



Sustainable Peralta

Presented by:

Dr. Sadiq B. Ikharo, Vice Chancellor of General Services
and

Charles Neal, Sustainability Manager

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Overview

Alternative Source of Energy: Solar

- Energy - 1.9mW of solar photovoltaic
- Annual electricity costs saved: \$ 248,639
- Lighting Upgrade: \$ 2,038,812 total cost
- Total Rebates & Grants: \$ 517,754
- Water: Irrigation system; low-flow fixtures
- Waste Management: District-wide single-stream recycling
- LEED Projects: Two (2) buildings completed, Three (3) buildings in progress

Peralta's Sustainability Policy 2.40



“As a public institution, the District has an ethical and civic obligation to safeguard a critical public resource – the natural environment. The District also has a duty to establish physical environments and organizational practices that are conducive to student learning and the health, well-being, and effectiveness of all people within the District.” Board Policy 2.40

- Commits to:
 - Maximizing energy efficiency - heating, cooling, lighting, information technology, mechanical and water systems
 - Aims to reduce energy consumption by no less than 35% over California Building Code efficiency requirements
 - Responding District Energy and Sustainability Master Plan with 5 year goal to reduce by 50% greenhouse gas emissions from energy consumption and 10 year goal to be carbon neutral



Districtwide Energy - Lighting

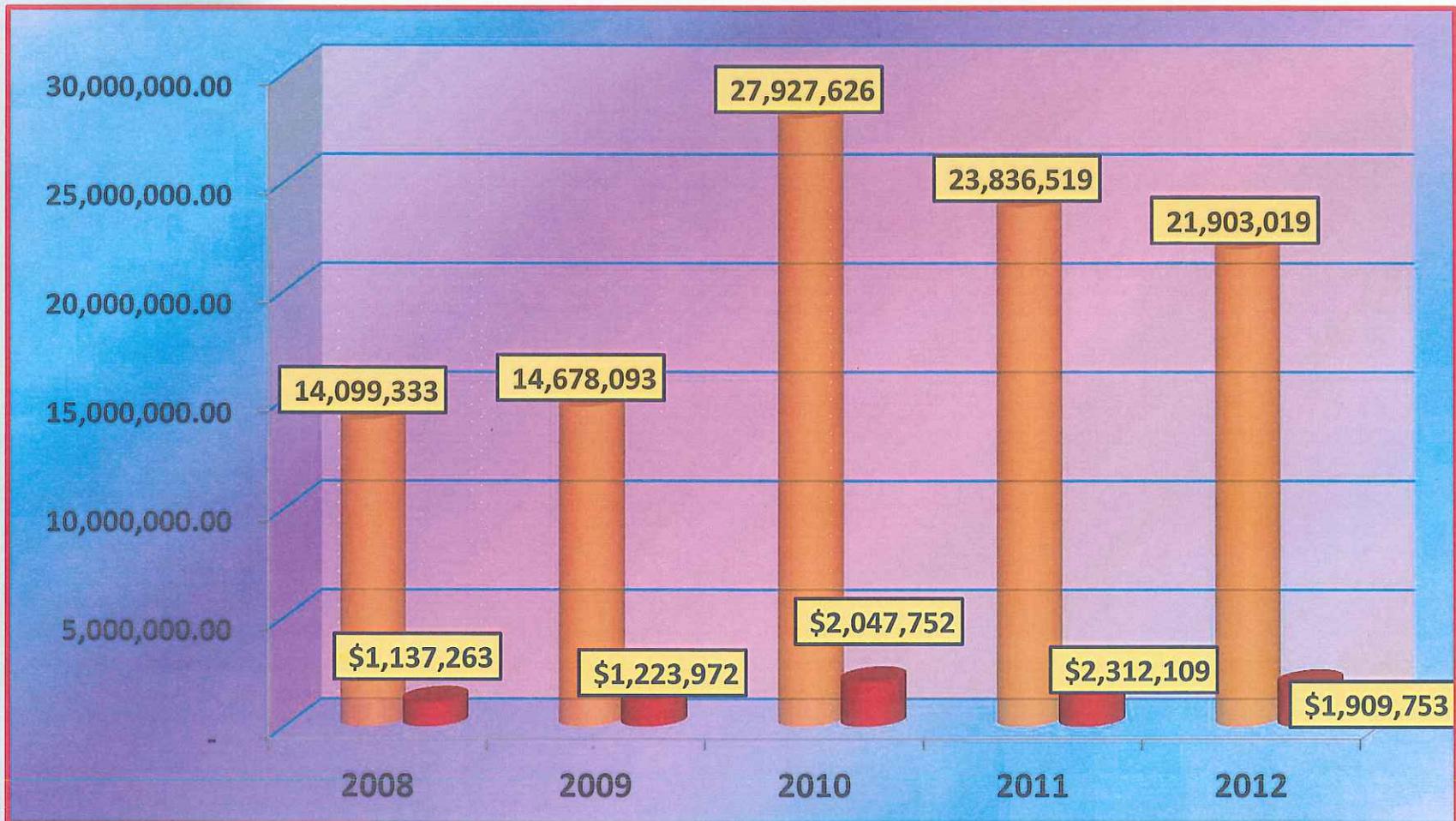
- Total number of major projects: 4
- Total annual electricity costs saved: \$ 64,071
- Total cost of projects : \$ 2,038,812
- Total grants/rebates received: \$ 517,754
- Projects:
 - Merritt Exterior Lighting – \$ 1,469,961.00
 - Laney, Interior Stairwells, Exterior Lighting – \$383,388
 - Classroom Integrated Lighting Controls - \$102,368
 - College of Alameda Interior Lighting – \$83,095



