

Energy Efficiency in the Pacific Northwest

**Twenty Years of Success and a
Bright Future**

Presented to

**Pacific Northwest International Section of the
Air and Waste Management Association**

Presented by

SBW Consulting, Inc.

June 3, 2004

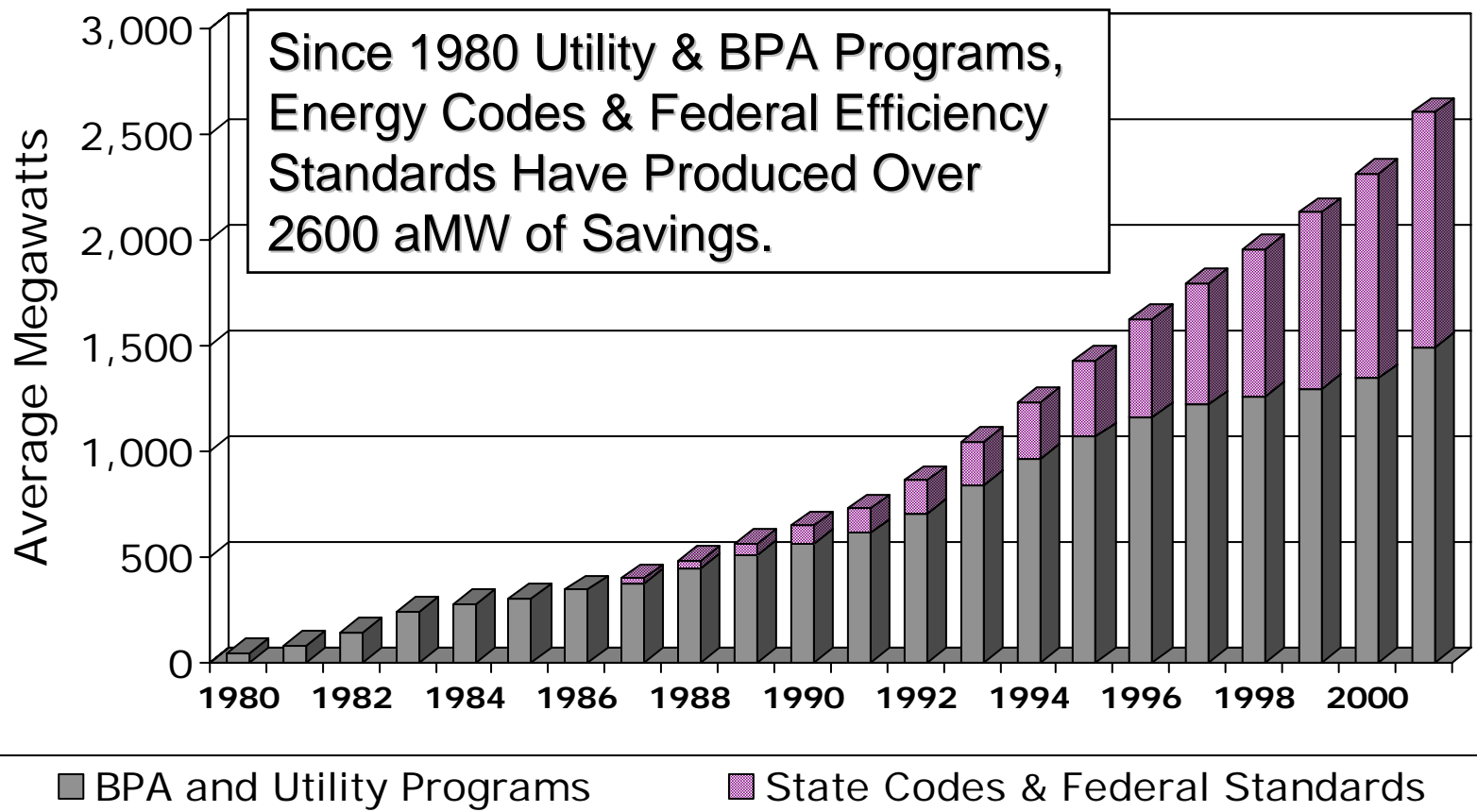
Presentation Topics

- **How much has the region saved in 20 years?**
- **How much can we save in the next 20 years?**
- **Some specific opportunities to save energy.**
 - ⇒ **Efficient Spray Heads**
 - ⇒ **Compressed Air**
 - ⇒ **Building Tune-Up**
 - ⇒ **Industrial Refrigeration**
 - ⇒ **Lighting**
- **Help from many sources**
 - ⇒ **Programs operated by local electric/gas utilities**
 - ⇒ **BetterBricks offered by Northwest Energy Efficiency Alliance (NEEA)**
 - ⇒ **Private services from members of Northwest Energy Efficiency Council (NEEC) and Building Commissioning Association (BCA)**

