

# Green Building Offsets in Alberta

## Challenges and Opportunities

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Capital Power 

# Capital Power

Capital Power (CPX:TSX) is a growth-oriented North American power producer headquartered in Edmonton, Alberta. The company develops, acquires, operates and optimizes power generation from a variety of energy sources. Capital Power owns more than **3,300 megawatts** of power generation capacity at **16 facilities** across North America.

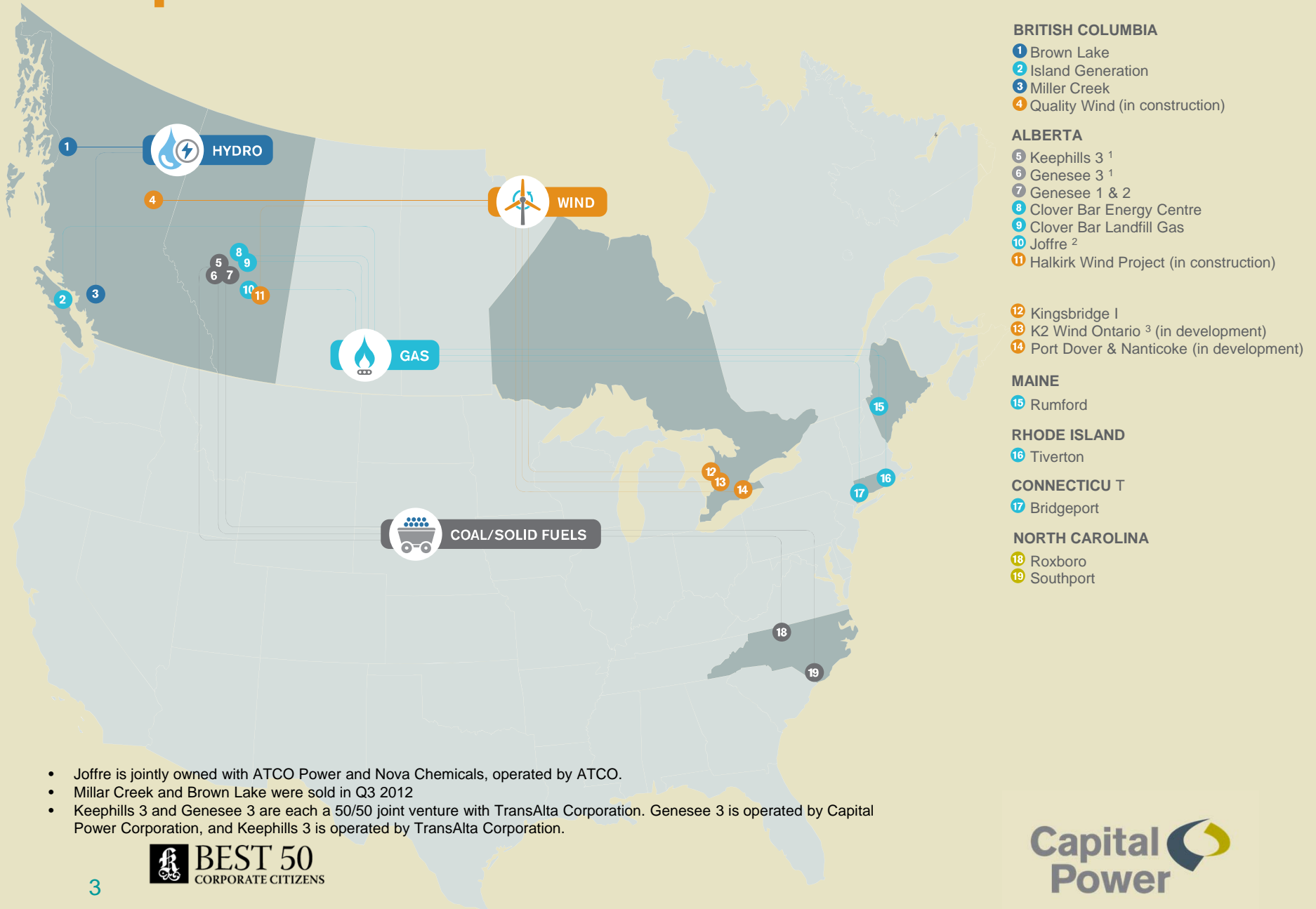


An additional 487 megawatts of owned wind generation capacity is under construction or in advanced development in British Columbia, Alberta, and Ontario.

More than \$100 million invested in over 15 million tonnes of verified offsets across Canada. Capital Power is an active player in both the Alberta and the California offset markets.

