

Alberta's Climate Leadership Plan

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Alberta's Climate Leadership Plan

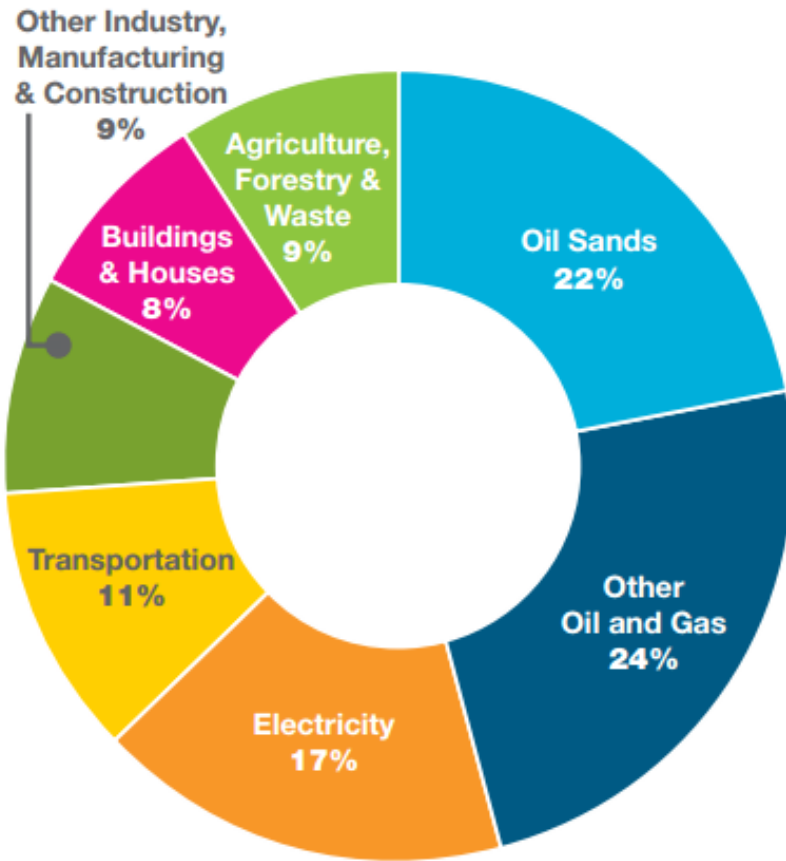
National Context

Canada's approach

www.climatechange.gc.ca

- An ambitious and effective global agreement
- Keeping emissions in check
- Enhancing accountability and transparency
- Support climate change adaptation
- Promoting cost effective climate change policies
- Investing toward a low-carbon future for all
- Sustaining momentum and progress
- Seeking early wins in the pre-2020 period

Alberta Emissions Profile



- 267 Mt CO₂e – total provincial GHG emissions in 2013
- 14 percent or 33 Mt – emissions growth since 2005
- 37 percent – Alberta's percentage of Canada's emissions in 2013

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Timeline of Key Actions

- 2002** - Released Albertans & Climate Change: Taking Action (first provincial strategy in Canada)
- 2003** - *Climate Change and Emissions Management Act* passed (first legislation to establish economy-wide price on carbon in North America)
- 2004** - Specified Gas Reporting Regulation
- 2007** - Specified Gas Emitters Regulation (first economy-wide price in Canada)
- 2008** - Revised provincial Climate Change Strategy
- 2015** - Amended Specified Gas Emitters Regulation (reduction requirements and carbon price increased)
- 2015** – **Climate Leadership Plan**



Alberta's Climate Leadership Plan

Key Initiatives

1. Implementing a new carbon price places an economy-wide price on greenhouse gas emissions

- Applying a carbon levy on transportation and heating fuels
- Emissions intensity carbon pricing will be replaced by an emissions output-based system
- New approach will generate funding that will be fully recycled back into the economy

2. Phasing out emissions from coal-generated electricity by 2030 and replacing that capacity with electricity produced by renewable sources and natural gas

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Key Initiatives

3. Legislated oil sands limit of 100 megatonnes (Mt) per year

4. Implementing a new methane emission reduction strategy with the goal of reducing methane emissions from the oil and gas sector by 45% from 2014 levels by 2025

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Measures of Success



Reduced GHG emission

- Compliance options are flexible and met
- Transition to cleaner sources of electricity
- Oil sands emissions are managed within limit



