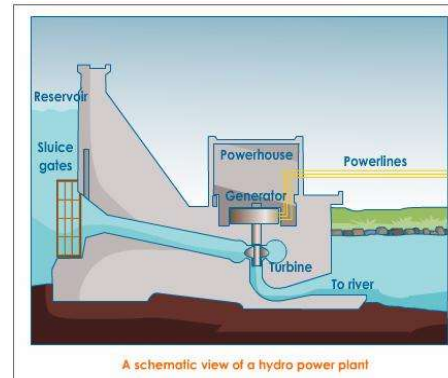
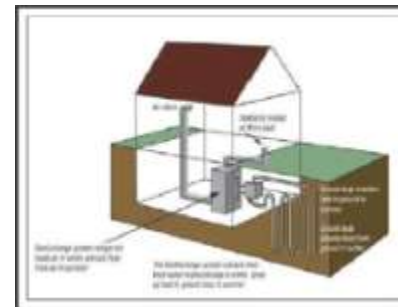
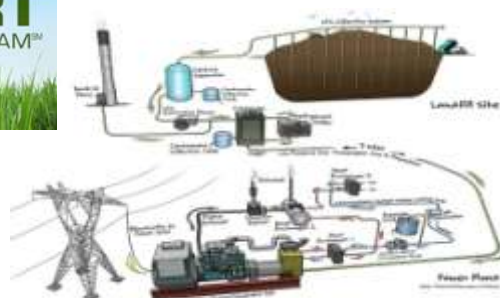
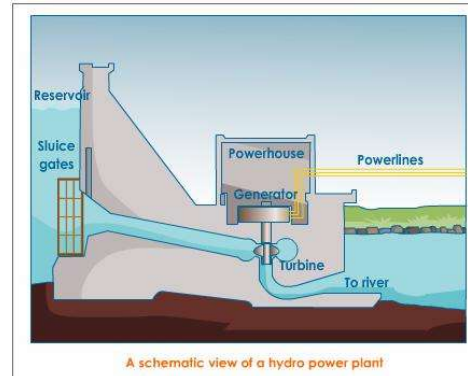


Alternative Energy Planning



Green Power Initiatives – 10% by 2015

- Wind
- Solar Projects
- Landfill Gas
- Hydroelectric
- Energy Efficiency Initiatives
- Geothermal Utility
- Alternative Fuels



Wind Turbine Project

- Urban Development
- Brownfields to Greenfields
- Directly connect to distribution grid
- Utility Scale Turbines -
 - 750Kw to 2.0Mw Units
 - 60 to 80 Meter Hub Height (262 ft.)
- Reevaluating midsize turbines
 - 300-500 set-back required



