Approaches to Institutionalizing Sustainability

Matthew Naud, City of Ann Arbor
David Smith, City of East Lansing
Nancy Meyer, City of Grand Rapids
A$^2$PACE
One Step Forward

Securing Ann Arbor’s Green Energy Economy

Ann Arbor Energy Office
December 10, 2010
Community Energy Costs

Total = $430 million/yr

- Natural Gas
  - $88,000,000
  - 80 million ccf/yr

- Electricity
  - $150,000,000
  - 1,500 million kWh/yr

- Transportation
  - $192,500,000
  - 55 million gal/yr

Natural Gas and Electricity = $238 million/yr
Municipal Gov’t Energy Costs

- **Electricity**
  - $4,291,000
  - 44.4 million kWh/yr

- **Natural Gas**
  - $672,000
  - 742,000 ccf/yr

- **Transportation**
  - $1,195,000
  - 428,000 gal/yr

Total = $6.2 million/yr
Ann Arbor’s Energy Challenge: May 1, 2006

- 30% Green Energy
  - by 2010 for Municipal Operations
  - 20% by 2015 for whole City

- reduce greenhouse gas emissions from year 2000 levels by 20% by 2015
Michigan Enabling Legislation

PACE Act – H.B. 5640

• Passed December 2, 2010
• Requires permission of mortgage holder
• Higher likelihood of success with mortgages held by local banks
Public Purpose

• A²PACE is based on a public purpose
  – Economic Development
  – Jobs
  – Greenhouse gas reductions
  – Increasing property values
  – Aggregating Carbon Credits
Property Assessments

• Based on 100-year old history of municipal use of assessments for improvements in the public interest
  – Septic replacements (MA), footing drain disconnects (Ann Arbor), seismic improvements (CA)

• White House support and best practices developed
Leverage

- Senior lien secures A²PACE financing
- Loan Loss reserve fund enhances credit
- Direct investment in the property that serves a public purpose AND increases property values
- Energy savings immediately become available to repay financing
- Energy savings eventually become reinvested in local economy
- Opportunity for financing to stay with the property and not the owner
City Structure

• Energy Office - A$PACE
  – EECBG dollars to support 2-years staffing
  – Administrative costs built into repayment streams

• City Treasurer
  – lowest cost collection through existing mechanisms

• IT
  – TrakIt workflow, web site development
Financing Principles

- Property not in distress
- Mortgages and taxes current
- Limit financing to a percentage of value
- Only cost-effective projects are eligible
- Carbon credits retained by city
Commercial - 2006

- 1,694 Commercial Parcels (Parcel Class 201)
- 31,253,006 SF
  Commercial Floor Area
- 2,492 acres
- $1,610,421,400 - Total SEV
Residential - 2006

- 26,861 improved residential parcels
- 21,026 Residential Parcels (Parcel Class 401) – not condos
- 35,768,498 SF Residential Floor Area
- Square footage
  - 25% < 1152
  - 50% < 1536
  - 75% < 2026
- $3,140,566,025 - Total SEV
PACE as part of a Continuum

• Self financing or bank financing
• Income-based
  – County Community Development Weatherization Program
• Michigan Saves
  – 680 credit score
  – No renewable financing
  – Residential only
• PACE
A$^2$PACE - Steps

1. Attend A$^2$PACE program education seminar
2. Owner invest in Audit
   • Audit details options
   • 1 year of energy data collected
   • energy efficiency and renewable energy projects with likely costs and expected returns based on audit specific data
3. Owner chooses to apply to A$^2$PACE from a variety of efficiency financing options
A²PACE - Steps

4. Application to city Energy Office
   • Project descriptions with estimates
   • Demonstration of property ownership
   • Mortgage holder permission if applicable

5. Review by A²PACE program coordinator
   • Verify ownership – title search
   • No outstanding debts to city

6. Signed contract between property owner(s) and city
   • Recognizing voluntary participation in self assessment district
A²PACE - Steps

7. City issues funds to property owner
   • Checks to property owner and specified contractor
   • Multiple checks for multiple projects?