Diversified low-carbon economy

- Competitiveness is maintained
- Create new jobs



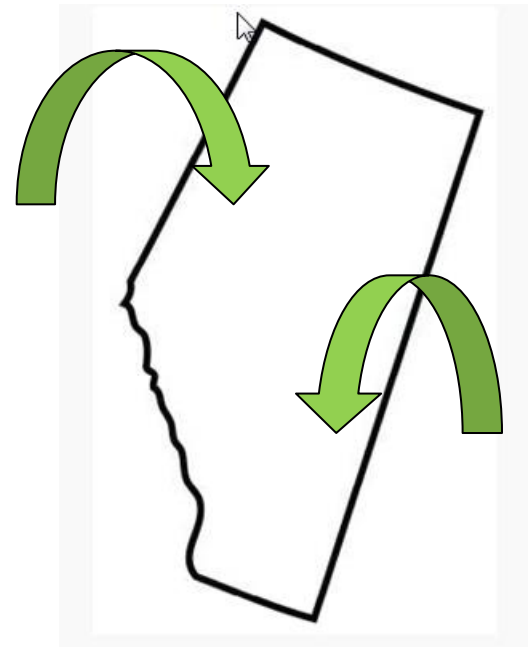
Family & communities well-being and resilience

- Transition to new employment opportunities
- Energy efficiency and green infrastructure incentives shift attitudes and consumer behaviours
- Avoid downstream health care costs and lost productivity

Climate Leadership Plan- Budget 2016

Reinvesting in the Economy

Over the next **5 years**, the carbon levy is expected to raise **\$9.6 billion**, all of which will be reinvested in the economy and rebated to Albertans



Climate Leadership Plan- Budget 2016

Reinvesting in the Economy

\$6.2 billion

diversify our economy

create new jobs

Climate Leadership Plan- Budget 2016

\$3.4
billion

- for large scale renewable energy, bioenergy and technology

\$2.2 billion

- for green infrastructure like transit

\$645
million

- for Energy Efficiency Alberta, a new provincial agency that will support energy efficiency and community energy system programs and services for homes, businesses and communities

Climate Leadership Plan- Budget 2016



\$3.4 billion

- \$2.3 billion for carbon rebates to help low- and middle-income families
- \$865 million to pay for a cut in the small business tax rate from 3% to 2%
- \$195 million to assist coal communities, Indigenous communities and others with adjustment

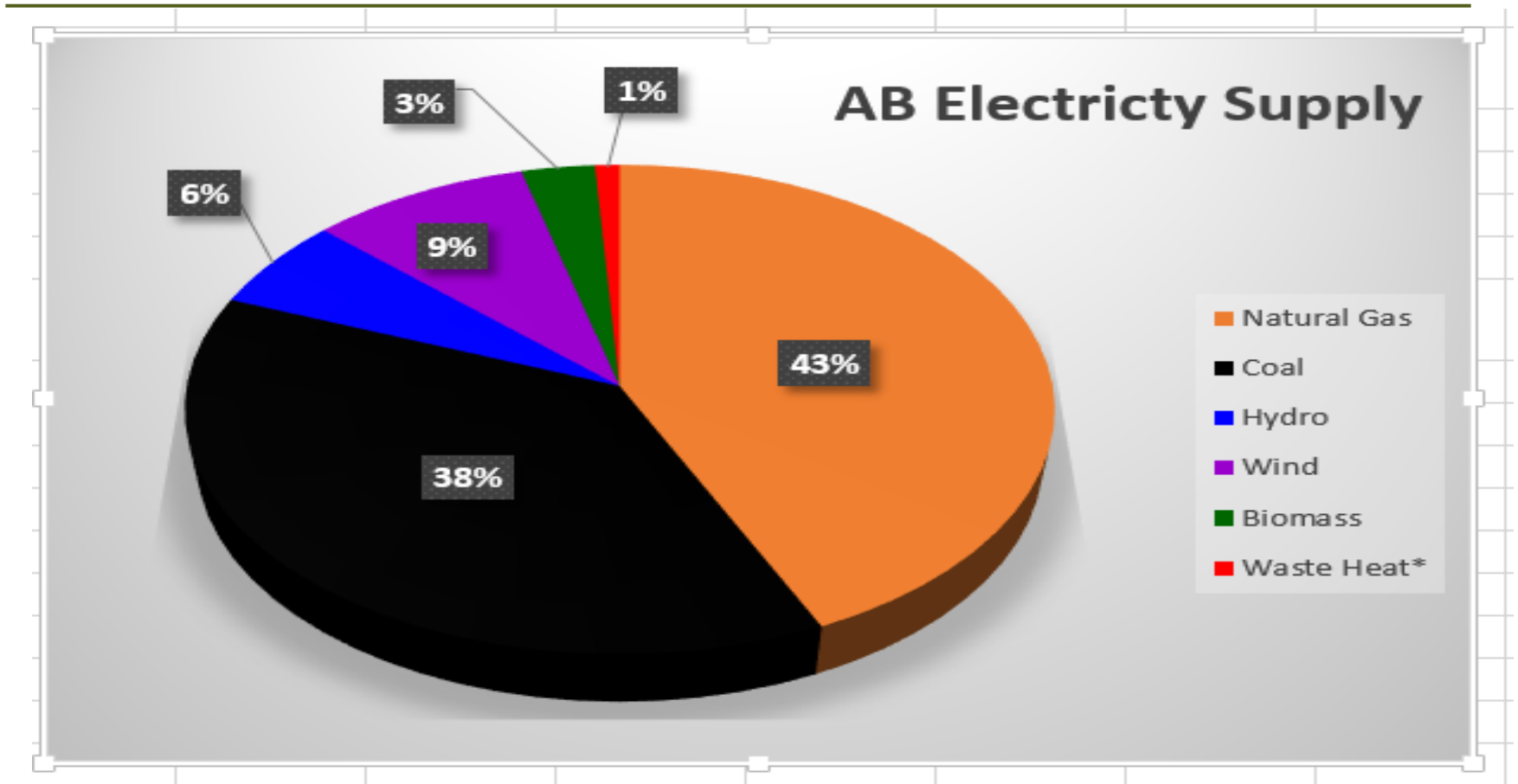
Bill 20-Climate Leadership Implementation Act: Three main functions