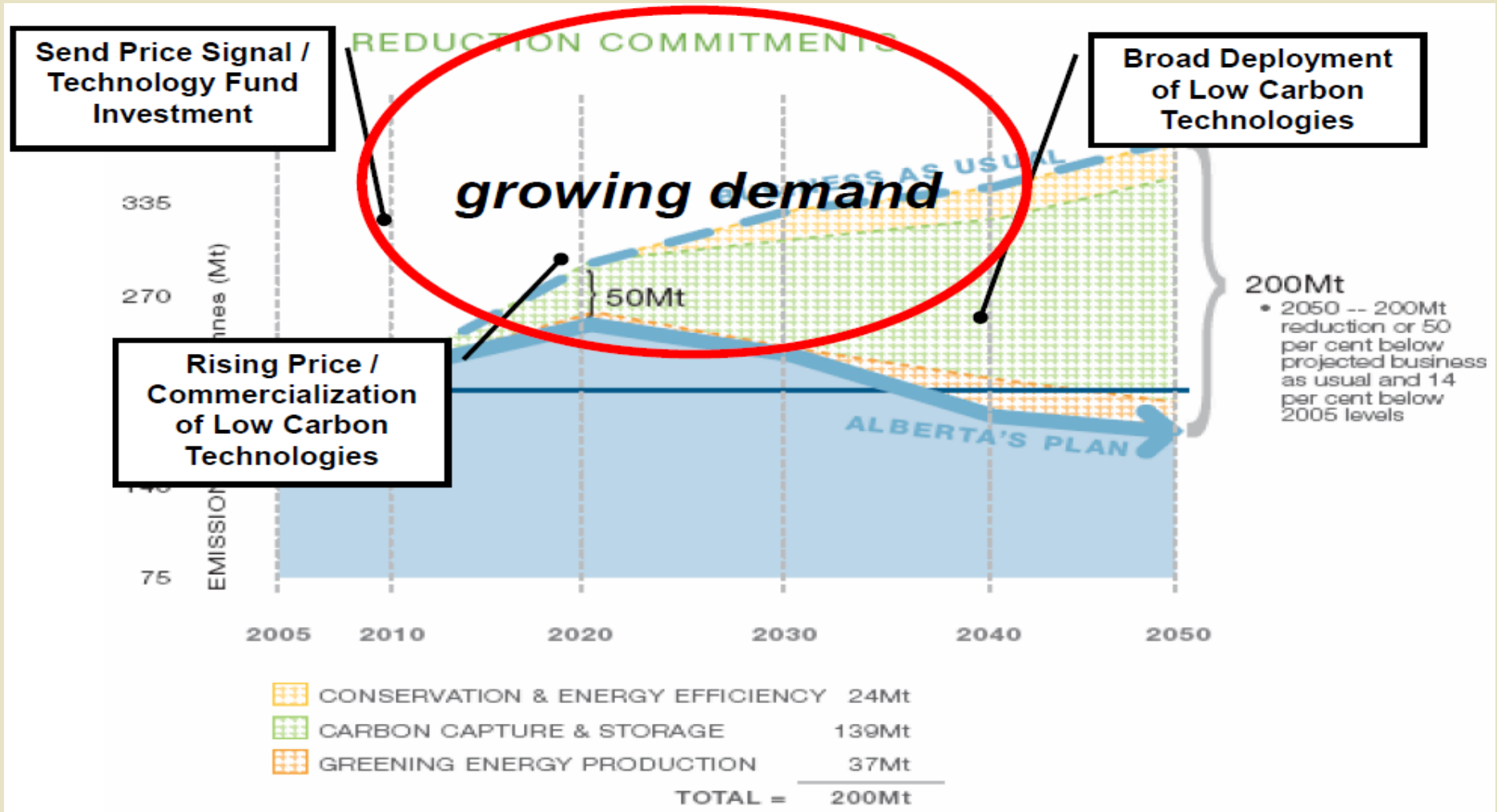
Significant portfolio of GHG offsets developed or under contract from sources such as landfill gas, low tillage, forestry, N<sub>2</sub>O abatement, composting, biofuel and acid gas injection.

# Capital Power Generation Portfolio



- Joffre is jointly owned with ATCO Power and Nova Chemicals, operated by ATCO.
- Millar Creek and Brown Lake were sold in Q3 2012
- Keephills 3 and Genesee 3 are each a 50/50 joint venture with TransAlta Corporation. Genesee 3 is operated by Capital Power Corporation, and Keephills 3 is operated by TransAlta Corporation.