8. Post installation
   • Inspections by city inspectors
Financing

• Private Placement of Energy Office bonds with City Treasury
  – Secured by property assessment and senior lien
  – Secured by $420,000 loan loss reserve fund
  – Possible placement with local bank consortia

• Energy Office provides microloans as applications are approved
  – No need to wait until bond sale
  – Spreads projects across the year
Financing

• Interest rate set at opportunity cost to city investment pool plus premium
  – Premium accounts for administrative costs and loan loss reserve
  – No transaction costs compared to outside capital from bond market

• City Treasurer evaluates bonding opportunity against Energy Office Bond volumes and bond market conditions
  – Sell bonds on open market
  – *Private placement to local bank consortia*
  – New bond opportunities develop as market appetite develops for PACE program investment
City of East Lansing

Green Building Policies

Dave Smith
Environmental Specialist

Tim Schmitt
Community Development Analyst

City of East Lansing
Overview

- Green Foundation
- Path to Green Building
- Adoption of Green Building Policies
- Resources
- Green Building Policies
Green Foundation

- Implemented one of the first municipal curbside and drop off recycling programs in 1990
- Utilized alternative fuels & alternative fueled vehicles
- Conducted energy audits and efficiency improvements to City buildings over the past 15 years.
- Signatory to the US Conference of Mayors Climate Protection agreement and Michigan Green Communities Challenge
- Tree City USA
  - Strong commitment from City Council, staff & Residents
Path to Green Building

- Significant growth and expansion early part of decade
  - Undesirable development practices
    - Clear-cutting of trees and vegetation removal
    - Grading of parcels
    - Filling unregulated wetlands
Path to Green Building

- Adoption of Wetland Protection ordinance
  - More stringent than State statute
  - Protects wetlands of .25 acres and larger

- Adoption of Tree Preservation ordinance
  - Regulates the removal of trees and clearing of land
  - Encourages developers to seek site plan approval prior to clearing/grading work – preserves natural features of site
Path to Green Building

- Amendment of Zoning code to include setbacks from natural features
  - Established setbacks from wetlands and water bodies
  - Minimizes the disruption or loss of natural features
  - Requires preservation of mature trees and clusters of trees for screening and shading properties
- City codes can be viewed at:
Adoption of Green Building Policies

- Signatory to the US Conference of Mayors Climate Protection Agreement in spring of 2007.
  - City Manager tasked staff and City Boards and Commissions with developing an environmental comprehensive plan
  - City environmental and planning staff along with Commission on the Environment began researching sustainable building
- Developed two policies
  - Green Building Policy
  - Green Building Incentive Policy
Green Building Policy

- Requires both municipal and certain commercial construction projects to attain LEED or similar standards

- Municipal Development
  - Requires new development over 5,000 square feet to attain LEED silver
  - Requires renovations to incorporate LEED building and/or low impact design practices to the greatest extent practicable
Green Building Policy

- Private Development
  - Requires new private construction for any single building which receives municipal financing up to 15% of the total project cost to attain LEED-NC at a minimum “certified” level
  - Municipal financing includes:
    - Tax increment financing funds
    - Brownfield redevelopment funds
    - Community development block grant funds
    - Parking revenue bonds
Green Building Policy

- Private Development
  - Requires projects which receive over 15% municipal financing to attain the following:
    - For projects with one building, attain minimum LEED-NC or ICC 700 “Silver” certification
    - For projects with multiple buildings, attain either:
      - Silver certification under LEED for Neighborhood Development and at least one point under Green Infrastructure & Buildings credit OR
      - Silver certification for each building in the project under either LEED-NC or ICC 700 rating system.
  - Requires private building renovations which receive municipal funding to attain LEED-NC at a minimum “certified” level
Green Building Incentive Policy