Provides authority to **implement the carbon levy**, outline the carbon price, and create the necessary administrative framework. It will also set out the framework for consumer rebates and exemptions.

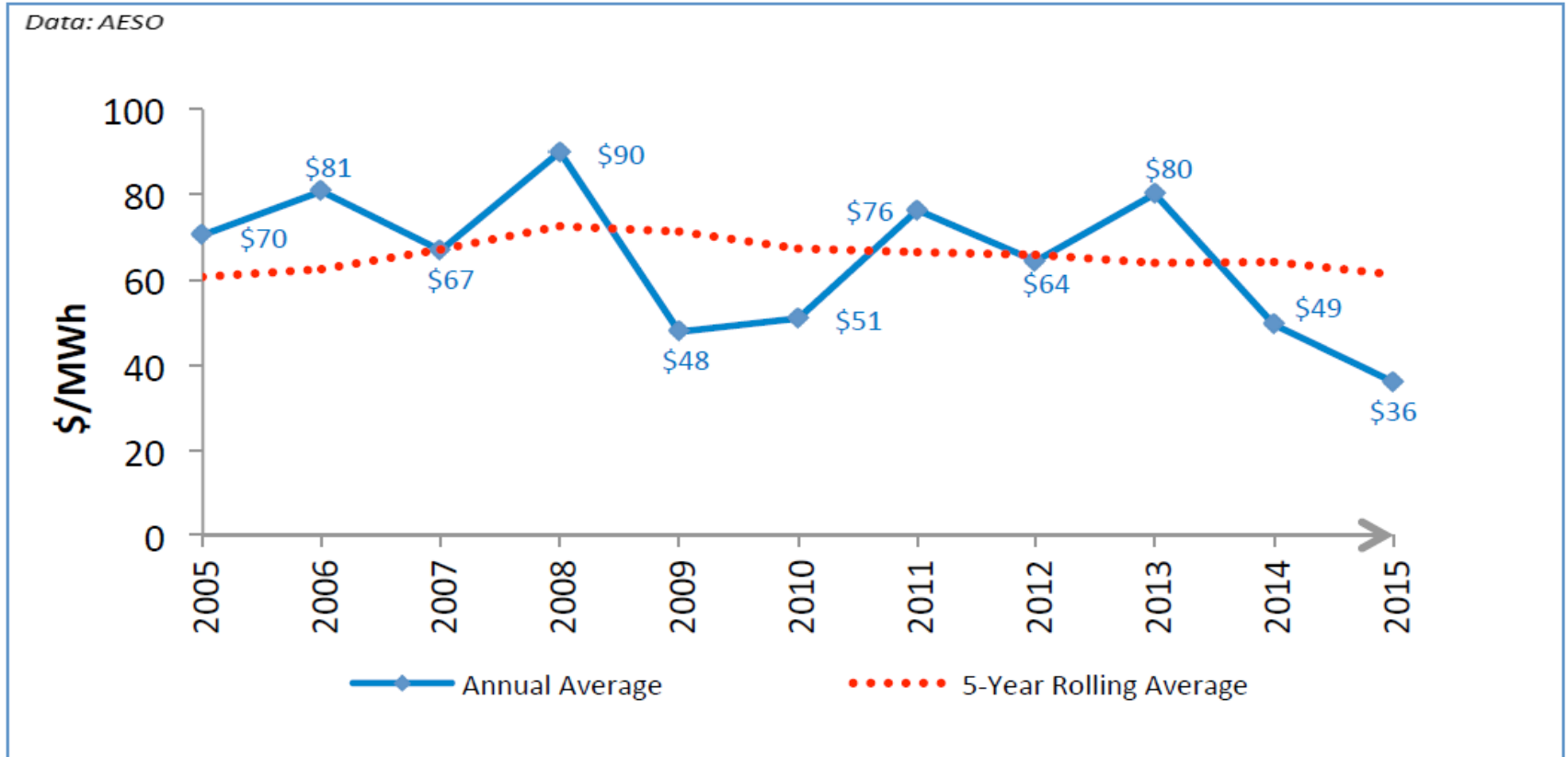
Proposes new Crown agency, called **Energy Efficiency Alberta**, tasked with delivering energy efficiency and community energy system programs on government's behalf.