# Alberta's Carbon Policy



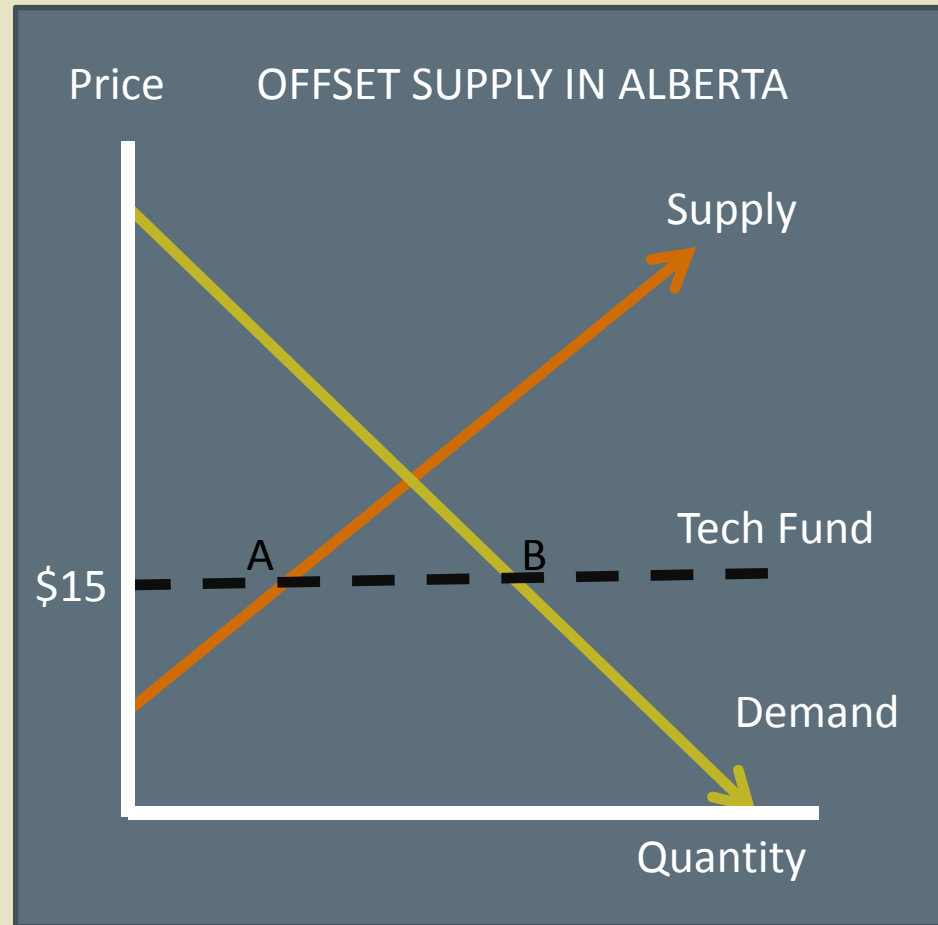
From a presentation made by Bob Savage (Alberta Government) to IETA on October 12, 2012 in Calgary

# Putting a Price on Carbon

As of July 1, 2007, the Specified Gas Emitters Regulation requires Alberta facilities that emit more than **100,000** tonnes of greenhouse gases a year to reduce emissions intensity by **12%**.

Regulated facilities have four options to meet their regulatory compliance targets:

- I. Make **internal improvements** to their operations reducing emissions;
- II. Purchase Alberta-based **offset credits**;
- III. Contribute to the **Climate Change and Emissions Management Fund** (**@\$15/tonne**);
- IV. Purchase or use **Emission Performance Credits**.