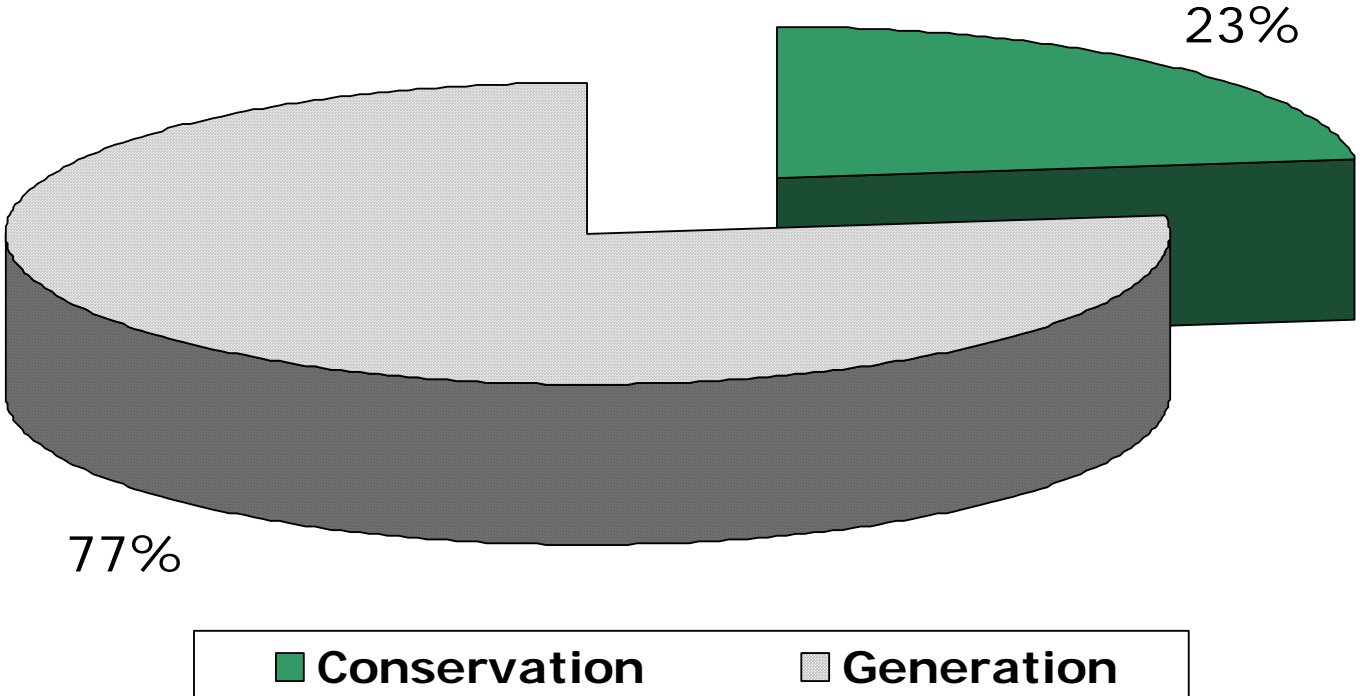
Savings from Energy Efficiency: Past and Future

- **Northwest Power and Conservation Council creates a comprehensive electric energy plan for the NW every five years.**
- **The following slides are excerpted from presentations currently available on the council's web site www.nwcouncil.org**
- **They show what has been accomplished and the opportunities for the future.**

