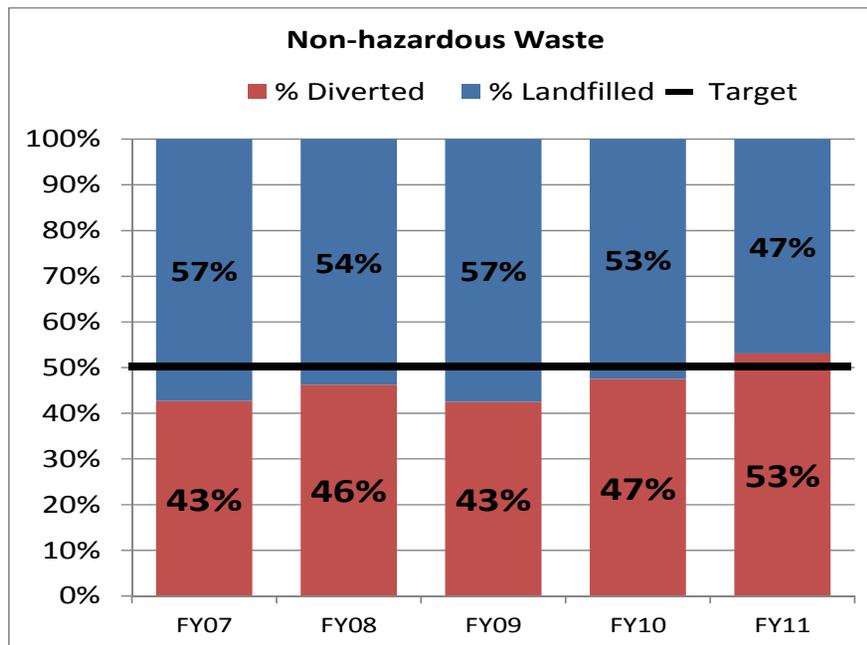
Chemical Toxicity Reduction and Sustainability Acquisition



- Sustainable acquisition requirements are implemented through B2B program and awareness training for P-card holders and Technical administrators.
- PNNL's ChemAgain program has successfully redistributed over 1,500 between 2009 and 2010.



Reduce Material Purchases and Waste



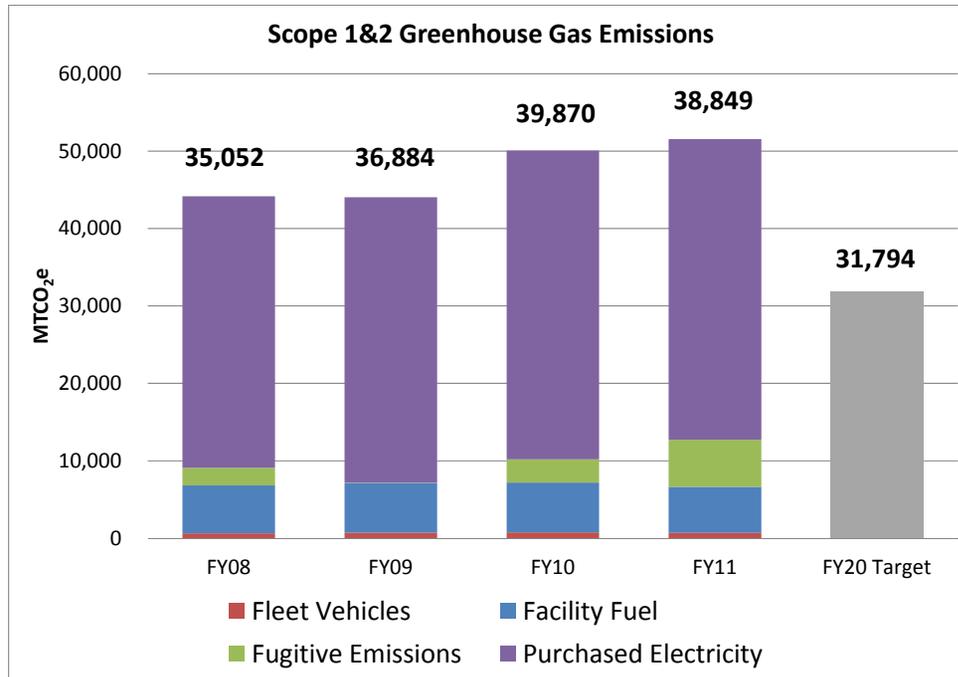
- Diverted 50% sanitary waste
- Diverted 95% C&D waste

- ▶ EMS CT actively participate as a team in various Laboratory outreach activities.

- ▶ P2 team enable waste diversion from special events by developing an user friendly “zero waste” tool kit.



Reduce Building Energy Use and GHG Emissions



- +3% from FY10
- +17% from FY08

- ▶ EMS CT worked with R&D staff to identified unwanted SF₆ for disposal as part of a P2 assessment
- ▶ RPL R&D work using NF₃