Solar Photovoltaic (PV) Projects



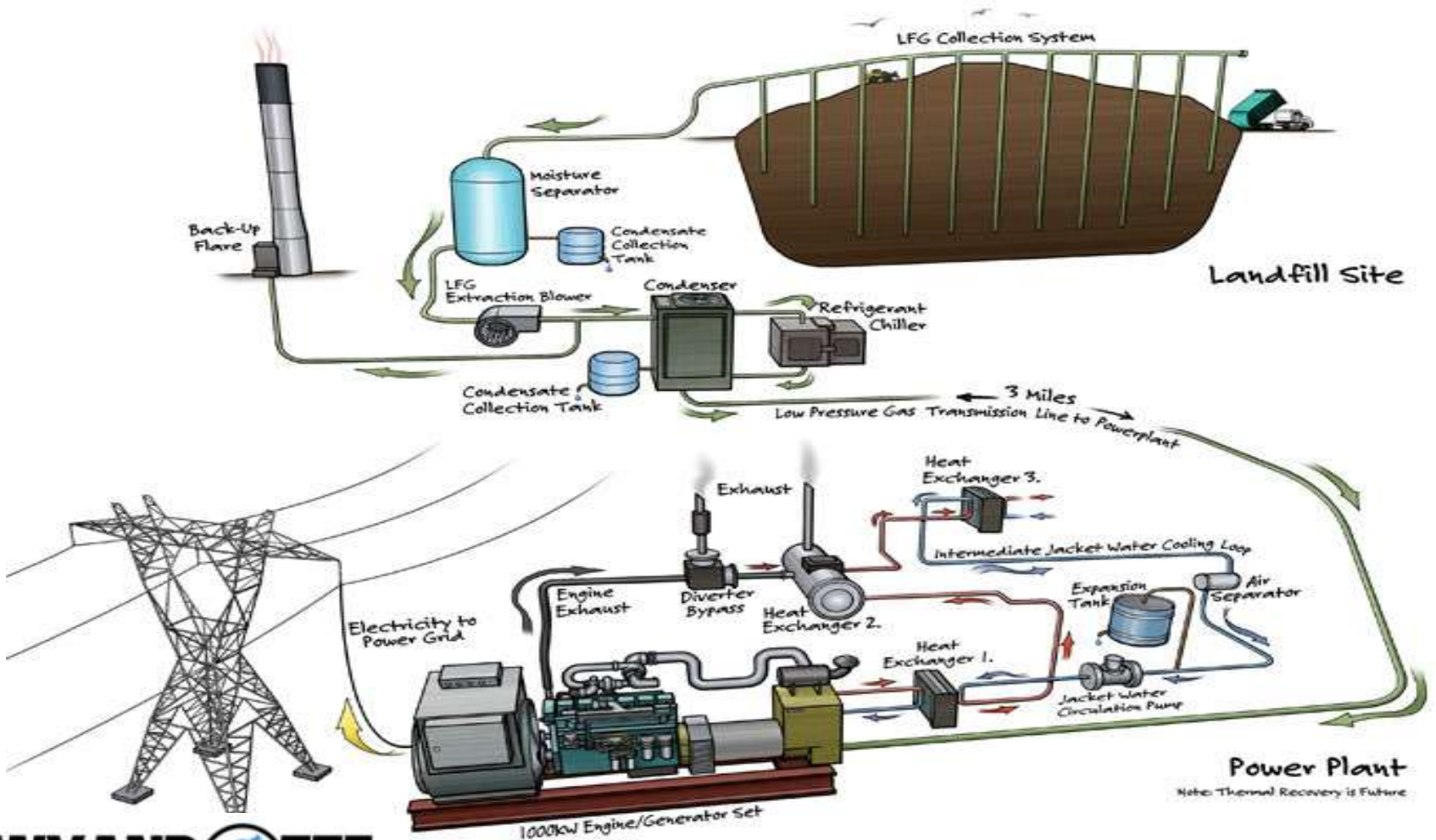
Wilson Middle School Solar

- 10kW Installation
- Earth Day Celebration, April 2008
- Leasing Roof from School
 - Shared Savings
- Web Site Viewing of Solar Output
 - <http://cresitenergy.com/wilson>
- Included in the 8th Grade Science Curriculum

Current Solar Project

- Part of the EECBG Grant Award
- PV (Photovoltaic) system
 - Approx. 250 kW
- Using Water Department Settling Basin
 - Over 19,000 Square Feet; possible additional adjacent space available
- Scheduled to be completed Winter 2011

