

Electricity and the Carbon Competitiveness Incentive Regulation

Climate Leadership Plan Pillars

- Phasing out emissions from coal-generated electricity and developing more renewable energy
 - Coal power emissions phase out by 2030
 - 30% of Alberta's generation from renewable sources by 2030
- Implementing economy-wide carbon pricing on greenhouse gas emissions
 - Carbon levy on transportation and heating fuels
 - Industry regulatory system - new emissions benchmarks for industrial emitters
 - New approach covers 78-90% of Alberta's emissions
- Capping oil sands emission annual limit at 100 Mt CO₂e
- Reducing methane emissions from oil and gas by 45% by 2025

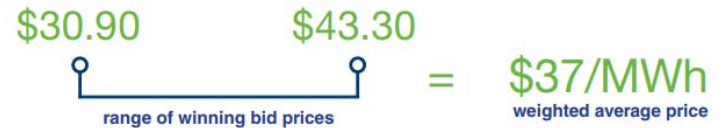
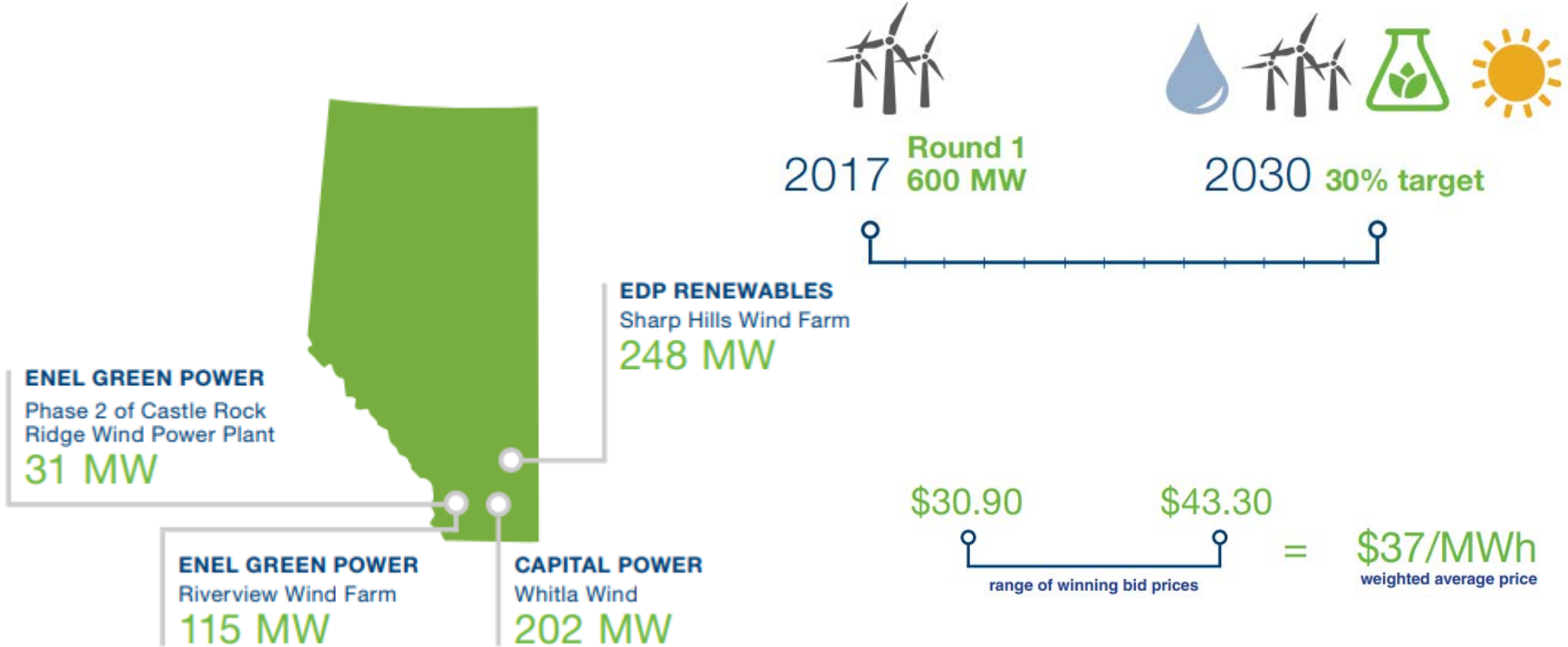
Coal Emissions Phase-Out