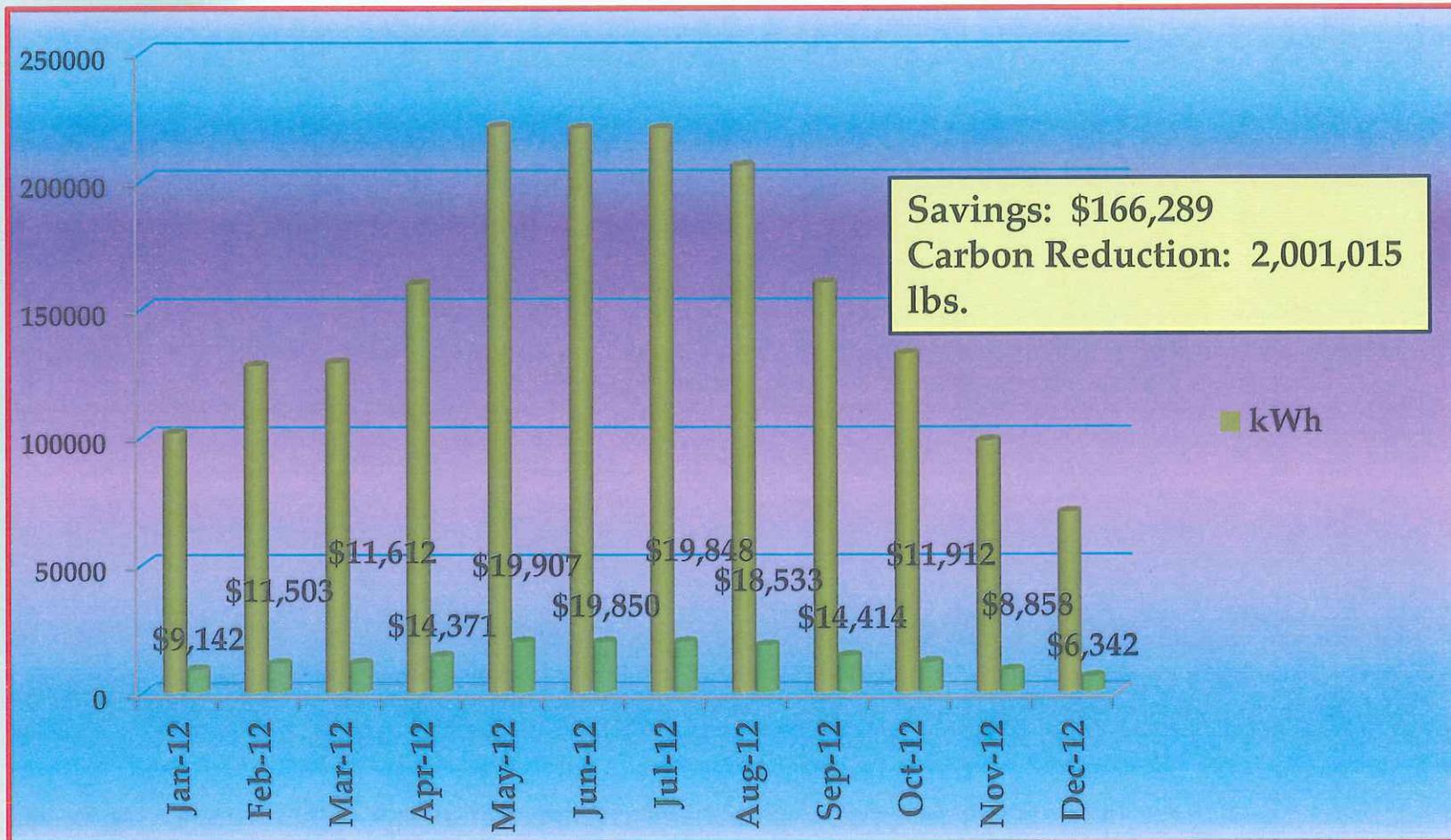
Energy - Photovoltaic

- Total energy generation: 1.9mW
- Annual electricity costs saved: \$ 248,639
- Total cost of projects: \$13.5 million
- Total grants/rebates received: \$ 2,465,027
- Projects:
 - Merritt – 1.02mW generation capability; annual cost savings projection of \$166,289
 - Laney Main Campus – 655kW generation capability; annual cost savings projection of \$ 58,950
 - Laney Athletic Field House – 230kW generation capability; annual cost savings of \$20,700
 - BCC – 30kW generation capability; annual cost savings projection of \$2,700

