

Greening Where you Learn

Sustainability in Action at the Boulder Valley School District

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Environmental Literacy Summit

November 9, 2015

Quick Facts



- 55 Schools
- 4.1 million square feet of operation
- 9 Municipalities
- 3 Counties
- 27,000 students and 4,000 staff
- \$300 Million Bond (2006), \$576.5 Million Bond (passed 2014)
- 1,908,288 Meals prepared annually

Agenda

- Why Sustainability?
- Sustainability Management System (SMS)
- Progress Highlights
- Challenges
- Reflection

Why Sustainability?

Education

Economics

Community Expectations

It's the Right Thing to Do

Leadership Role

Health

BACKGROUND



Boulder
School
SUSTAINABLE
SYSTEM

2009 SMS



2012 Pro



Boulder V
Departme

BVSD Sustainable Energy Plan

2013 SEP

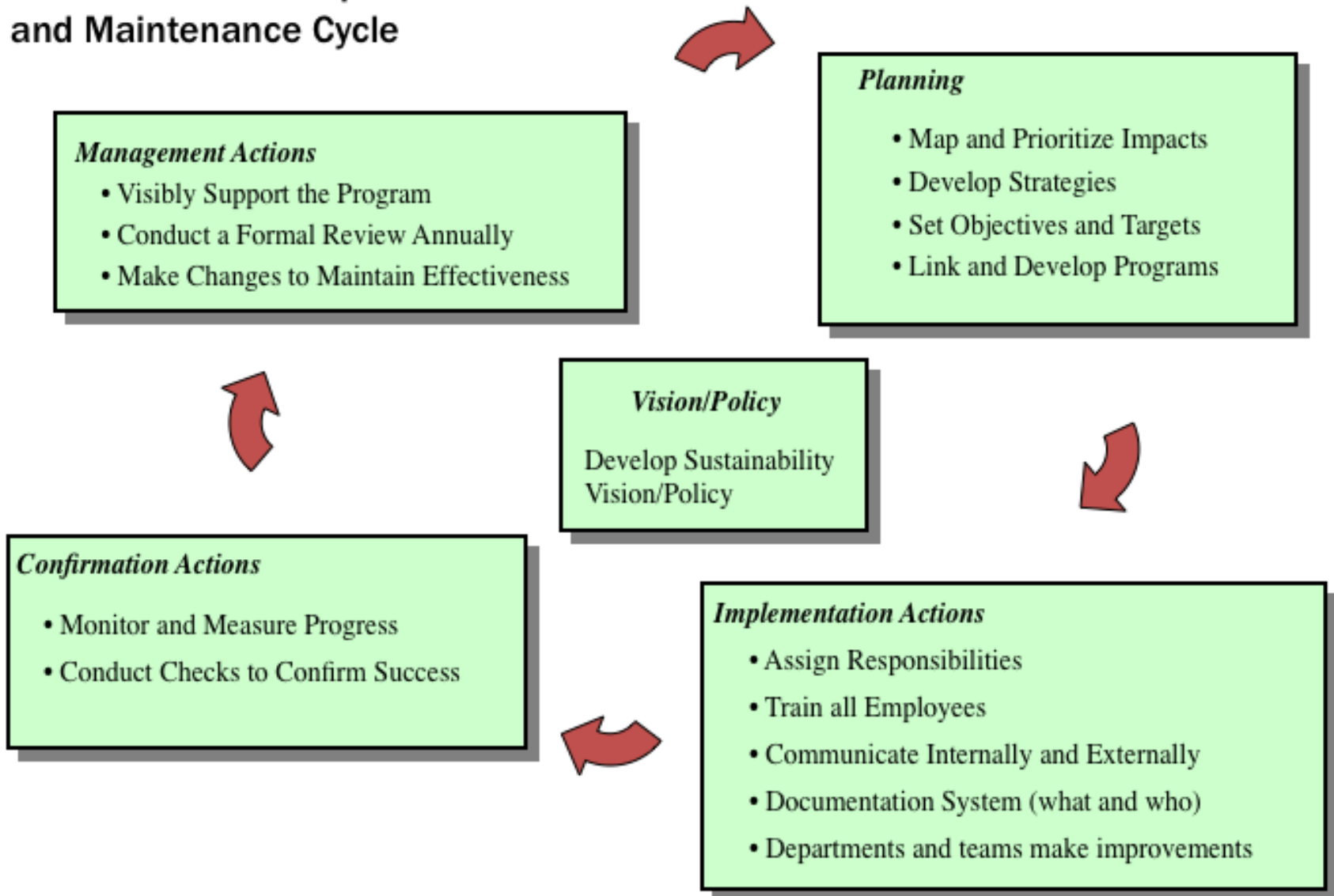


2015

2015 SMS Update

 SustainableEnergyPlan

BVSD's SMS Development and Maintenance Cycle



Process: Boulder Valley School District

SMS Development Process:

- ❖ Baseline Inventory
- ❖ Benchmarking
- ❖ Interviews with Key Staff
- ❖ Focused Building Assessments
- ❖ Vision Statement and Strategies