Enables government to use carbon revenue collected for the **CCEMF for a broader range of climate related purposes.**

Alberta Electricity Portfolio

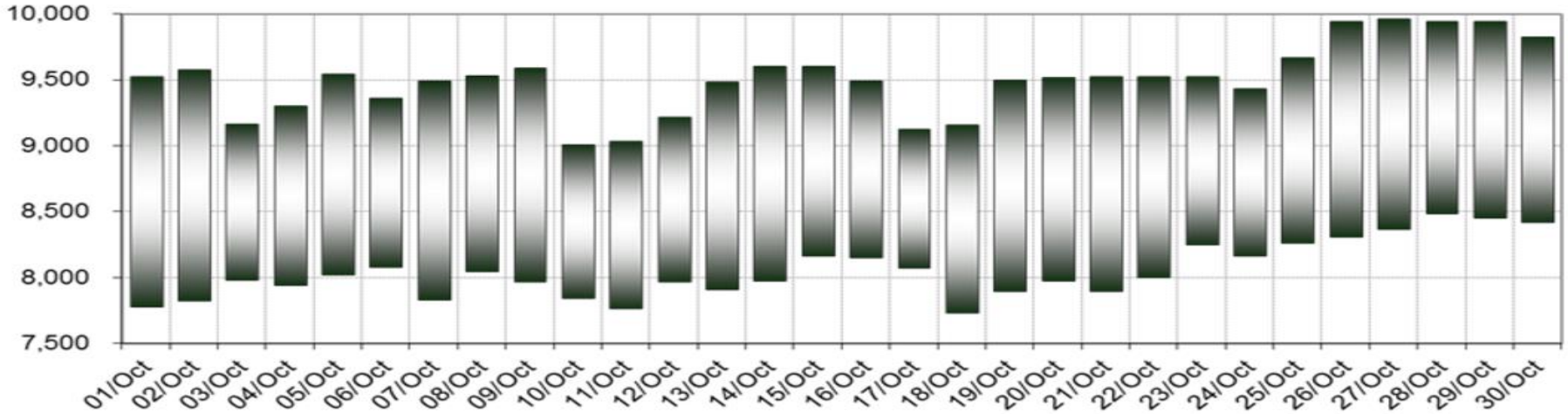


Historical Price of Electricity



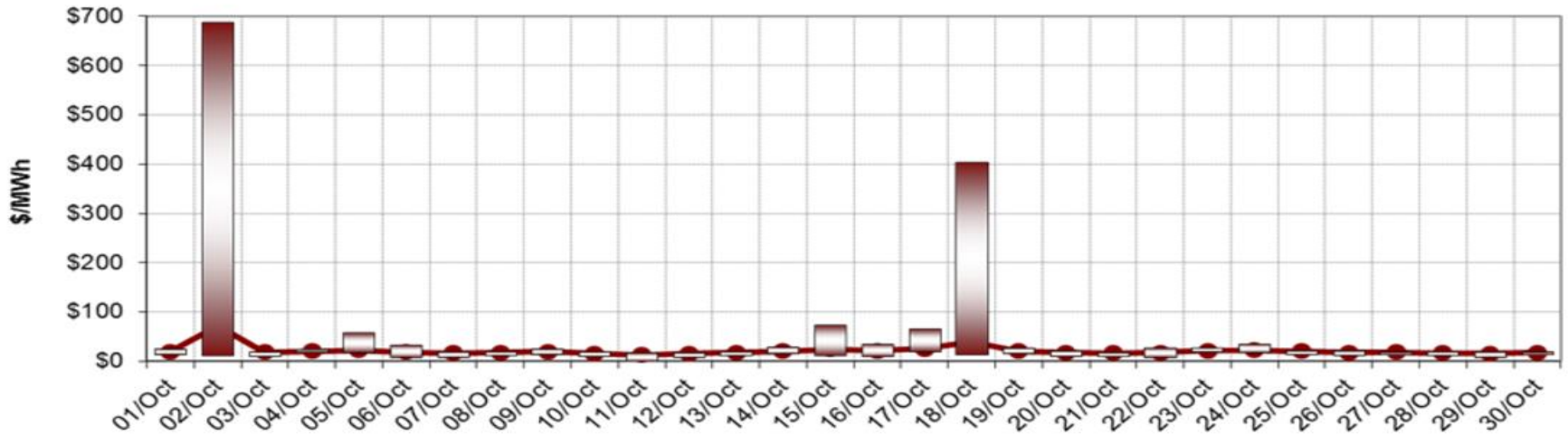
Alberta Electricity Wholesale Prices (Not Including Transmission and Distribution)