District wide Electricity Usage



Merritt College Photovoltaic Electricity Production and Savings

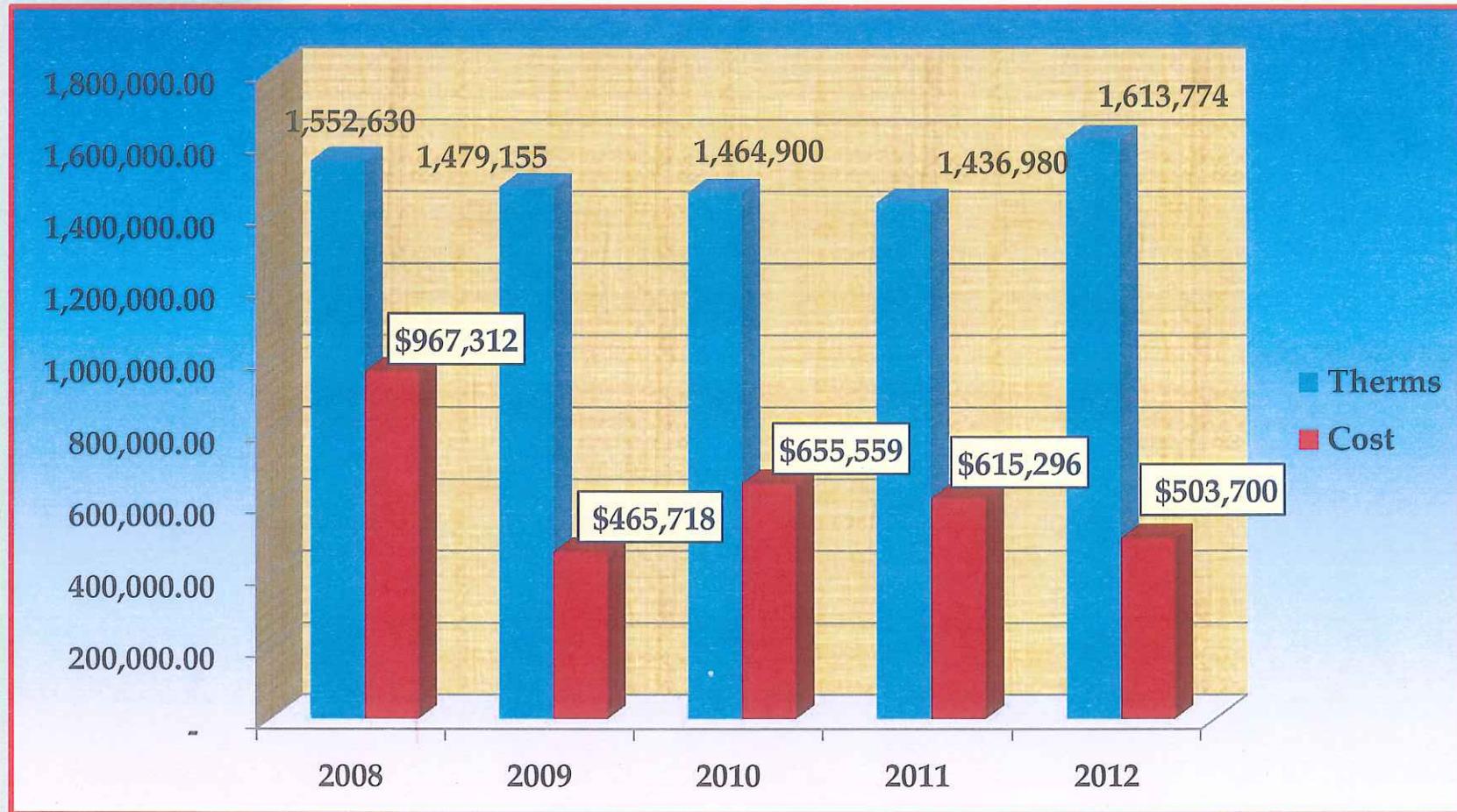


Energy – Heating & Air Conditioning



- All campuses: Reduced HVAC run times with automatic monitoring that reduces heating/cooling in unoccupied rooms
- Energy efficient boilers installed at COA
 - Conform with Energy Star guidelines
 - Electronic ignition to fire only when needed
 - Combustion technologies extract more heat from same fuel quantities
 - Sealed combustion uses outside air, reduces drafts and improves safety
- New chiller being installed at Merritt College
- New central chiller plant planned for Laney College and the College of Alameda

Gas Cost: District Wide Aggregate





Water – Irrigation

- Irrigation system connected to weather system
 - Sprinklers will not operate when it rains
- Reclaimed water
 - Lawns at Laney College and the District are irrigated with reclaimed (non-potable) water