- Developed to provide incentives for projects which are not eligible for municipal funding incentives, especially single family home projects
  - Provides financial incentives:
    - Projects receiving LEED certified or Silver - $1,300
    - Projects receiving LEED Gold or Platinum - $2,600

- Incentives paid for from a combination of water, sewer and general funds
- Caps total annual incentive at $10,000
Current Project

- Single family home
  - 309 University Ave
  - Seeking LEED Silver status
- Features:
  - Rain Gardens
  - Structural insulated panels
  - Infill location
  - Recycled glass Countertops
Resources

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US Green Building Council
www.usgbc.org

National Green Building Program
www.nahbgreen.org

www.cityofeastlansing.com/Home/Departments/Cityclerk
Implementing a Sustainability Plan

Michigan Green Communities Conference
December 10, 2010
State Context

- State Sales Tax Revenues
- State Income Tax Revenues
- Michigan Business Tax Revenues

City Context

- State shared Revenues
- City Income Tax Revenues
General City Services
FY2011 Estimated Expense

Amount/$ Millions

- Police: 52.26
- Fire: 27.33
- Mandated Services: 8.6
- Parks and Recreation: 5.98
- Administering Government: 5.9
- Collecting Revenues: 4.7
- Streets Maintenance Subsidy: 3.4
- Street Lighting: 2.88
- Planning & Economic Development: 1.29
- Other Expenses: 1.15
- Vacancies & Budgeted Savings: -1.95
- Operating Deficit: 27.43

Total Estimated Expense: 52.26 + 27.33 + 8.6 + 5.98 + 5.9 + 4.7 + 3.4 + 2.88 + 1.29 + 1.15 - 1.95 = 103.81
Transformation

Past
Preserve the best of our past and present

Values
Important personal and community priorities

Sustainable Future
What scenario will allow us to become the city we want to be?

Reality
- $27.4 Million GOF deficit
- Significant decline in tax revenues
- Revenue Sharing cuts
- Unemployment
- Rising personnel costs

Transformation Together
Driving Quality Through

In the City of Grand Rapids
Unconnected Tactics

- Sustainability Plan
- Triple Bottom Line Indicator Report
- Green Grand Rapids
- Performance Management Plans
- Lean Thinking
- Master Plan
- Fiscal Plan
Fully Integrated Strategy

Sustainability Plan

Triple Bottom Line Indicators

Service Package

Fiscal Plan

Outcomes & Targets

Lean Thinking
How did we get here?

- Economic Development Strategy
- Planning Based Strategic Plan
- Master Plan
- Reorganization
Community Sustainability Partnership

Grand Valley State University

City of Grand Rapids

Grand Rapids Community College

GRPS my choice

Aquinas College

Makes all the difference in the world.
Sustainability Plan – August 2006

SUSTAINABILITY FRAMEWORK

The Sustainability Framework is a dynamic inventory of interconnected areas of interest, activities, and related outcomes that lead to a sustainable City and community. It is critical to note that the activities that are conducted within this framework, although categorized under a primary area, relate to all three principles of sustainability and their impact will be measured against the triple bottom line.

SUSTAINABILITY VISION STATEMENT

Sustainable City: The economic, environmental, and social systems throughout the city are ideal and in balance to create and sustain a positive quality of life for future generations.

Sustainability Themes and Outcomes

- Clean Environment
  - The natural environment is respected, improved, and preserved for future generations.

- Enriched Lives
  - Opportunities for and access to educational and cultural experiences are abundant.

- Prosperous Economy
  - The economic system fosters and sustains strong business and gainful employment.

- Quality Community Design and Infrastructure
  - Community development is conducted in accordance with the City’s Master Plan and infrastructure design is conducted in accordance with the City’s Master Plan and governing rules and guidelines.

- Responsible Government
  - The City is a “best in class organization” by which the management of the City and the provision of services are conducted.

- Safe Neighbourhoods
  - Neighbourhoods are free from crime and other threats to public safety.

