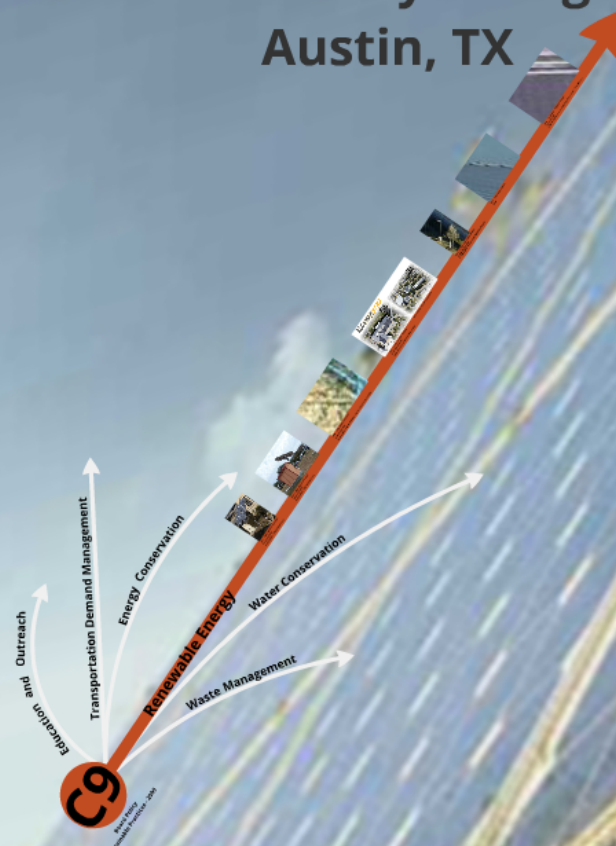


Start Your Next Renewable Energy Project with Little or No Cost

Presenters : Andy Kim, AIA, C.E.M., LEED AP
Energy & Sustainability Director
Alyssa Halle-Schramm
Sustainability Coordinator

Austin Community College District
Austin, TX



sustainable
ACC

Austin, Texas

- The 11th-largest city in the US, the fourth-largest city in TX
- Austin-Metropolitan population : Over 2 Million (2014 U.S. Census)
- Industry : Apple, Samsung, Intel, AMD, Dell, Whole Foods Market Inc., Applied Material, Silicon Laboratories Inc., AT&T, T-Mobile and the Circuit of The Americas (F1 Race)



Austin Community College District (ACC)

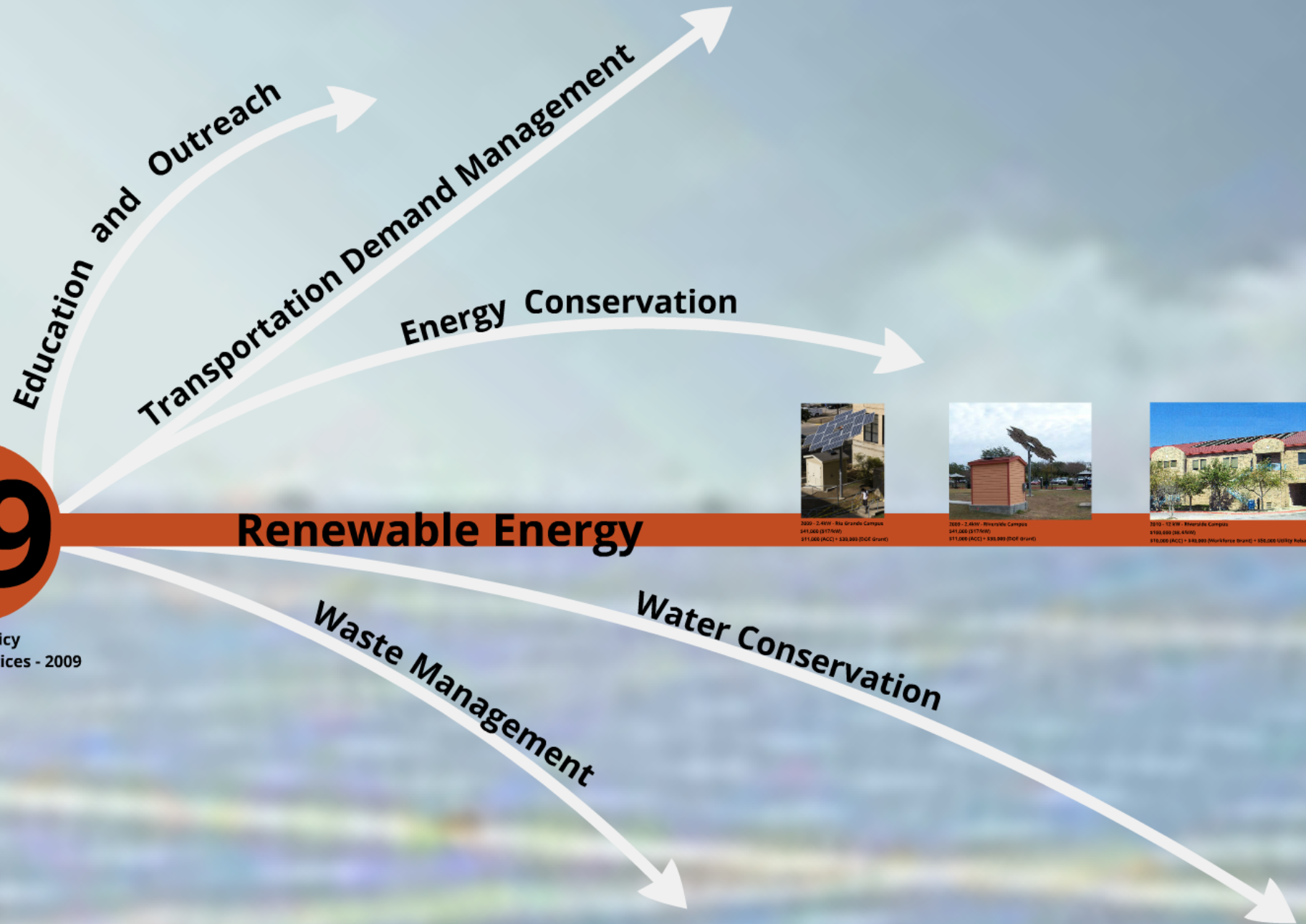
- **40th anniversary in 2013**
- **Offers over 250 degree programs**
- **11 Campuses, 12 Centers covering 7,000 sq. miles in 7 counties**
- **Serves over 43,000 credit students, 15,000 non-credit students**
- **2,230 full-time faculty and staff**
- **6 major campus expansions/new campuses underway**