- The Climate Leadership Plan will improve air quality by ending coal power emissions and transitioning to cleaner sources of electricity. Under the plan, all pollution from coal-fired electricity will be phased out by 2030.
- Government of Alberta has elected to provide transition payments to the companies which were originally slated to operate their coal-fired units beyond 2030

Renewable Electricity Program

- Alberta will add 5,000 megawatts of renewable energy capacity by 2030 through the Renewable Electricity Program.
- The program is administered by the Alberta Electric System Operator (AESO).
- Through the REP, the province will solicit enough investment in Alberta's electricity system to meet the 2030 target, while ensuring projects come online in a way that does not impact grid reliability and is cost-effective.
- From REP Round 1, seeing significant interest from investors with potential projects.

Renewable Electricity Program






Set new bar for competitive renewable pricing in Canada



Local and international developers eager to invest in Alberta



12 bidders representing 26 projects and 3,600 MW of capacity



No new transmission costs for Albertans



Aligns with the electricity market transition

Moving Forward - Renewable Electricity Programs and Projects

Alberta Municipal Solar Program and On-Farm Solar Management

- \$5.0 million in combined support for municipal & farm buildings

Alberta Indigenous Climate Leadership Initiative

- \$35 million for First Nations and Metis Settlements for renewable energy projects, energy efficiency audits and retrofits, & training/development

Alberta Government Solar Farm Procurement

- Alberta government to support the province's first solar farm by replacing two of three contracts that currently provide 100 per cent green power to more than 1,500 government-owned buildings and sites.
- Total consumption for the two contracts - 135,000 MWh/year

Climate Leadership Plan – Highlights of Funded Programs

- Electricity Transition:
 - Renewable Electricity Program (REP)
 - Residential and Commercial Solar Program (EEA)
 - Coal Workforce Transition Program
- Energy Efficiency:
 - Energy Efficiency Alberta Programming - \$566 million
 - Industrial Energy Efficiency Programming - \$240 million
- Innovation and Technology:
 - Oil Sands Innovation Funding - \$440 million
 - Research and Technology Commercialization - \$225 million
 - Loan Guarantees - \$400 million
 - Bioenergy Producer Program - \$63 million

Carbon Pricing

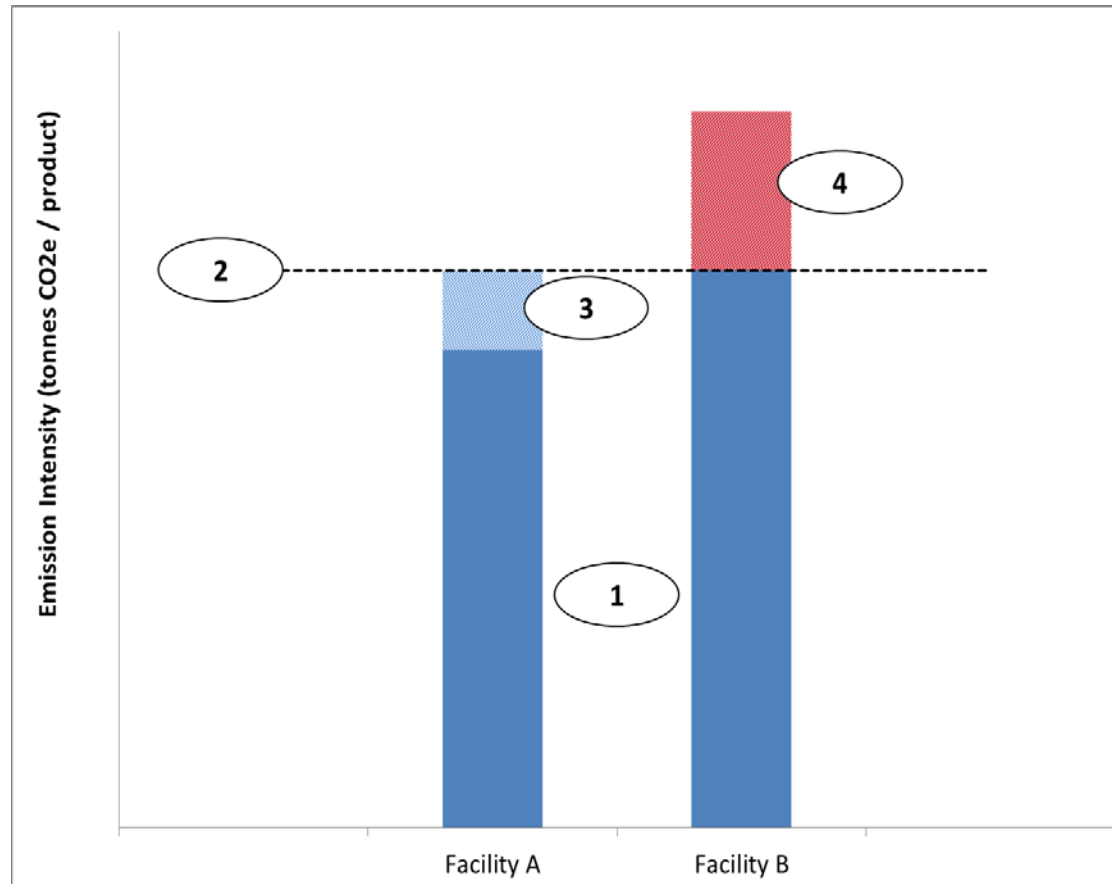
- Alberta aligns with the current highest carbon price in Canada, \$30/tonne & emissions coverage & stringency is as good or better than other Canadian provinces.
 - Alberta's carbon price will rise to \$50/tonne in 2022 in line with the Pan Canadian Framework, contingent on market access
- Carbon Levy - heating & transport fuels
 - Revenue collected is rebated to Albertans & reinvested in the economy
- Carbon Competitiveness Incentive Regulation (CCIR)
 - Built on Specified Gas Emitters Regulation (2007)
 - Drive emissions reductions while protecting trade exposed industries
 - Incl. emissions-intensive & trade exposed industries: cement, petrochemicals, refineries, oil sands, electricity, mining, etc.
 - Established offset system – provides low cost compliance option while achieving immediate reductions and economic diversification

