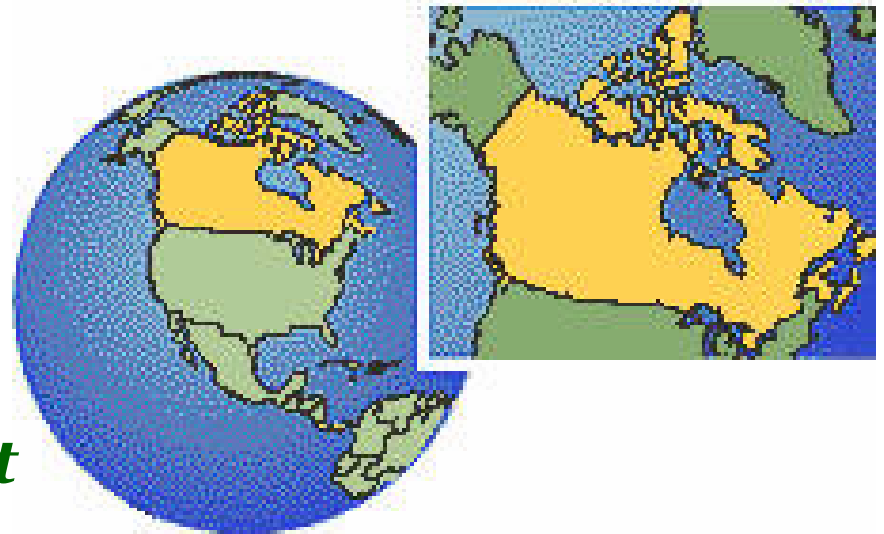


Market Transformation Symposium: News From the North



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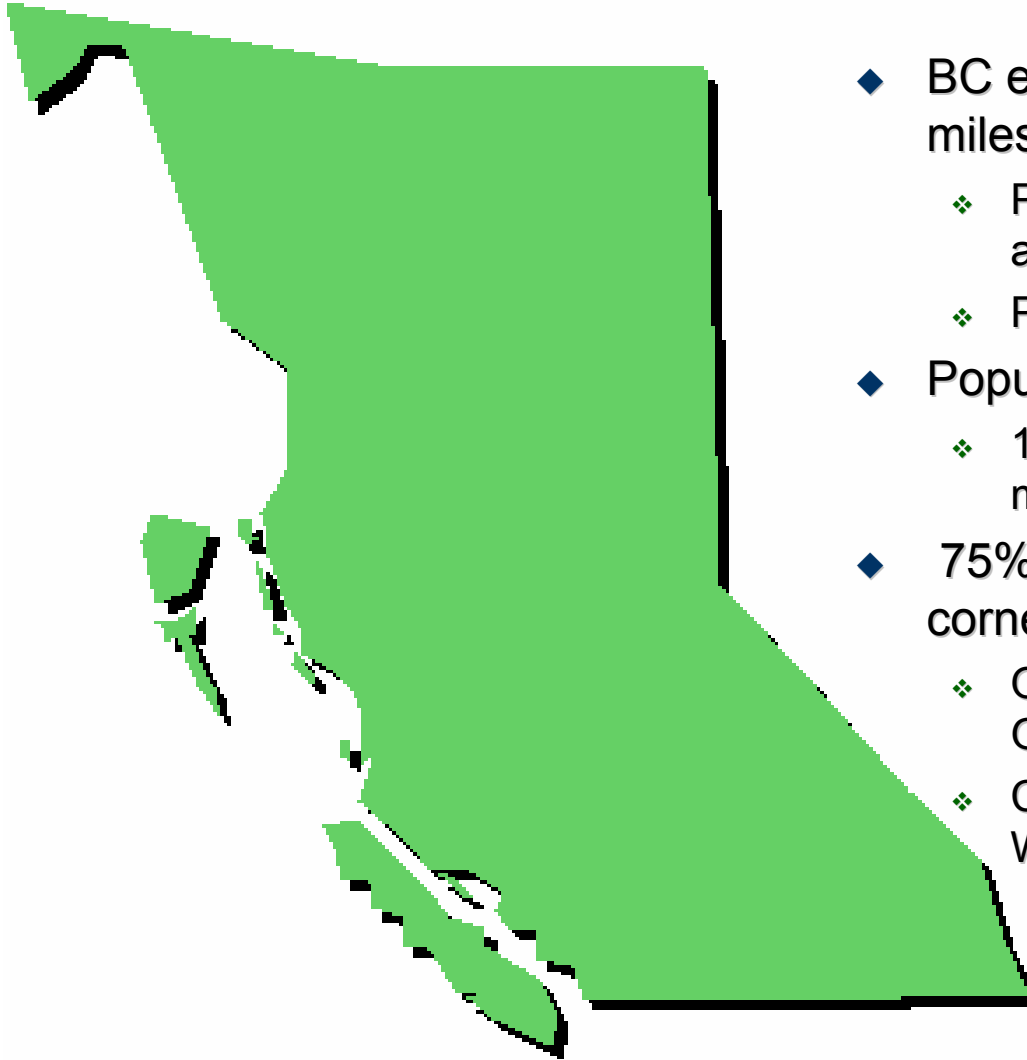