SMS Framework:

- Long-term “Stretch Goals”
- 3-5 Year Goals
- Metrics to Measure Progress
- Annual Actions



A large, stylized green logo resembling a plant or a sunburst with a central circle and several radiating, leaf-like shapes. It is positioned in the background, centered behind the text.

Vision

“The Boulder Valley School District is committed to becoming a leader in environmental sustainability by creating healthy learning environments while providing students with the skills to address the systemic challenges faced by the world in this century.”

TABLE 1. BVSD BASELINE INVENTORY

Emission Source	Quantity	Unit	Cost	Emissions (tons CO ₂ e)
Electricity	30,266,316	kWh	\$2,488,282	28,638
Natural gas	176,440	MMBtu	\$1,443,452	10,585
Propane	8,432	gallons	\$17,932	54
Fleet fuels	372,536	gallons	\$1,064,299	3,746
Solid waste	1,802	tons	\$130,999	67
Water	211,878	thousand gallons	\$1,100,758	313
TOTAL			\$6,245,722	43,403

Other Factors	Quantity	Unit	Cost	Emissions
Recycling	410	tons	\$58,771	14 (avoided)
Biodiesel (5% biodiesel [B5] treated at B100 equivalent) - biogenic CO ₂ not included in inventory	16,469	gallons	unknown	172