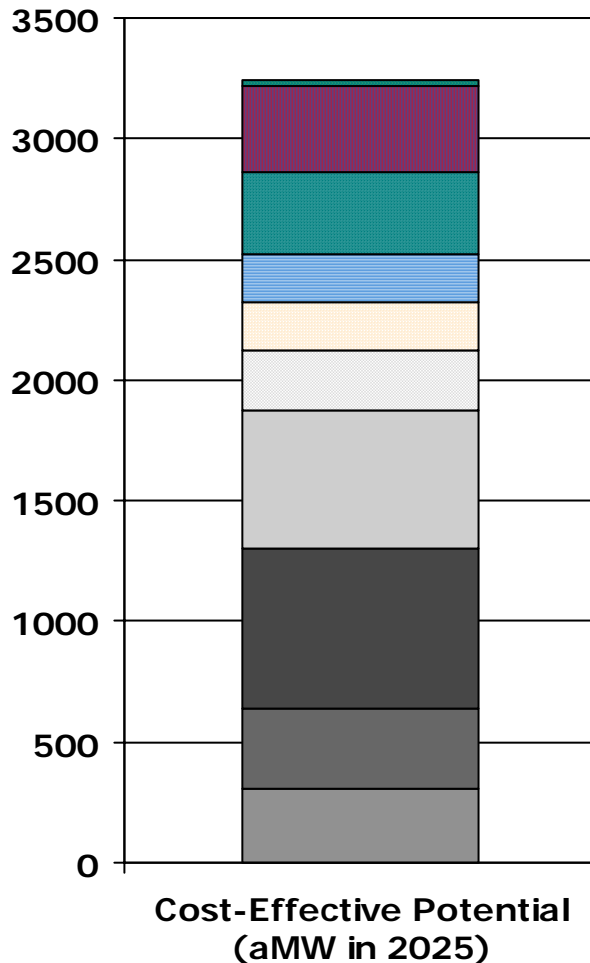
20 Years of Progress – Total Regional Savings



Conservation Met Approximately 1/4 of the Regional Load Growth Between 1980 – 2002



PRELIMINARY Assessment of Cost-Effective Conservation Potential



- Agricultural Sector - 25 aMW
- Non-DSI Industrial Sector - 350 aMW
- Commercial Sector Non-Building Measures - 300 aMW
- HVAC & Window Efficiency Improvements - 200 aMW
- New Commercial Building Lighting - 200 aMW
- Existing Commercial Buildings Lighting - 250 aMW
- Residential Space Conditioning - 575 aMW
- Residential Lighting - 660 aMW
- Residential Water Heating - 335 aMW
- Residential Appliances - 305 aMW

Specific Efficiency Opportunities for Local Businesses

■ Efficient Pre-Rinse Spray Heads

- ⇒ Applicable to more than 8,000 food service establishments (groceries, institutional, restaurants, etc.) in central Puget Sound
- ⇒ SBW has installed >3,000. On average each head saves \$400 / year in electric and water bills
- ⇒ Simple payback period of < 4 months

■ Compressed Air Management Program

- ⇒ Currently offered by SBW in California
- ⇒ Measurement-based assessment of system operation
- ⇒ Typical improvements cost approximately \$20,000 and reduce energy bill by 20-30 percent
- ⇒ Simple payback of < 18 months

More Opportunities

■ Building Tune-Up (also known as retro-commissioning)

- ⇒ Measurement-based audit of major building energy systems.
- ⇒ Identify needed repairs, maintenance, and control improvements.
- ⇒ NEEA is testing this service with local utilities
- ⇒ Expect savings of 5-10% of energy bill with simple payback of less than 2 years

■ Industrial Refrigeration

- ⇒ Very large energy end use
- ⇒ Improvements to controls, motor drive and other components can achieve 30% savings
- ⇒ Simple payback with current utility incentive < 3 years

Don't Forget Lighting

- **Lighting improvements encouraged by incentives and required by codes have contributed a large share of the regional savings**
- **There are still opportunities**
 - ⇒ **Small businesses have not taken advantage of improvements that have been available for years, e.g., conversion to T-8 fixtures**
 - ⇒ **New lighting technologies come on the market often**
 - T-5 fluorescent fixtures
 - HID
 - Advanced Controls, such as those integrated with Day Lighting measures

Get Help from Your Local Utility

■ **Seattle City Light - Energy Smart Services**

- ⇒ Financial incentives and rebates
- ⇒ Facility Assessment Audits and Commissioning Assistance
- ⇒ (206) 684-3254

■ **Puget Sound Energy**

- ⇒ Grants and Rebates
- ⇒ Contractor Referral
- ⇒ Personal Energy Advisor at 1-800-562-1482

■ **Snohomish Public Utility District**

- ⇒ Detailed energy audits and Incentives
- ⇒ Savings verification and commissioning
- ⇒ (425) 783-8290

More Help...

■ Northwest Energy Efficiency Alliance – BetterBricks (www.betterbricks.org)

- ⇒ Services to help architects, developers, builders and facilities managers with design and day-to-day operations
 - Advisor Network
 - Lighting Design Labs
 - Building Operator Training
 - Building Performance Services

■ Trade and Professional Organizations

- ⇒ Northwest Energy Efficiency Council (www.neec.net)
 - Member companies provide energy efficient products and services for commercial, industrial, and residential customers.
- ⇒ NW Chapter Building Commissioning Association (www.bcxa.org)
 - Provides professional development trainings, workshops and technical support