Daily Average Demand
 Bars represent the range of demand



The average pool price for the month of October was \$21.47/MW

Daily Average Pool Price
 Bars represent the range of prices



Rebates

Climate Leadership Adjustment Rebate Parameters

	2017	2018
Benefit Amounts		
First adult	\$ 200	\$ 300
Spouse/Equivalent to spouse	\$ 100	\$ 150
Child (max. 4)	\$ 30	\$ 45
Phase-out Thresholds (Family Net Income)		
Single	\$ 47,500	\$ 47,500
Couple	\$ 95,000	\$ 95,000
Families	\$ 95,000	\$ 95,000
Income at which Rebate is Fully Phased Out (Family Net Income)		
Single	\$ 51,250	\$ 55,000
Couple	\$ 100,000	\$ 103,750
Couple with 2 children	\$ 101,500	\$ 106,000
Couple with 4 children	\$ 103,000	\$ 108,250

Current list of Grants and Funding for bioenergy, energy savings and reduction

**Bioenergy
Producer Credit
Program**

**Alberta Municipal
Solar Program**

**Emission
Reduction Alberta
– formerly known
as CCEM**

**Green Municipal
Fund – Federal**

**Alberta Innovates
– BioSolutions**

Current list of Grants and Funding for bioenergy, energy savings and reduction

Agricultural Sector under Growing Forward 2 Programs

Accelerating Agricultural Innovation Program – up to \$75,000

On-Farm Energy Management – up to \$ 750,000

On-Farm Solar Photovoltaics – On-Farm Energy Management Sub-Program – up to \$50,000

Alberta Coal

- In 2014, Alberta's electricity sector accounted for **16%** of Alberta's total greenhouse gas (GHG) emissions
- Royalties from coal in 2014 are **\$ 15,5 million or 0.55 cent** per tonne
- **12 of Alberta's 18** coal-fired generating units are already slated to retire by 2030
- The province will pay Capital Power Corp., TransAlta Corp. and ATCO Ltd. a total of **\$97 million per year OR \$ 1.1 Billion dollars in 2016**, until 2030, to shut down six of their 18 power plants early.

What will replace coal –Letter to Premier from Mr. Tarry Boston

- Natural Gas, Wind – south and east Alberta
- Solar – all over Alberta
- Hydro – North Alberta
- **No mention of biomass** (wood or agriculture)
- “I do not believe the lack of transmission will present major obstacles on the critical path toward decarbonizing the Alberta electric system”.
- According to AESO in May 2016 –there **are 937 MW** under construction mostly natural gas
- AESO –project that have been announced, Applied for AESO connection or Applied for regulatory approval in total 5,697 MW from that **3602 MW is wind**, **Hydro 330 MW**, **279 MW Solar**, **1486 Natural Gas**

What are options for biomass

- **HEAT** – there is over 60 % of Alberta Energy goes to heat
- **Biogas**
- **Biofuel**
- **Power** – cofiring with coal or separate power plant
- **Combine Heat and Power (CHP) plant**
- **Pellets-** export or internal use
- **Biomaterials** replacing carbon based materials

What are key components for success in biomass

- **Ownership of resources**
- **Fibre supply chain issues**
- **Clear policies and role of Government**
- **Long term capital investment – risk aversion**
- **Focus on local rural project to get their energy and economic needs**
- **Transportation issues**
- **Technology adaptation**
- **Tie to rural employment and economic drivers**
- **Human resources issues**

Thank you !!

“Man's mind, once stretched by a new idea, never regains its original dimensions.”

- Oliver Wendell Holmes

Contact and more information

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