- Social Equity
  - Society embraces diversity and uses the power of diversity for positive change.
“Treat the Earth well: it was not given to you by your parents, it was loaned to you by your children. We do not inherit the Earth from our Ancestors; we borrow it from our Children.”

(Ancient First Nations Proverb)
Sustainable cities work to eliminate all toxic/hazardous wastes and convert the remaining materials to “food” or raw materials for other processes.

Target: Increase Residential recycling rate 10% by 2010 and continue the downward trend in Refuse Tons/Household.
Organizing for Outcomes

- Design & Development & Enterprise Services
- Fiscal Services
- Administrative Services
- Community Services
- Public Safety Services
- Enterprise Systems Department
- Lighting, Signals & Signs
- Water System
- Environmental Services
- Parking System
- Office of Energy & Sustainability
The City of Grand Rapids is responsible for a variety of functions, including an extensive range of core services such as police and fire protection, water and sewer services, street construction and maintenance, and tax collection. The City will continue to provide these services while doing our part to protect the integrity of the natural environment, promote economic prosperity, and ensure social equity for all of our citizens. To the best of our ability, we will function as a sustainable organization and community. We will be successful in this “Triple Bottom Line” approach using City leadership, partnerships with others, and the commitment of our citizens to accomplish the following outcomes:

**ENVIRONMENTAL**

**ENERGY AND CLIMATE PROTECTION**
1.1 Reduce the City’s greenhouse gas emissions (carbon footprint) and impact on climate change.
1.2 Reduce energy demand and fossil fuel consumption.

**ENVIRONMENTAL QUALITY AND NATURAL SYSTEMS**
2.1 Maintain an adequate and safe water supply.
2.2 Improve the quality of the Grand River and its tributaries.
2.3 Protect and maintain healthy ecosystems and habitat.
2.4 Reuse and recycle; and reduce waste sent to landfills.

**LAND USE AND DEVELOPMENT**
3.1 Ensure that sound land uses enhance the natural environment.
3.2 Ensure quality design and construction of the built environment in accordance with the City’s Master Plan and Zoning Ordinance.
3.3 Ensure access to parks and open spaces for all citizens.
ECONOMIC

A STRONG ECONOMY
4.1 Increase business investment in the city.

DIVERSE SUPPLIER BASE
5.1 Increase supplier diversity.
5.2 Ensure fair, equal and open procurement, management, and financial processes.

EMPLOYMENT AND WORKFORCE TRAINING
6.1 Increase employment opportunities.
6.2 Increase employee skills and performance in delivering City services.
6.3 Increase career readiness of city’s youth.

FINANCIAL MANAGEMENT / SUSTAINABILITY
7.1 Improve the long-term stability of the City through responsible planning, management and use of financial resources.
7.2 Optimize and maintain expenditure and operational efficiencies.
7.3 Adopt sustainable purchasing practices.

ENHANCED CUSTOMER SERVICE (internal and external)
8.1 Improve the efficiency and effectiveness of City operations.
8.2 Improve citizen satisfaction with City service delivery.
8.3 Maximize the usable life and/or improve the quality of City property.
8.4 Establish and maintain regional partnerships and cooperative relationships.

VITAL BUSINESS DISTRICTS
9.1 Ensure that downtown Grand Rapids remains a lively, diverse, and healthy center for the region.
9.2 Increase the vitality of neighborhood business districts.
9.3 Capitalize on the Grand River area for economic development and people-oriented activities.
Sustainability Plan V.2
--What we will do

SOCIAL

GREAT NEIGHBORHOODS
10.1 Increase housing choices for all city residents and decrease homelessness.
10.2 Ensure compliance with City building, housing, and nuisance codes.
10.3 Ensure diversity, inclusion and nondiscrimination.

STRONG EDUCATION, ARTS & COMMUNITY
11.1 Increase education attainment.
11.2 Increase volunteerism.
11.3 Increase access to arts and entertainment opportunities.