Board Policy
Sustainable Practices - 2009



Board Policy
Sustainable Practices - 2009



Renewable Energy



2009 - 2.4 MW - Rio Grande Campus
\$41,000 (DIT/NM)
\$11,000 (NGC) + \$30,000 (DICE Grant)



2009 - 2.4 MW - Riverside Campus
\$41,000 (DIT/NM)
\$11,000 (NGC) + \$30,000 (DICE Grant)



2010 - 12.8 MW - Riverside Campus
\$160,000 (DIT/NM)
\$10,000 (NGC) + \$40,000 (Markforce Grant) + \$50,000 (Utility Rebate)

Responsi

E

Renewable Energy

Waste Man

W



2009 - 2.4kW - Rio Grande Campus

\$41,000 (\$17/kW)

\$11,000 (ACC) + \$30,000 (DOE Grant)

20

\$4

\$1



2009 - 2.4kW - Riverside Campus
\$41,000 (\$17/kW)
\$11,000 (ACC) + \$30,000 (DOE Grant)



2010 - 12 kW - Riverside Campus

\$100,000 (\$8.4/kW)

\$10,000 (ACC) + \$40,000 (Workforce Grant) + \$50,000 Utility Rebate

ACC energyproject

EVC



2011 - 101 kW - Eastview Campus
\$2,000,000 (\$5.8/kW)
\$400,000 (ACC) + \$1,600,000 (ARRA Grant)

NRG



2011 - 245 kW - Northridge Campus

ACC Energy Projects

Renewable energy-Solar

American Recovery and Reinvestment Act Grant

First year - \$40,000 utility saving



Round Rock Campus - 312kW

\$1,200,000 - Total Project Cost

\$900,000 - Federal Grant

\$364,000 - Utility Rebate

= \$64,000 Saving

austincc.edu/sustainability

 Printed on Recycled Paper



2012 - 312 kW - Round Rock Campus

\$1,200,000 (\$3.8/kW)

\$900,000 (ARRA Grant) + \$364,000 (Utility Rebate)