“Market Transformation: Expanding Boundaries”

Overview

- ◆ About British Columbia
- ◆ About BC Hydro
- ◆ BC Hydro and energy-efficiency
- ◆ Cooperation with others
- ◆ The role of Energy Star

British Columbia Overview



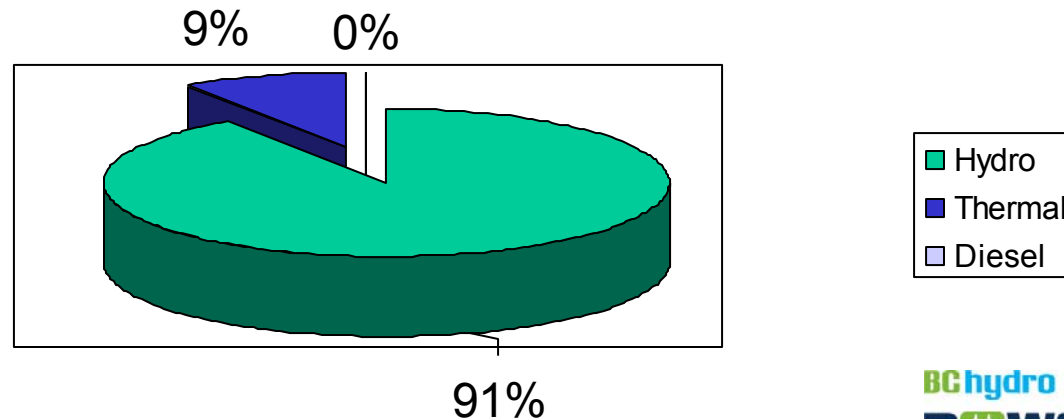
- ◆ BC encompasses 365,946 square miles
 - ❖ Predominantly mountainous with an abundance of water
 - ❖ Primarily resource industry
- ◆ Population of 4.2 million
 - ❖ 13% of Canadian population of 32 million
- ◆ 75% of people live in the southwest corner of the province
 - ❖ Over 50% of the population is in Greater Vancouver area
 - ❖ Climate in the south is similar to NW Washington state

BC Hydro Overview

- ◆ BC Hydro is a crown corporation
 - ❖ Electric only utility
- ◆ BC Hydro services 1.6 million customers
 - ❖ 94% of the province's population
- ◆ Residential rate is 6.05¢ Cdn
 - ❖ Approximately 4.8¢ US
- ◆ Regulated by the BC Utilities Commission

BC Hydro Overview

- ◆ BC Hydro generates 43,000-54,000 GWh annually
 - ❖ 30 hydroelectric facilities
 - ❖ 3 thermal facilities
- ◆ Capacity is 11,298 MW, of which 90% is hydroelectric
 - ❖ 58% provided by 3 large hydro facilities
- ◆ Transmitted over 46,000 miles of lines



BC Hydro Overview

- ◆ BC Hydro is presently a net importer of electricity
 - ❖ By choice, due to electricity trading activity
- ◆ Load is growing at a rate of 2% annually
 - ❖ Combination of population migration and increasing electrical intensity
- ◆ BC Hydro requires 10,000 GWh/yr of additional capacity by 2012
 - ❖ 1/3 of this new energy is to come from efficiency/conservation

Power Smart Overview

- ◆ Power Smart was launched in 1989 as a consolidated DSM initiative of BC Hydro
- ◆ By 2000, Power Smart had yielded 2,500 GWh/yr of electricity savings
 - ❖ Most DSM activity halted in late 90's as focus moved to deregulation and customer retention
- ◆ In 2001, Power Smart was re-launched with a target of 3,600 GWh/yr of electricity savings over 10 years