Carbon Competitiveness Incentive Regulation (CCIR)

- January 1, 2018 – Output based allocation approach replaced the Specified Gas Emitters Regulation
- OBAs change the approach to how we regulate, shifting from a historical baseline approach, to a performance benchmarking system.
- Strategic Intent:
 - effectively drives to best-in-class performance.
 - improves transparency of performance and benchmarking across facilities and jurisdictions.
 - recognizes competitiveness pressures on Alberta's industry.
- Maintains Alberta's competitiveness with other jurisdictions, incentivizing new investment into efficiencies and new technology by rewarding those with low carbon intensities.

Output-based Allocation Definition – What is an OBA?

1. Product emissions intensity (solid blue).
2. OBA is set at clean as best gas (0.37 t/MWh 1% tightening 2020 onward).
3. Emissions below OBA generate credits.
4. Emissions above OBA have a compliance obligation – payment or submission of offsets or emission performance credits.



CCIR – Regulated Entities

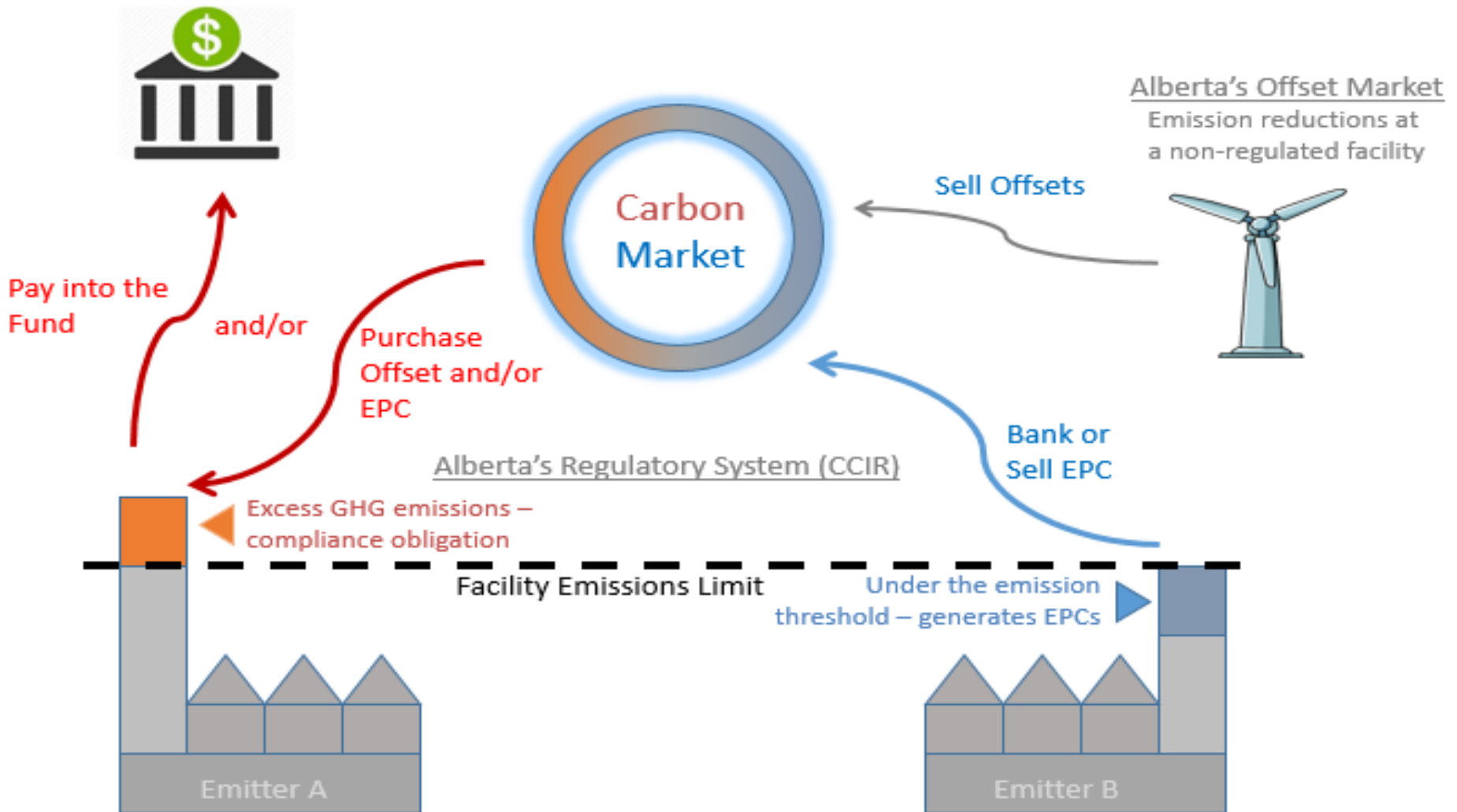
- **Total Regulated Emissions > 100,000 tonnes**
 - in any year 2003 or later
- **Opted-in facilities**
 - **Facilities may apply to opt-in as competing directly with CCIR regulated facilities**
 - **Includes renewables**
 - 5 MW capacity or greater
 - Not participating in renewable support agreement
 - Not already deriving economic benefit from a program aimed at renewables
 - **Opted-in renewables have to register and retire RECs against their claimed generation under CCIR.**

CCIR – Timing for New Facilities and Quarterly Reporting