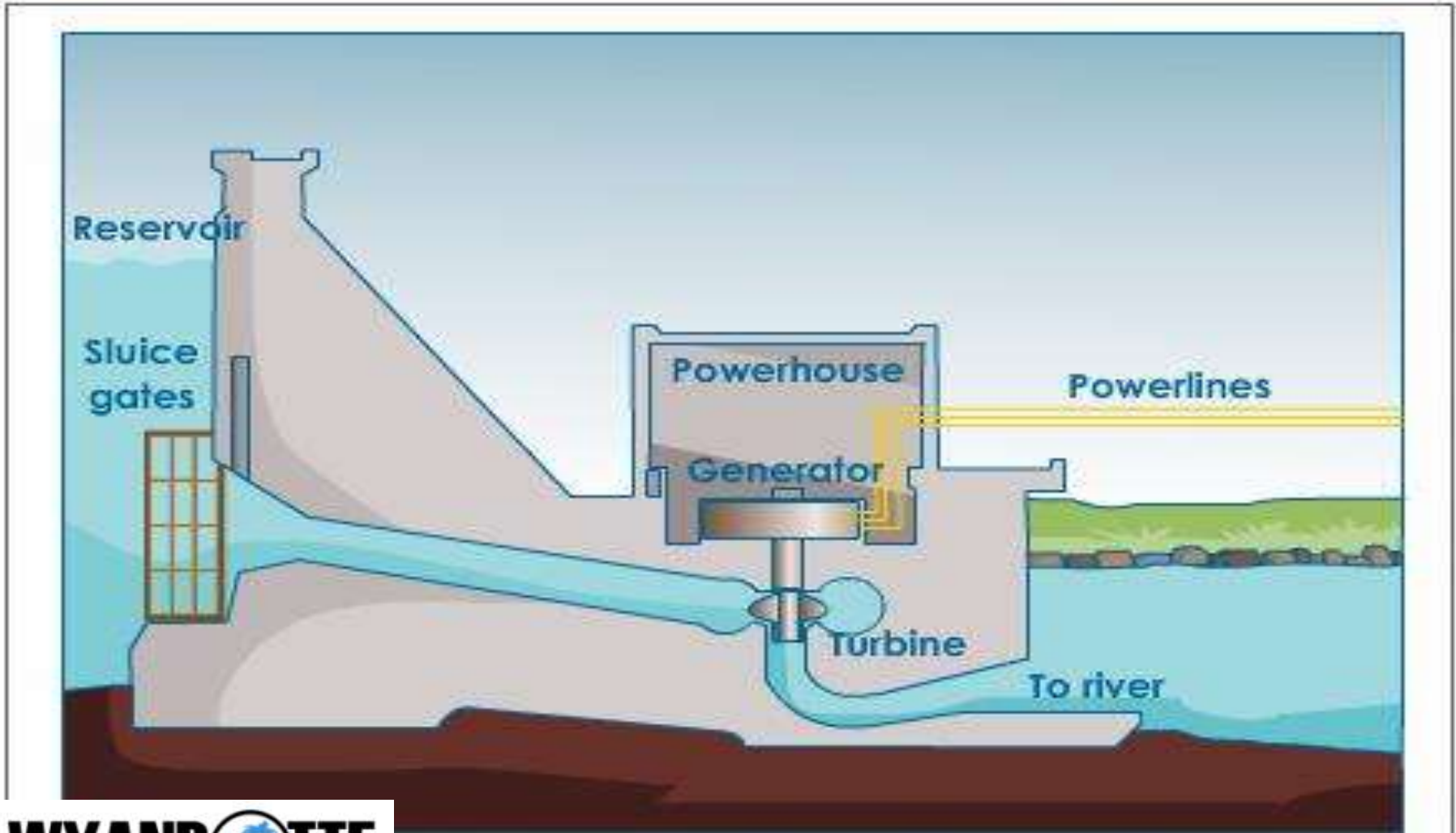
Landfill Gas Projects



Landfill Gas Projects

- Project Participation Agreements with Michigan Public Power Agency (MPPA)
- Granger Project
 - Total Capacity of 15 MW by 2013
- North American Natural Resources
 - Total Capacity of 8 MW by 2015
- Total Wyandotte share is 1.8 MW

Hydroelectric Projects



Hydroelectric Projects

- Project Participation Agreements with American Municipal Power (AMP)
- Meldahl Hydroelectric Project
 - 105 MW project
- Greenup Hydroelectric Project
 - 70 MW project
- Wyandotte Participation is for 2.8 MW
 - Online date of October 2013

Energy Efficiency

“Save A Watt in Wyandotte” Energy Programs:

- Energy Savings Audit Program – 2000 total
- Energy Optimization Program
 - Energy Smart Program
- CFL Lighting Grant
- LED Street Lighting Replacements
- Electric Vehicles



Energy Savings Audit Program

- **Program Highlights**
 - **EECBG funded – 2000 total audits; Res/Comm**
 - **Incentives to homeowners**
 - Blower door assisted Air Sealing Package
 - Duct sealing in unconditioned spaces
 - **Increased Rebates**
 - Electric & Gas rebates doubled
 - Geothermal GSHP \$1000 rebate
 - Solar \$1000/kW rebate
 - Commercial equipment rebates
 - **1.99% Financing**

Energy Optimization Programs

- 2009 EO programs required for all Utilities
- Goal 1% savings per year
- EO Plans submitted to PSC for review & approval
 - Franklin Energy Services
- Savings verified by independent organization
 - KEMA



Energy Optimization Programs

- Residential Programs for 2011 Include
 - Refrigerator buy back program
 - \$30/each
 - Residential High-efficiency HVAC Systems
 - Up to \$300 for 16 SEER Center Air system w/ECM fan motor
 - Intelligent Surge Protectors
 - \$10 rebate

Wyandotte Geothermal Goals

- Offer Ground Source Heat Pump technology (GSHP) to citizens & businesses in Wyandotte
- No up front cost for the GSHX vertical well
- Opportunity for homeowners to use tax incentives
- Lower energy cost to customers
- Expand renewable energy & Increase sustainability throughout Wyandotte

Wyandotte LED Street Lights

- Long Term Project
 - 10 years
- Over 100 Street Lights replaced to date
- Direct Replacement of fixture
 - No rewiring required
- Downtown scheduled to be completed in 2011
- Grant application submitted



Alternative Fuels

- Currently co-firing PRB coal and TDF (tires)
 - CFB Boiler #8; 60%/40%; low sulphur; limestone capture
- Investigating Wood Biomass
 - working on process; got to 50%; dust issues; PRB coal
- Under review - Power Purchase Agreement with Biomass gasification plant (up to 10 MW)
 - Municipal power – ties to distribution
 - In an era of limited economic development – one of the few businesses growing in MI; keeps coming back as a viable renewable energy source