Power Smart Overview

- ◆ Conservation Potential Review (CPR) was undertaken in 2001
 - ❖ BC Hydro customers broken into 3 segments
 - ❖ Each segment broken down by achievable potential for product categories or process improvements (Industrial only)
- ◆ Conservation Potential Review became the basis for the Power Smart 10-year plan

Power Smart Targets

- ◆ The Power Smart 10-year plan identifies strategies for acquiring 3,600 GWh/yr of electricity savings by 2012
 - ❖ 2,300 GWh/yr from the Industrial sector
 - ❖ 600 GWh/yr from the Commercial sector
 - ❖ 700 GWh/yr from the Residential sector
- ◆ 1,315 GWh/yr of savings have been accomplished to date
- ◆ Budget of \$600 million over 10 years (\$500 million US)

Power Smart Strategy

- ◆ Design and implement cost-effective programs that address barriers to the 5 pillars of market transformation
- ◆ Programs are designed to achieve immediate energy acquisition and sustained long-term savings
- ◆ Programs are designed to complement existing market channels wherever possible

Power Smart Programs

Commercial & Industrial Sector



◆ Power Smart Partners

- ❖ Objective is to encourage integration of energy-efficiency into ongoing business practices
- ❖ Targets customers that spend > \$50,000 annually on electricity
- ❖ Focus on steam, pumps, compressed air, pulping, lighting, HVAC
- ❖ Matching funding assists customers to identify potential electricity savings opportunity (ESO) in a facility
- ❖ Incentive funding provided to the most cost effective projects
- ❖ Communication strategies provide recognition of success



Power Smart Programs

Commercial Sector

◆ Product Incentive Program

- ❖ Objective is to encourage simple retrofit installations
- ❖ Targets all industrial, commercial and government with a focus on smaller customers and projects
- ❖ Focus on lighting, HVAC, belt drives and pumps
- ❖ Incentives are web based and fixed to specific products



Power Smart Programs

Commercial Sector

- ◆ High Performance Buildings Program
 - ❖ Objective is to encourage whole building integrated design
 - ❖ Targets new construction of commercial, high-rise, government and industrial facilities
 - ❖ Offers incentives, education and training



Power Smart Programs

Residential Sector

◆ New Home Program

- ❖ Objective is to encourage adoption of electrically-efficient technologies in new construction
- ❖ Targets all new residential construction
- ❖ Offers incentives and marketing support for the installation of specific products
- ❖ Looking to expand to building envelope



Power Smart Programs

Residential Sector



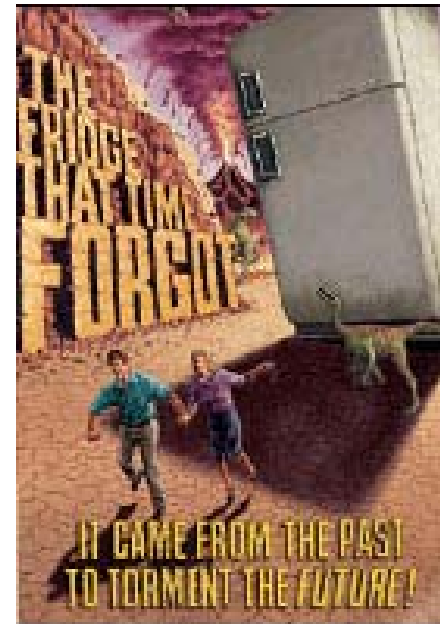
◆ Renovation Rebate Program

- ❖ Objective is to encourage installation of better insulation and low-e windows in electrically heated homes
- ❖ Targets electrically heated detached housing stock (10% of market)
- ❖ Offers prescriptive incentives for the installation of specific products

Power Smart Programs

Residential Sector

- ◆ Refrigerator Buy-Back Program
 - ❖ Objective is to encourage customers to decommission their second fridge
 - ❖ Targets customers that have a second fridge or have just purchased a new fridge
 - ❖ Offers \$30 incentive and free pick-up and recycling



BC hydro
POWER SMART

Power Smart Programs

Residential Sector

- ◆ Variable Speed Motors Program
 - ❖ Objective is to encourage customers to include a VSM in the purchase of a new gas furnace
 - ❖ Targets customers that are participating in the gas utilities furnace upgrade program
 - ❖ Offers \$150 incentive to purchase a qualifying model