CIVIC ENGAGEMENT
12.1 Increase access to, and opportunities for civic engagement and community based leadership.

HEALTHY LIFESTYLES AND HEALTHY ENVIRONMENTS
13.1 Improve access to local food sources.
13.2 Increase and maintain human health and wellness.
13.3 Increase availability of recreation programs/facilities.

PUBLIC SAFETY
14.1 Reduce the incidence of crime in the city.
14.2 Reduce the loss of life and property from fire and emergency medical calls.
14.3 Ensure the City is equipped and capable of responding to emergencies and disasters.
14.4 Increase crime prevention, neighborhood public safety, and neighborhood-based leadership or involvement.
Sustainability Plan V.2

1.0 ENERGY AND CLIMATE PROTECTION

Outcome 1.1. Reduce the city’s greenhouse gas emissions (carbon footprint) and impact on climate change.

- **Target 1:** Meet the obligations of the US Mayors Climate Protection Agreement for greenhouse gas emissions reductions by June 30, 2013.
- **Target 2:** Reduce parking exit time by 10% through automated processing and machine maintenance by June 30, 2011.
- **Target 3:** Reduce total direct and indirect CO₂ emissions by 10,000 metric tons by June 30, 2013.
7.0 Financial Management/ Sustainability

Outcome 7.1. Improve the long-term stability of the City through responsible planning, management and use of financial resources.

- **Target 1:** Ensure that an investment grade rating is maintained.
- **Target 2:** Maintain a 25 basis points spread (or better) between the average portfolio yield on City investments and the yield on the 90-day T-Bill.
- **Target 3:** Maintain annual debt service coverage ratio of 1.2 in Water and Sewer Enterprise Funds.
- **Target 4:** Ensure adequate cost recovery in the Water and Sewer Operating Funds by applying the annual Rate Methodology.
Outcome 14.1. Reduce the occurrence of crime in the city.

- **Target 1:** Reduce the number of Part 1 offenses 12%, from 12,700 in 2007 to 11,500 by June 30, 2015.

- **Target 2:** Reduce the number of Part 2 offenses 30%, from 11,500 in 2007 to 8,000 by June 30, 2015.

- **Target 3:** Reduce the number of hate crimes by June 30, 2015.

- **Target 4:** Decrease the occurrence of graffiti in the city by June 30, 2015.
Green Grand Rapids

Project Goals

• Update Master Plan and Parks & Recreation Plan
• Create a plan to address multiple, interrelated community issues
• Develop a community vision for green infrastructure
• Identify citizen priorities
• Establish strategies and policies for plan implementation

Thank you!

Wege Foundation, Grand Rapids Community Foundation, Frey Foundation, Dyer-Ives Foundation, Downtown Development Authority & City of Grand Rapids

--JJR, FTCH and OCBA
Green Grand Rapids

**Natural Systems:** Increase/decrease in pervious/impervious surface area (Baseline data from aerial photography analysis; monitor changes through Planning Department development review process.)

**Greening:** Number of trees by size lost and added (Monitor changes through Forestry Program, Consumer’s Energy and Planning Department development review process.)

**Connections:** Increase/reduction in vehicle miles traveled (VMT)

**Parks & Recreation:** Accessibility deficit increases/reductions (Baseline and changes measured through GIS analysis model.)

**Grand River:** Feet/miles of riverwalk added or upgraded; annual user cordon count (Baseline data from Green Grand Rapids Inventory Atlas and initial year cordon count; monitor changes through DDA and Parks and Recreation and Planning Department development review process, as well as annual cordon count.)

**Local Food:** Number of community gardens (Baseline data from Green Grand Rapids inventory Atlas)
Proposal for Outcomes

Facilities Operations and Maintenance

- **Facilities Operations and Maintenance**
  - **Outcome:** Reduce energy demand and fossil fuel consumption.
  - **Target 1:** Reduce our electrical consumption by 5% by 6/30/2012.
  - **Target 2:** Reduce our natural gas consumption by 5% by 6/30/2012.
  - **Target 3:** Reduce our water consumption by 5% by 6/30/2012.