Reduce Building Energy Use and GHG Emissions



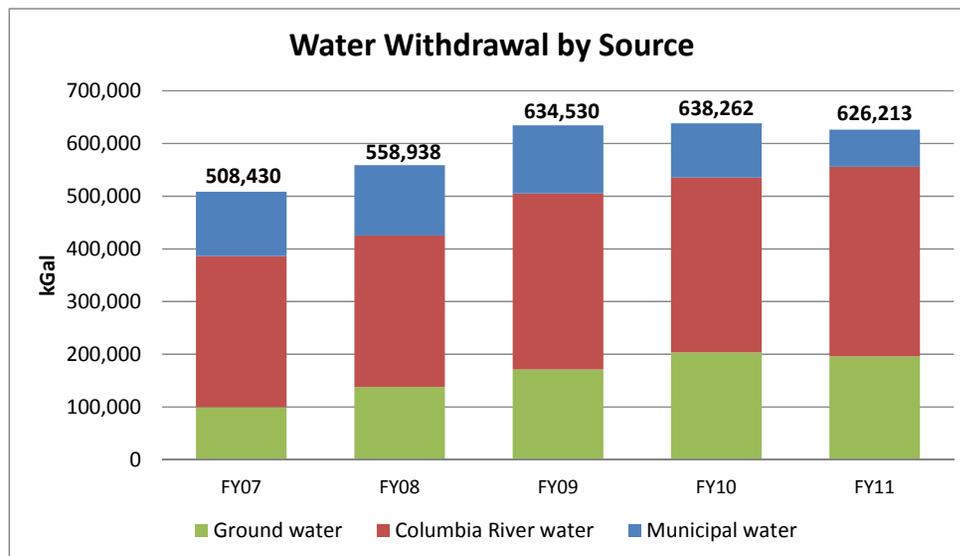
- ▶ Facility Operations constructed and onsite 100 kW solar Photo Voltaic (PV) array to feed our super computer facility
- ▶ Facilities Operation experts partnered with R&D to manage building energy use and re-commissioning effort Retro-commissioning



21.6% reduction in EUI from FY05

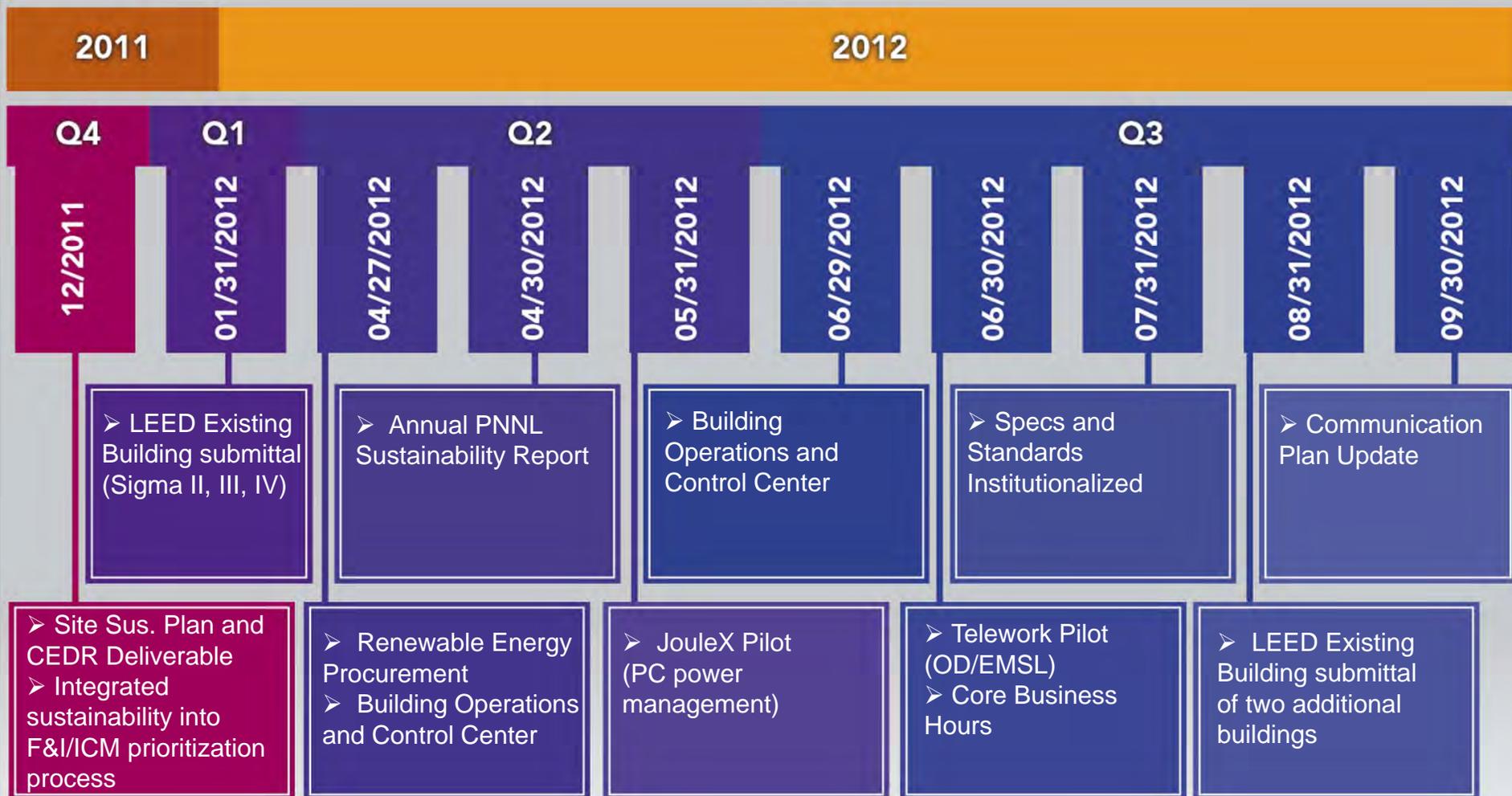
Minimize Water Use

- 2% total decrease
- 32% municipal decrease



- ▶ EMS CT identified opportunities to reduce irrigation water via alternative landscaping at building 331.
- ▶ Transitioned out of older, inefficient 300 Area buildings

FY12 Sustainability Projects Underway



- Current funded projects are being managed in PMP
- All project milestones are on schedule to be completed this FY
- FY 2011 Sustainability Report in progress - will be ready Earth Day