Boulder Valley School District FY07/08 Greenhouse Gas Emission Sources

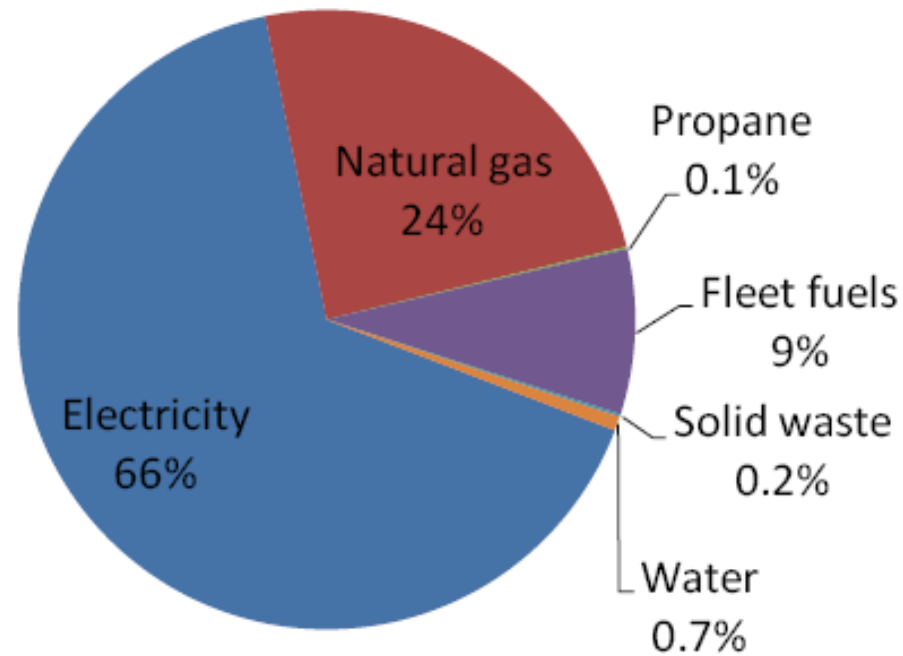


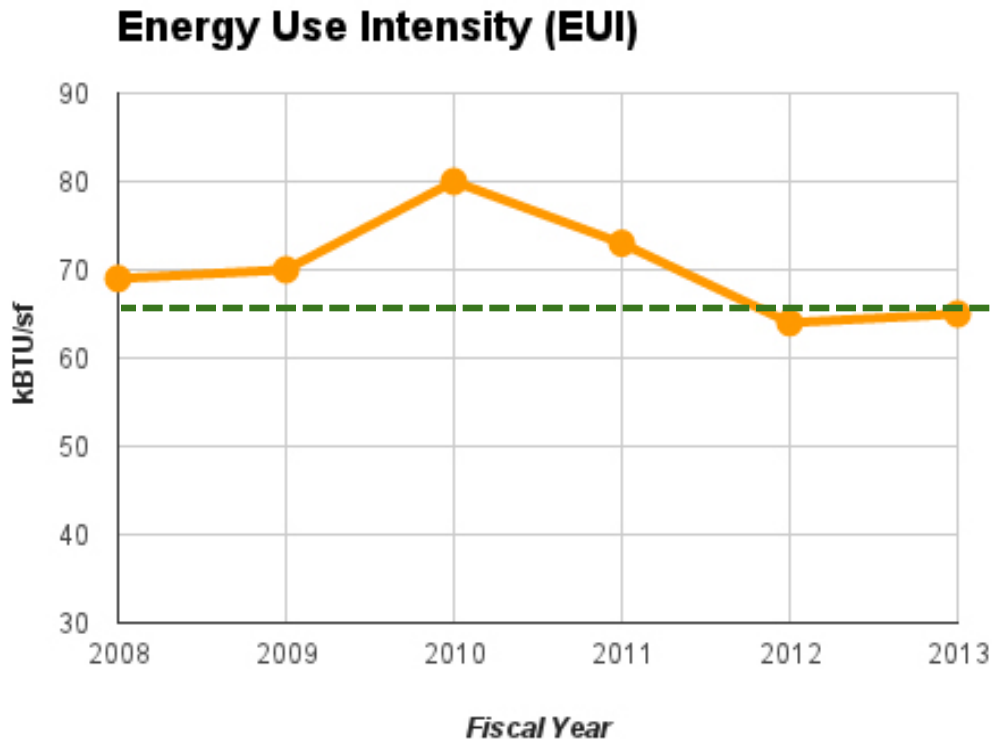
FIGURE 4. BVSD GHG EMISSIONS

Buildings



PROGRESS