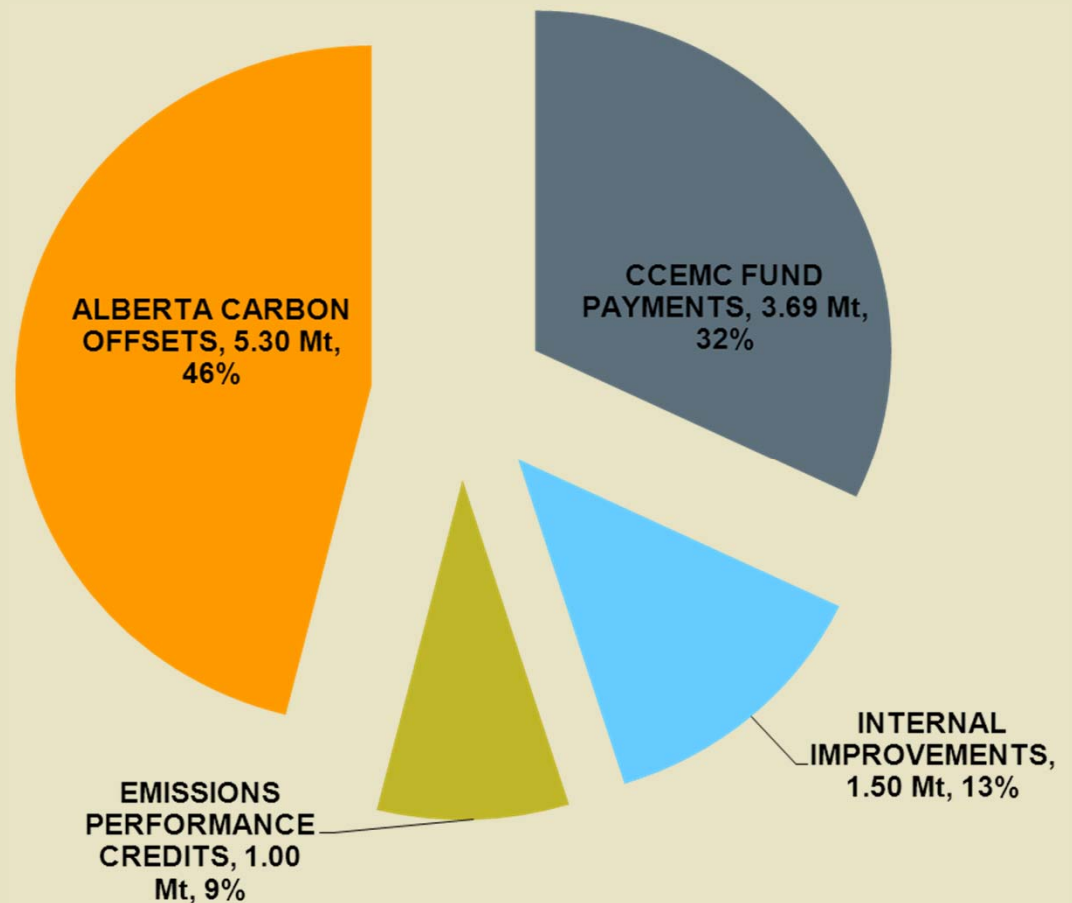


# Offsets are a COMPLIANCE instrument!

## Offset eligibility criteria include:

- ✓ Occur in Alberta;
- ✓ Actions not otherwise req'd by law and beyond BAU;
- ✓ On or after January 1, 2002;
- ✓ Be real, demonstrable, and verifiable;
- ✓ Clearly established ownership;
- ✓ Be counted once;
- ✓ Gov't approved protocol;
- ✓ Third-party verified;
- ✓ Registered on the AB registry.

## 2011 Compliance Year Results



# Key areas for improvement

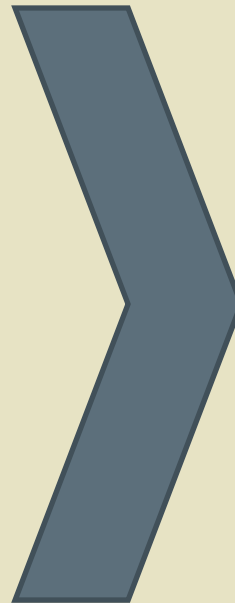
## Lessons learned after the 5<sup>th</sup> compliance cycle