- **Subject to the regulation year three of commercial operation and beyond**
- **May request to be subject early (designated as being in year 3)**
- **Some discretion related to significantly expanded or modified facilities**

- **Sites emitting over 1 million tonnes required to forecast annually as well as submit compliance every quarter.**

Alberta's Carbon Market



Alberta's Carbon Market – Emission Offsets

- Compliance flexibility mechanism for CCIR regulation facilities
- Represent real and immediate GHG reductions in Alberta.
 - GHG reductions that count toward reporting of Alberta and Canada's GHG reductions
- Cost-effective compliance for facilities unable to achieve on-site reductions.
 - Regulated facilities in Alberta are investing in Alberta-based emission offset projects.
- Economic diversification in Alberta
 - Emission offsets drive private investment directly to Alberta-based projects in sectors/activities that are not covered by carbon pricing.
- Available protocols for renewable power (wind, solar, run of river, biomass)

CCIR – Credit Usage

- **New Credit – 2017 vintage or newer**

| Credit Limit | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------|------|------|------|------|------|
| New or old | 40% | 40% | 40% | 40% | 60% |
| New | 10% | 15% | 20% | 20% | |

- **Expiry of credit**

- **2014 and older expire after 2020 compliance**
- **2015 expire after 2021**
- **2016 expire after 2021**
- **New credit expires after 8 years**

Alberta 

Thank you

John Storey-Bishoff
Director, Climate Change Compliance
Phone: (780) 644-7119
Email: john.storey-bishoff@gov.ab.ca