EUI Trending



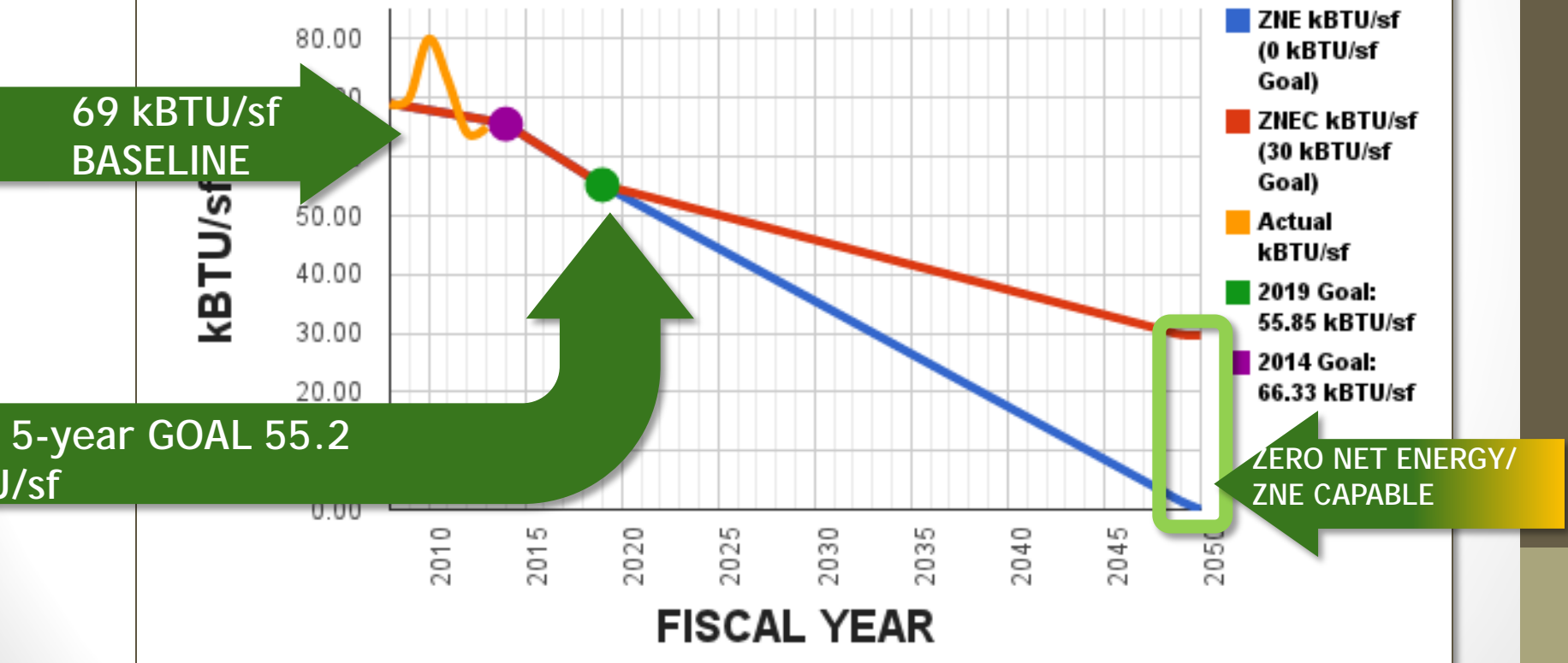
SMS 5-year target met early!

Behavioral Change ✓
Efficient Design of Bond Projects ✓
Efficient Capital Reserve Projects ✓
Energy Efficient Maintenance Efforts ✓