First year - \$40,000 utility saving



Round Rock Campus - 312kW

\$1,200,000 - Total Project Cost

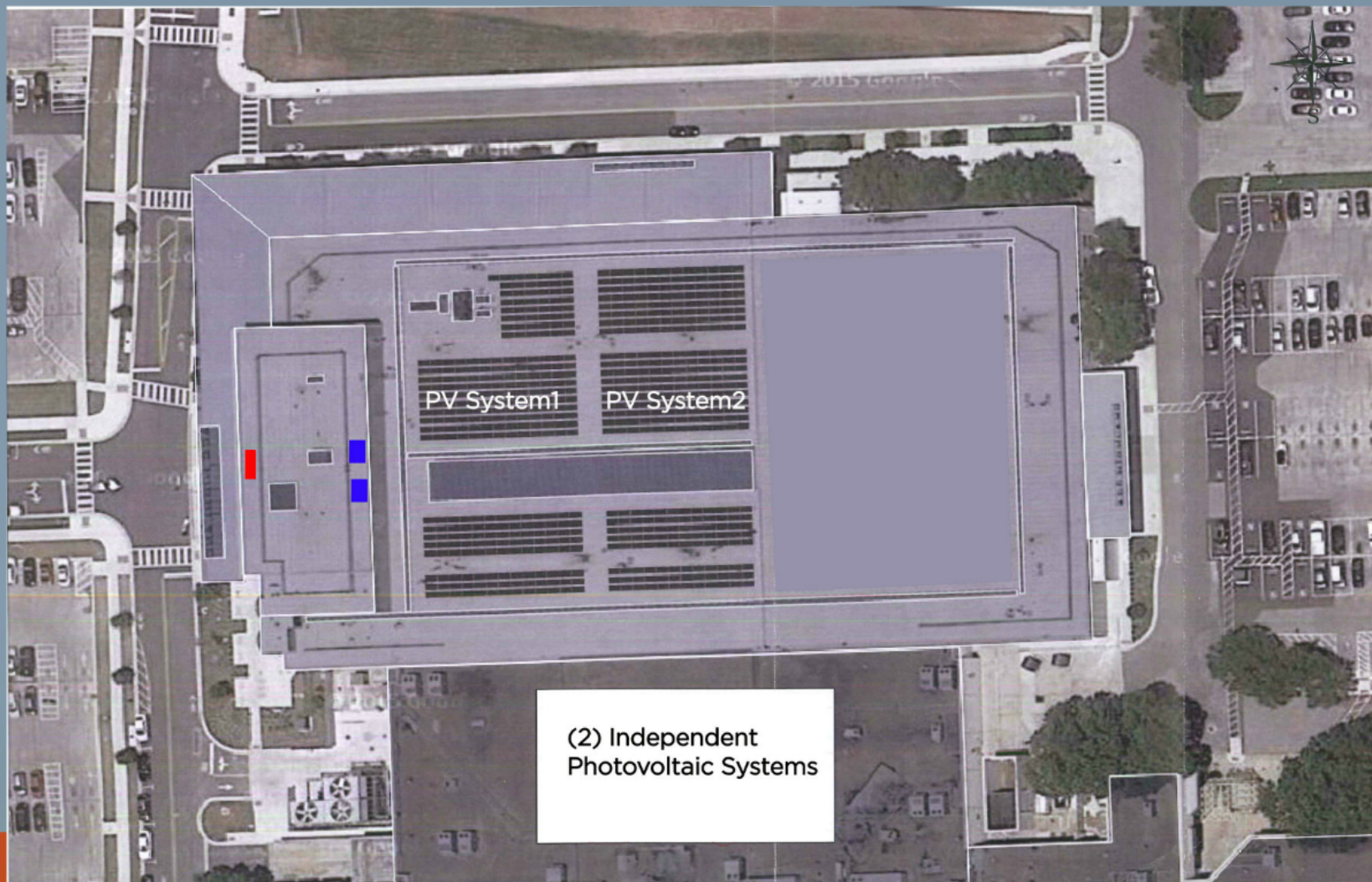
\$900,000 - Federal Grant

\$364,000 - Utility Rebate

= \$64,000 Saving



2013 - 14 kW - Elgin Campus
\$Free



2016 - 170 kW (est.) - Highland Campus

Total : \$357,000

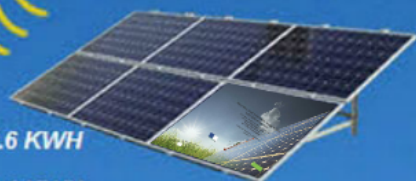
\$150,000 (EBSCO Grant) + \$25,000 (CAPCOG Grant) + \$182,000 (ACC)



System Overview



Today's Solar Production: 1,766.7 KWH



Yesterday 3,052.6 KWH
Last Week 21,130.1 KWH
Last Month 95,699.7 KWH

Last Month's Savings:



110,533.2 lbs



\$ 8,900.1 \$



2,612.2 _gal

Imported From Utility Today: 6,079.3 KWH



Yesterday 10,738.3 KWH
Last Week 69,100.3 KWH
Last Month 336,927.4 KWH



CAMPUS

Austin Community College



CAMPUS

Elgin Campus



LEED
Silver
by USGBC

Electricity

Photovoltaic

Water

Irrigation

Natural Gas



Homepage



Comparison



Green Features



Green Team

Electricity Breakdown

ABC

MENU

12:00 AM - 4:21 PM



EXTERIOR LIGHTING

6.6 kW



HVAC ELECTRICAL CONSUMPTION

117 kW

Elgin, TX



Fair

84°F

Humidity: 40%

Visibility: 10 mi

Pressure: 29.84 in

Sunrise: 7:22 am

Wind: 6 mph

Sunset: 7:15 pm

Today

Tue

Wed

Thu

Fri



87/67°

89/71°

86/71°

90/71°

89/66°

Maintenance and Operation



- Site Safety / Security
- Indoor VS. Outdoor
- Grid-Tied VS. Battery Backup

Preparing for future projects

PV ready Campus Design

- Roof orientation and pitch
- Layout of roof penetration - mech. units, vents, etc., to prevent shading, maximize the roof real-estate
- Structure : roof dead load, wind load
- Expandable service panel and circuit breakers
- Space for PV inverters and other equipment



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Resources

ACC Board Policies : www.austincc.edu/board/policies.php#policies

Online: www.austincc.edu/sustainability

Contact us: green@austincc.edu