- **Facilities Equipment Replacement**
  - **Outcome:** Increase the energy efficiency of City Facilities by utilizing high efficiency equipment in all replacement projects.
  - **Target 1:** 100% of all mechanical and electrical equipment replaced shall have a higher efficiency rating of the equipment it’s replacing.

- **Fleet Equipment Repair and Maintenance**
  - **Outcome:** Maximize the usable life of City owned equipment and fleet.
  - **Target 1:** Ensure that 100% of all equipment and fleet are scheduled for proper preventative maintenance services.
Fiscal Year 2011 Fiscal Plan

FINAL FISCAL PLAN FY 2011-2015
Next Steps: Measuring Results

Transformation Roadmap

**Economic Prosperity**

The City of Grand Rapids is committed to a number of outcomes to promote overall employment growth, business investment, and supplier diversity throughout the City. Places within the city also contribute to our economic health—an active and exciting downtown, an attractive Grand River, vital neighborhood business districts, and healthy and safe residential neighborhoods. The outcomes and targets listed below are designed to measure success.

**Outcome: Increase business investment**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
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<tbody>
<tr>
<td>Target 1: Increase new private business investment by $100 million by June 30, 2011.</td>
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<td>Target 2: Increase the number of new businesses locating in the City of Grand Rapids by June 30, 2015.</td>
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<td>Target 3: 80% of jobs created or retained with incentives will be permanent, full time employment with benefits by June 30, 2015.</td>
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<tr>
<td>Target 4: 20% of jobs created or retained with incentives will be in green or applied clean technology industries by June 30, 2015.</td>
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<td>Target 5: Increase the percent of jobs created that pay greater than or equal to the Cost of Living Index by 20% by June 30, 2015.</td>
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<td>Target 6: $16 million in private funds will be invested in the restoration of vacant, blighted, or contaminated land by June 30, 2011.</td>
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Fully Integrated Strategy

- Sustainability Plan
- Service Package
- Fiscal Plan
- Triple Bottom Line Indicator Report

Outcomes & Targets

Lean thinking
UV Disinfection
- effective at inactivating most viruses, bacteria, spores, and cysts
- is a physical process rather than a chemical disinfectant, which eliminates the need to generate, handle, transport, or store toxic chemicals
- no residual effect that can be harmful to humans or aquatic life
- is user-friendly for operators
- UV disinfection equipment requires less space than other methods and is slightly less costly to operate.

Other Sustainable Decisions
- Geothermal
- Flow Equalization
- Fine Bubble Diffusion

UV Eliminates the annual use of 225 tons of Chlorine and 110 tons of Sulfur Dioxide for wastewater disinfection.
Sustainable Decisions

- **Renewable Energy**
  
  - Mayor’s State of the City in 2005 challenged us to get 20% of our energy from renewable sources by December 2008
  
  - We achieved that goal by December 2007.
  
  - 100% of our energy from renewable sources by 2020!
Grand Rapids named most sustainable midsize community in nation...

...Wins 2010 Siemens/U.S. Chamber of Commerce Sustainable Community Award
Grand Rapids Named one of ICLEI’s Inaugural Adaptation Communities

Missy Stouls, Mayor George Heartwell, Michael Davidson, and Haris Alibasic
City of Grand Rapids’ Sustainability Plan is available at: www.grcity.us/Sustainability

CONTACTS:
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Breakout Sessions

**Prepping for PACE**
*League Roundtable Room, 1st Floor*
Facilitator: Jamie Kidwell

**Adopting Green Building Policies**
*Christman Training Room, Basement*
Facilitator: Sue Jeffers

**Implementing a Sustainability Plan**
*League Training Room, 1st Floor*
Facilitator: Joel Howrani Heeres