Water – Landscaping

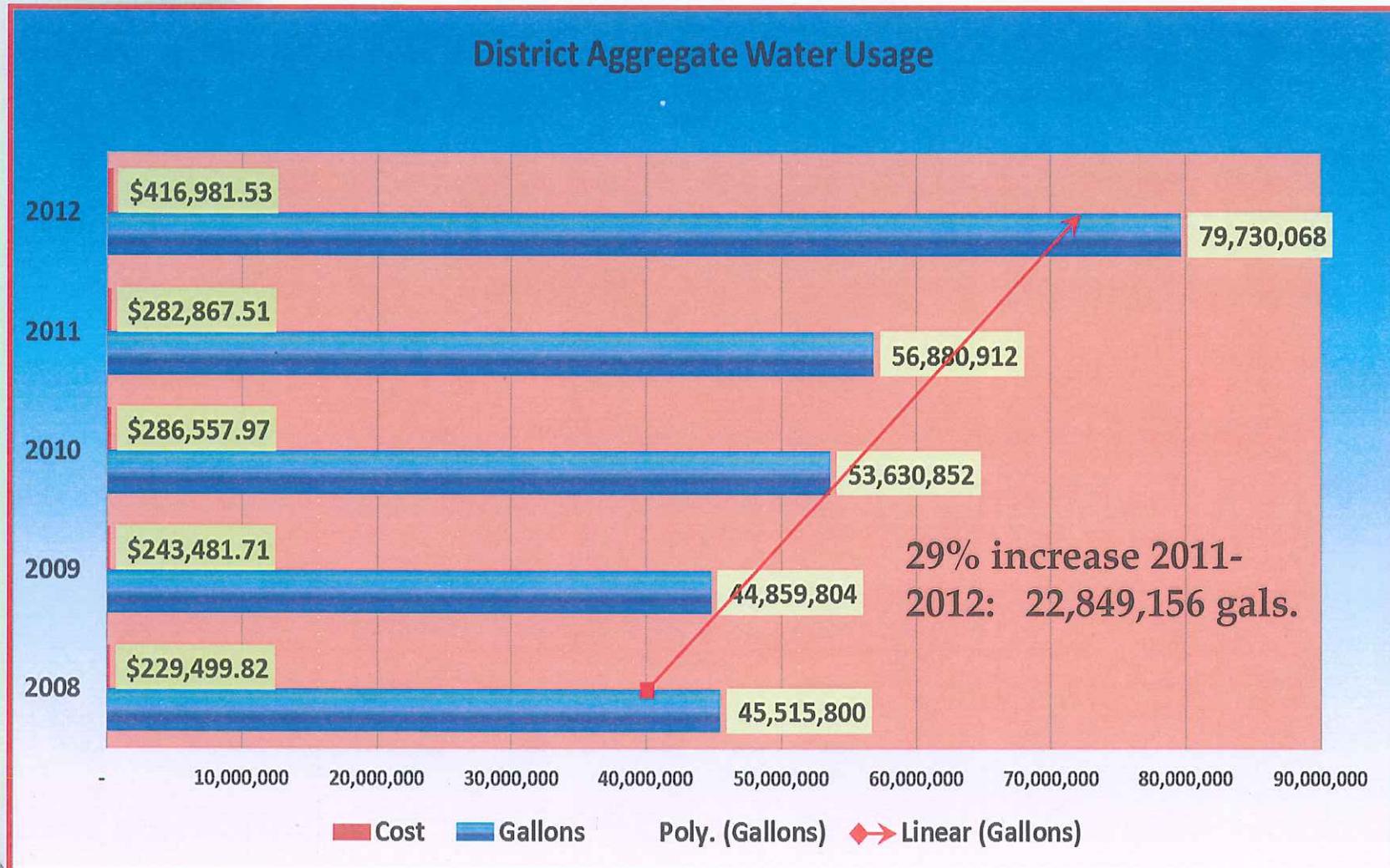
- All new or replacement landscaping included in Measure A projects are directed to adhere to sustainable design and maintenance standards
- Low maintenance
- COA Lawn Conversion
 - Installed bay-friendly landscape at rear entrance, off Willie Stargell Avenue
 - Requires only infrequent maintenance, e.g., annual grooming
 - Grasscycling (mowed grass remains in place, nourishes the landscape)
 - Chemical usage is restricted
- Laney College:
 - Fallon Street Entrance: landscape beautification with low irrigation grass
 - Laney Athletic Complex: low maintenance landscape, incorporates a bioswale to filter surface water runoff



Water Fountains

- District-wide initiative
- Thirty-six new water fountains at all colleges
- Delivers environmental sustainability
 - Reusable bottle refilling capability
 - Estimated to so far have saved total of 66,517 disposable water bottles
 - Indoor chilled units feature a “bottles saved” readout
- Delivers ADA compliance