Power Smart Programs

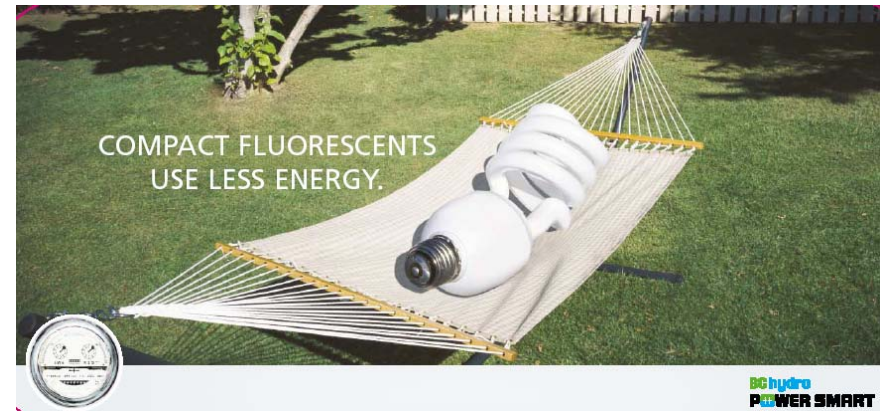
Residential Sector

- ◆ Seasonal Light Emitting Diode Program (SLED)
 - ❖ Objective is to encourage customers to purchase SLEDs in place of incandescent Christmas lights and transform market
 - ❖ BC Hydro gave 20,000 strings to high profile events in 2002
 - ❖ Rebate coupons offered to spur additional demand, 450,000 strings sold for x-mas '03, 1.5 million for '04



Power Smart Programs

Residential Sector



- ◆ Compact Fluorescent Lighting Program (CFL)
 - ❖ Objective is to encourage customers to purchase CFLs in place of incandescent lights and shift BC lighting market
 - ❖ BC Hydro offered 2 free CFLs to all residential customers
 - ❖ Giveaway events were hosted by retailers
 - ❖ Manufacturers and retailers provided additional free product and supported coupons towards the purchase of more
 - ❖ Now moved away from giveaways and expanding into torchieres



“Market Transformation: Expanding Boundaries”



Canadian Cooperation



- ◆ Federal government targets are largely in-line with BC Hydro's
 - ❖ Federal focus is on GHG reduction as per Kyoto Protocol
 - ❖ Electricity saved results in GHG reductions
 - ❖ Federal initiatives are fuel neutral, allowing greater scope
 - ❖ Market transformation efforts in BC can spread to the rest of the country
 - ❖ Market transformation in other provinces benefits BC



Canadian Cooperation



- ◆ Federal contributions to BC Hydro's efforts
 - ❖ Technical expertise
 - ❖ Energy Star brand
 - ❖ Cross promotion of similar programs
 - ❖ Funding
 - VSM incentives
 - SLED incentives
 - Torchiere incentives
 - Energy Star appliance incentives
 - Energy Star windows incentives
 - Energy Star houses

The Role of Energy Star

- ◆ The need for efficiency standards
 - ❖ Power Smart *did* 'endorse' products with a Power Smart Saves label in the early to mid-1990's
 - ❖ Became a national initiative that included appliances, windows, lighting etc
 - ❖ At ~1% of North America's population, difficult for BC Hydro to sustain



“Market Transformation: Expanding Boundaries”

The Role of Energy Star

- ◆ BC Hydro and Energy Star
 - ❖ Energy Star criteria is used wherever feasible to determine which products we include in programs
- ◆ Incentives offered on Energy Star labeled products including:
 - ❖ CFLs
 - ❖ Windows
 - ❖ Appliances
 - ❖ Fans

BC Hydro and Energy Star

- ◆ BC Hydro's relationship with Energy Star is symbiotic
 - ❖ Energy Star awareness in Canada lags behind US due to our late start
 - ❖ Leveraging the Power Smart brand to promote Energy Star increases awareness
 - ❖ Energy Star allows BC Hydro easy access to standards, without incurring major costs
- ◆ “It's Power Smart to buy Energy Star”



What We Need From Energy Star

- ◆ Quality issues
 - ❖ Predominantly in CFL category
 - ❖ Catastrophic product failures threaten our investment and the entire CFL category
 - ❖ Our testing indicates Energy Star labeled products don't meet Energy Star criteria
- ◆ Energy Star categories
 - ❖ BC Hydro is often ahead of Energy Star in Canada
 - ❖ Examples include SLEDs and torchieres

Market Transformation in BC

- ◆ Market transformation is a realistic objective for BC Hydro
 - ❖ Service territory can be geographically isolated
 - ❖ Leading position in Canada for many product categories
 - ❖ Cooperation at the provincial ministry level
 - ❖ Cooperation at the federal level