GOALS

FY2019 Average Energy Use Intensity \downarrow 20%

BVSD kBTU/sf Reduction Goals



PROGRESS



2008: Sustainability Coordinator Hired

2009: PM of Energy Systems Hired

2012: Systems Analyst

Education

Utility Manager Software

Re-commissioning Projects

Lighting Upgrades

IT computer management

School Energy Competitions

Significantly increased renewable energy

Vacation Shutdown Policies

New Lower Solar Time-of-Use Electric Rates

Preventative Maintenance Efforts

Energy Efficient 2006 Bond Construction

Buildings





Materials



Materials



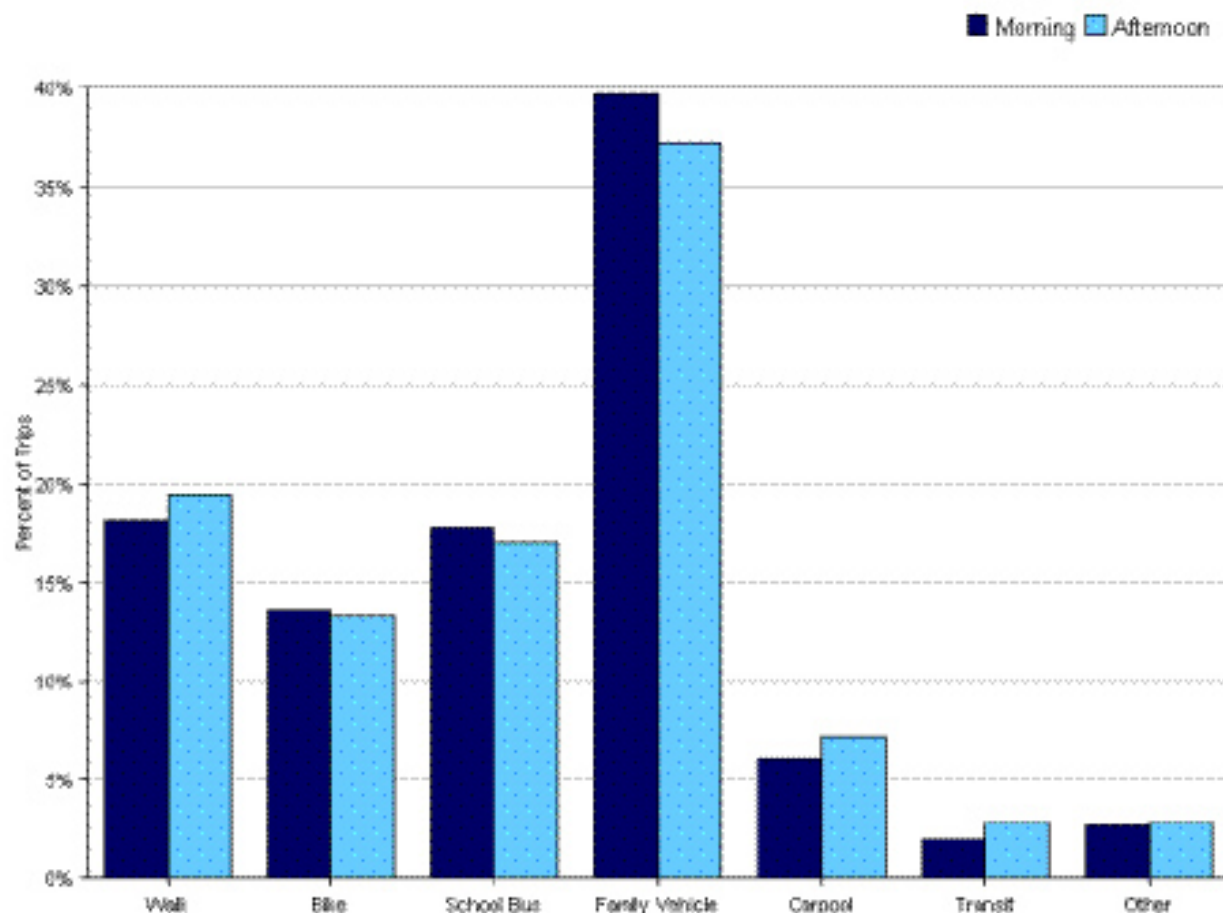
Transportation



Transportation



Morning and Afternoon Travel Mode Comparison



Morning and Afternoon Travel Mode Comparison

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	15662	18%	14%	18%	40%	6%	2%	3%
Afternoon	14368	19%	13%	17%	37%	7%	3%	3%

Percentages may not total 100% due to rounding.