District Water Usage Trend

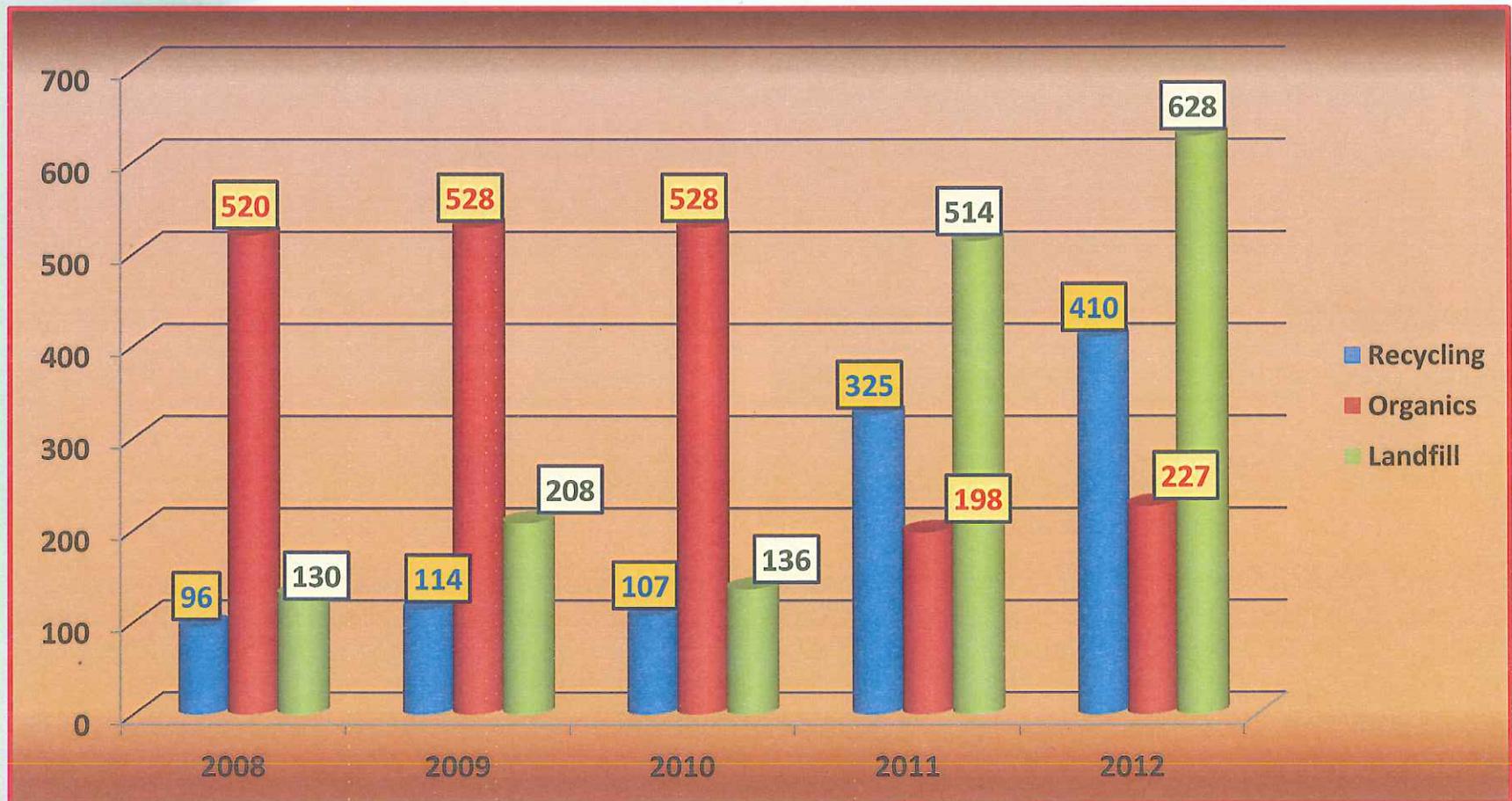




Waste

- Reduce, Reuse, Recycle
 - District-wide recycling
 - Site-based
 - Single stream
 - Triple station collection bins
 - Organics composting
 - Construction & demolition materials

Waste Management (in tons): District Wide Aggregate





LEED Projects

- Design and construction of all Measure A funded new construction required to seek LEED certification.
- Completed
 - Berkeley City College
 - Building certified LEED silver
 - First LEED silver building in the City of Berkeley
 - Energy Excellence award
 - Laney
 - Athletic Field House certified LEED Gold



Projects in Progress

- **Laney**

- BEST (Building Efficiency for a Sustainable Tomorrow) Center
 1. Supports green jobs vocational programs
 2. LEED Platinum certification
 3. Passive House Certification- Standard for buildings that operate without traditional active heating and cooling systems
 4. Living Building Challenge - rigorous application of sustainable design and construction principals
 5. Net zero energy demonstration house
 6. Bay area's first comprehensive showcase and training facility on green residential construction
 7. Partnership with PG&E for Energy Modeling