PROTOCOLS

METHODOLOGIES

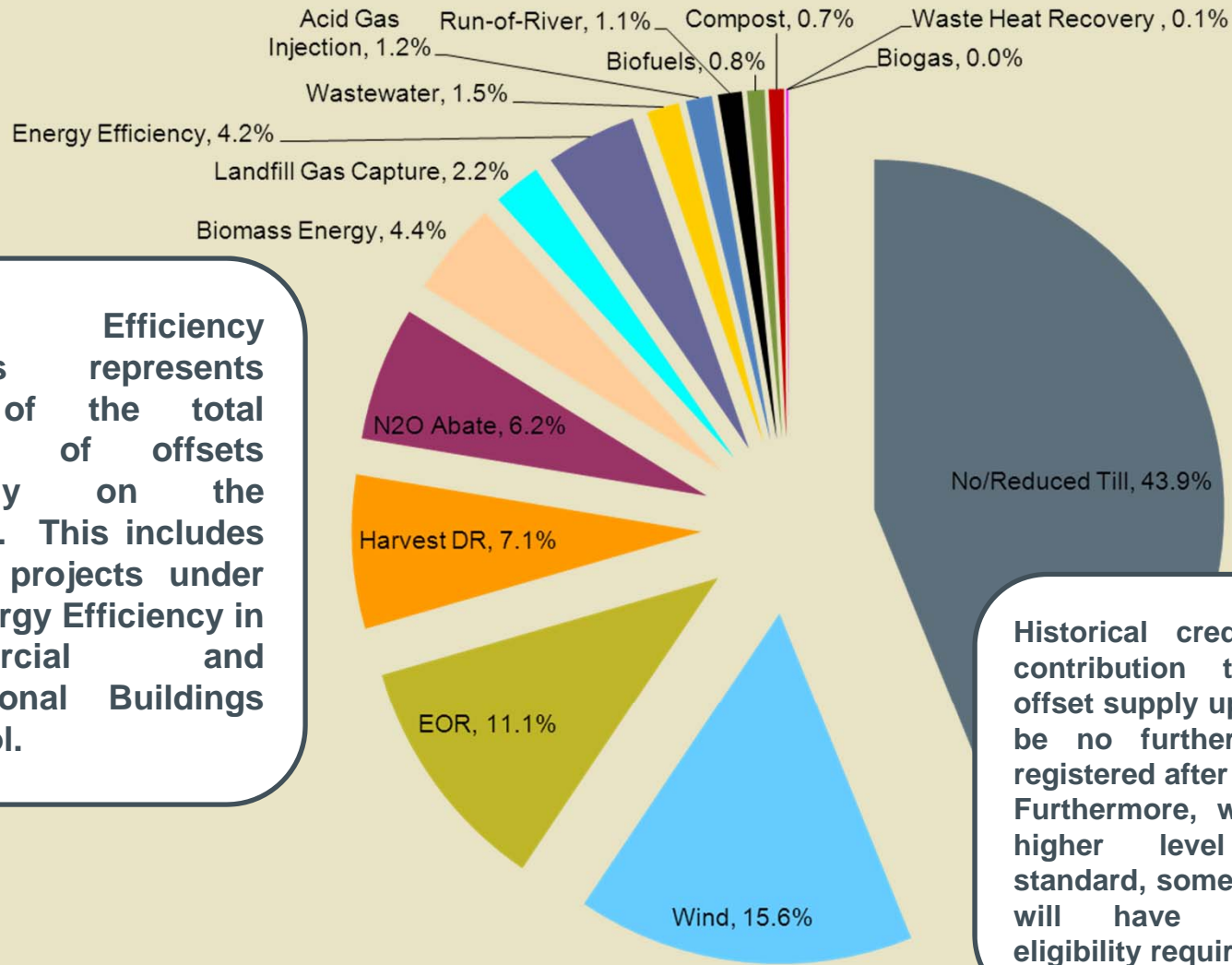
ASSURANCE

- ✓ Scientifically defensible
- ✓ Real reductions
- ✓ Evidence and documentation
- ✓ Rigorous verification
- ✓ No material errors
- ✓ Continuous improvement
- ✓ Beyond BAU



Protocols are becoming **more prescriptive** in terms of the **evidence** and types of records required for project developers to collect and provide when audited.

# The market is changing...



Energy projects represents 4.2% of the total number of offsets currently on the registry. This includes 4 new projects under the Energy Efficiency in Commercial and Institutional Buildings Protocol.

Historical credits were a major contribution to the agriculture offset supply up to 2012. There will be no further historical credits registered after September 30, 2012. Furthermore, with the move to a higher level of verification standard, some agriculture projects will have difficulty meeting eligibility requirements.



# Approved Protocols: Challenges and Opportunities for Green Building

## I. Energy Efficiency in Buildings

Existing projects are estimated to generate almost 2 million tonnes over project lifetimes.

## II. Green Building

Draft protocol was not approved.

# Energy Efficiency in Buildings

Heating

Elevators

Ventilating

Air Conditioning

Outdoor Lighting

Lighting Systems

Building Envelope

Tap Water Heating

Swimming Pool Pumping or Heating

Occupant Small Electrical Equipment

The Project Developer's  
Bucket List:

- ✓ Relevant
- ✓ Complete
- ✓ Consistent
- ✓ Accurate
- ✓ Transparent
- ✓ Conservative

# Additional protocols of interest to ABDC

Aerobic Composting\*

Waste Heat Recovery

Aerobic Landfill Bioreactor\*

Biomass Combustion\*

Biofuel Production and Usage\*

Anaerobic Decomposition of  
Agricultural Materials

# Offset Credit Process



- Initial project concept/feasibility assessment
- Project due diligence
- Protocol scoping or new protocol development



- Risk analysis
- Technical advisory
- Project design document development
- Project validation
- Project registration



- GHG assertion
- Project monitoring reports
- Project due diligence
- Auditing



- Credit issuance
- Credit transfer or submission for compliance

← Capable of engaging across to the project development spectrum →

# Q&A

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