Education



Education



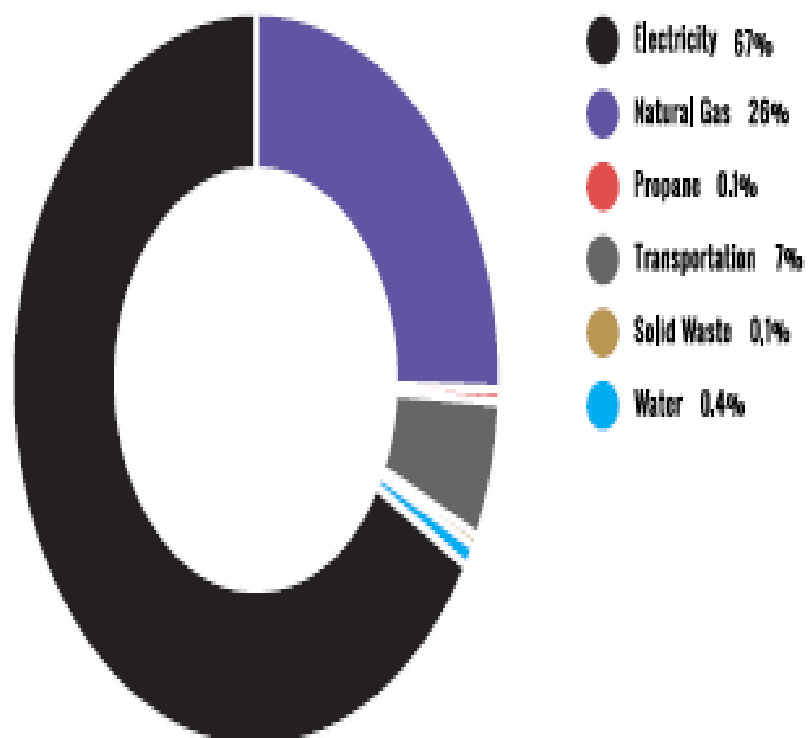
Green Graduation



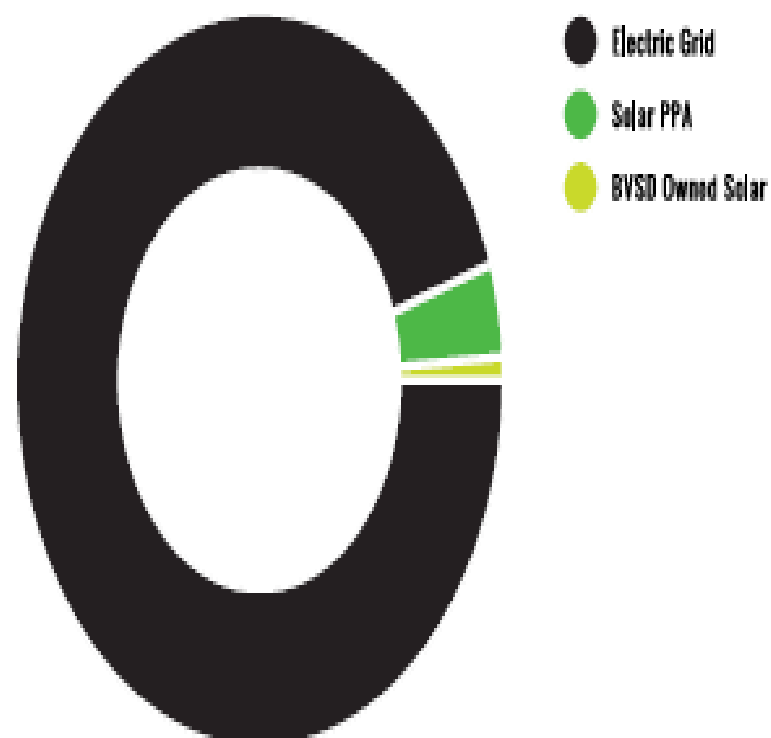
Climate



Boulder Valley School District FY13/14 Greenhouse Gas Emission Sources



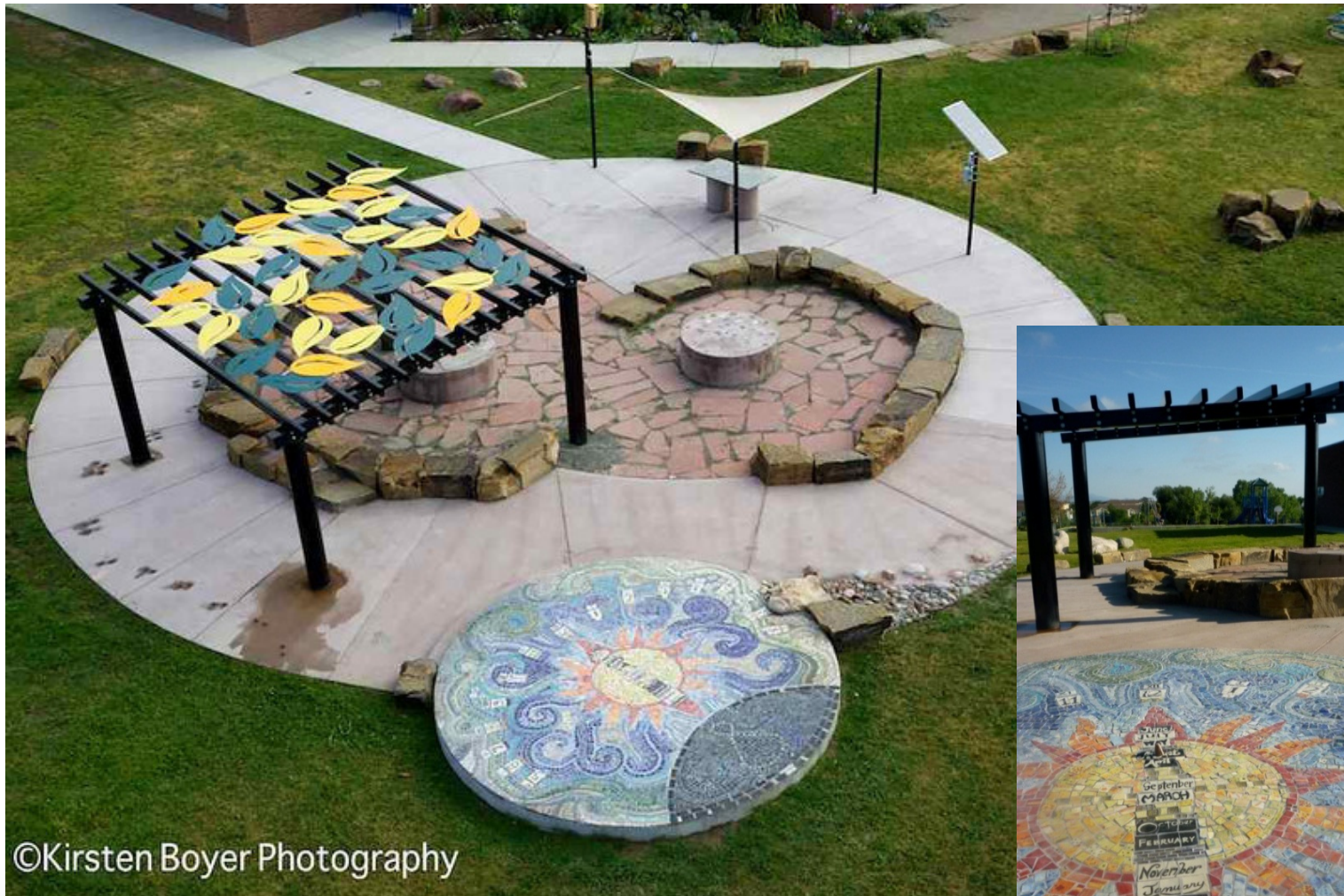
Boulder Valley School District FY13/14 Electricity Sources



Health



Grant Funding



Thank you Boulder Rotary!



Partners

- Alliance for Climate Education (ACE)
- American Lung Association (CASEO)
- Boulder County
- Boulder Rotary
- Cal-Wood Education Center
- Center for Resource Conservation
- Cities of Boulder, Lafayette, Louisville, Broomfield and Nederland
- Colorado Association of School District Energy Managers
- CottonWood Institute
- Eco-Cycle
- Get Outdoors Colorado
- Governor's Energy Office
- Growe Foundation
- Impact on Education
- Safe Routes to School
- Thorne Nature Experience
- University of Colorado, Boulder
- United States Green Building Council, Colorado Chapter
- Virco
- Xcel Energy
- Community members and parents

Awards

- **2014 U.S. Department of Education Green Ribbon Schools District Awardee**
- **Xcel Energy's Efficiency Partner**
- **Green Prize in Public Education from the National Environmental Education (\$10,000)**
- **Youth Conservation Award from the Center for Resource Conservation**
- **Award for Secondary Education from the Colorado Alliance for Environmental Education**
- **InfoWorld's Green 15 Award**
- **President's Environmental Youth Award from the Environmental Protection Agency**
- **Boulderorganic's Sustainability Award**



Green Conflicts

- Energy efficiency vs. recyclability vs. local
- District vs. schools
- Mandates?
- Funding and budgets: now vs. later
- New technologies vs. dependability and experience

Reflection





Thank you
Boulder Valley School District
Office of Sustainability
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www.bvsd.org/green