Projects in Progress (cont'd)



- **Merritt**

- New Science and Allied Health Building planned to be LEED Gold
- New chiller plant to cool buildings
 - Designed to connect with Science and Allied Health building when constructed

- **COA Buildings C&D**

- LEED Silver



Sustainability Education

- Sustainability work group
 - Formed 2013
 - Faculty from Laney and Merritt
- Goals:
 - Flexible dynamic cross-scheduling
 - Team teaching
 - Cross-campus teaching
 - Certificate and/or associates, degree



Certificates/Degrees Examples

- Ecological Restoration, Ranger Naturalist and Outdoor Education
- Horticulture
- Greening The Urban Environment (Policy, Planning, Environmental Justice)
- Environmental Control Technology
- Machine Technology
- Wood Technology
- Green Building
- Advanced Manufacturing

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Special Programs

- CCC/IOU (California Community Colleges/Investor Owned Utilities partnership)
 - Advice and Rebate for Monitoring Based Commissioning
- Emerald Cities Collaborative
 - Grant application assistance
 - Technical assistance
 - Workforce improvement
- East Bay Green Corridor
 - **Emerging Technologies:**
 - **Sun Synchrony:** 85% efficiency solar collector
 - **Ergsol:** ceiling, wall, or ground-mounted solar thermal collectors
 - Policy Advocacy (streamlining solar permitting)

Community College Initiative

- Green Cities
- Build Communities
- Strengthen Democracy



Tara Marchant,
Director:
Oakland
Council

- Accelerate Greening CC Campuses
- Support Local Small Business and Contractor Development
- Integrate Regional Workforce High-Wage Jobs
- Education & Industry collaboration
- Student & Community Union Apprenticeship access

Accomplishments

- ✓ CCI kick-off, Labor Secretary Solis Keynote at BCC
- ✓ Benchmarked all PCCD campus
- ✓ PG&E Zero Net Energy Grant for BEST Center Design
- ✓ Technical Expertise District Modernization/ Retrofit Report
- ✓ Innovative Financing Structure
- ✓ Current Target- *Project Pilot*

Emerald Cities Collaborative

Ten Cities Nationally – Ten Councils

FUNDERS

The Rockefeller Foundation

The Kendeda Fund

The Annie E. Casey Foundation

The Joyce Foundation

The Kresge Foundation

Surdna Foundation



Denise Fairchild Ph.D.

● President/ CEO ●

HIGHLIGHTS

- ✓ Cleveland RENEW program- *Financing 50 Municipal Buildings- \$25 million energy conservation projects identified*
- ✓ LA County/CPUC funded project -- design & implementation of workforce development component on a \$30million LA County net zero municipal building retrofit program
- ✓ E-Contractor Academy – Citi sponsored DBE/WBE green building contractor training for the Southern California Regional Energy Network
- ✓ Seattle CBA- % set aside for Targeted Small Minority Contractor Development ●



Special Programs

- Sustainability Festivals (Educational)
 - Food delivery systems; energy-efficiency; waste management; environmental policy
- Green Technology Education
 - Solar panels installation and maintenance
- Construction Internships
 - Internship agreement written in to contract for Laney solar photovoltaic



Next Steps— Policies & Procedures

- Finalize updated Admin Procedures for Sustainability
- Create Climate Action Plan
- Conduct investment-grade energy audit
- Conduct Water Audit
- Implement community colleges sustainability template
- Further integrate sustainability into curricula
- Require and fund MEP preventative maintenance program and schedules



Moving Forward – Recommendations

- LED Lighting
- Integrated Classroom Lighting Controls installation
 - Dimming Ballasts
 - Occupancy sensors
 - Daylight sensors
 - Zone control
 - Task lighting
- Monitoring Based Commissioning (MBCx)
- Insulate building envelopes and roofs
- Install double pane windows
- Install new ducts
- Repair or replace water infrastructure
- Monitor building & systems energy performance
- Monitor energy performance of portable offices
- Evaluate thermal co-generation for Laney swimming pools
- Convert high water usage landscaping, i.e. COA lawn



Questions

Question & Answer Session