

The background of the slide is a photograph of a rural landscape. It shows a golden-brown field with several large hay bales in the foreground. In the distance, there are rolling green hills and a small village with red-roofed houses under a bright blue sky filled with large, white, fluffy clouds.

CHANGING CLIMATE CHANGING BUSINESS

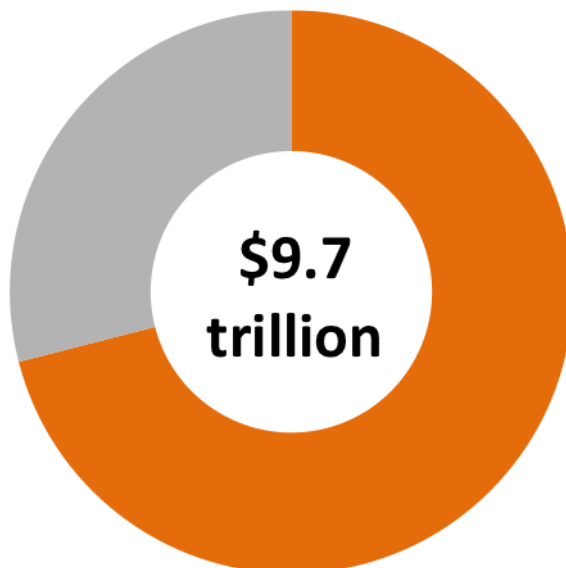
AWRI – Opportunities in a new climate

June 2014

CHANGING BUSINESS

“The massive erosion of wholesale prices caused by the growth of German photovoltaics constitutes a serious problem for RWE which may even **threaten the company’s survival**” RWE Strategic Roadmap, October 2013

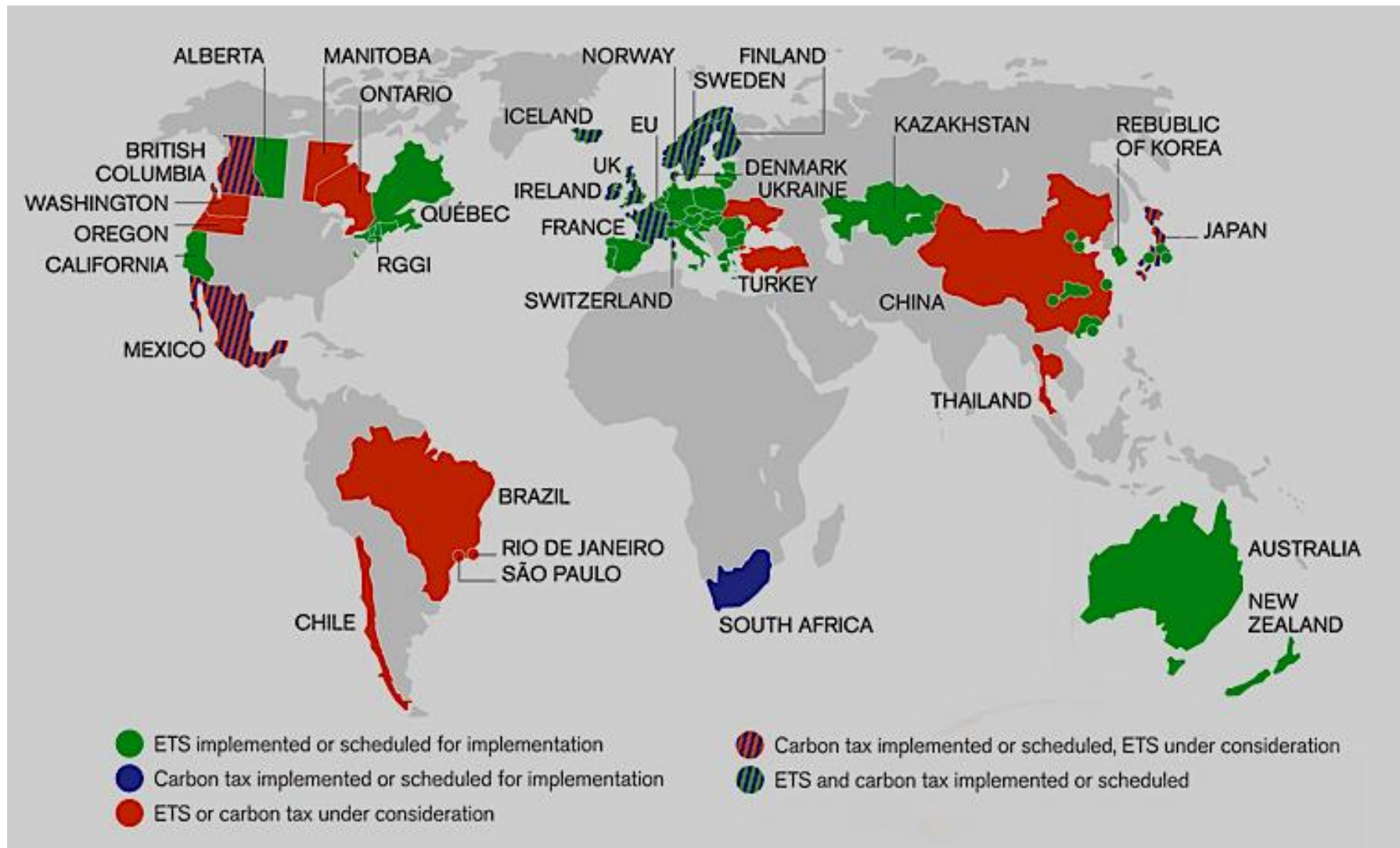
“Of the \$9.7 trillion of global investment in Power Generation, **71% will be in renewables or clean technologies.**” Citi Research, October 2013



Power sector investment to 2030

	Billions	%
Coal	1608	17
Gas	1040	11
Oil	74	1
Nuclear	942	10
Bioenergy	650	7
Hydro	1549	16
Wind	2129	21
Solar PV	1259	13

GLOBAL CARBON MARKETS



- 39 National + 23 sub-national jurisdictions have introduced cap & trade and/or carbon taxes
 - Cover 25% of global emissions, carbon markets valued at US\$30 billion
- Source: World Bank 2014

CFI & CARBON PRICING POLICY

Emission Sources

Stationary energy, industrial processes, fugitive coal & new landfill.
65% of National Emissions

Land-use & agriculture.
23% of National Emissions

Policy to Cut Emissions

Carbon Pricing Mechanism
~350 liable entities (180 companies)

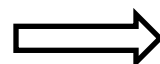
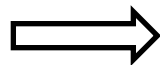
Carbon Farming Initiative

**CLEAN
ENERGY
FINANCE
CORPORATION**

**CLIMATE
CHANGE
AUTHORITY**

**CLIMATE
COMMISSION**

**CLEAN
ENERGY
REGULATOR**



DIRECT ACTION PLAN

Emission Sources

Stationary energy, industrial processes, fugitive coal & new landfill.
65% of National Emissions

Land-use & agriculture.
23% of National Emissions

Policy to Cut Emissions

Emission Reduction Fund
\$2.55 billion 2014/15-2017/18
Reverse auction
~421MtCO₂e by 2020

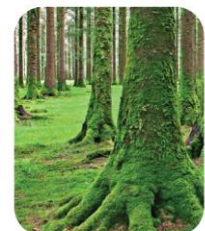
Economy-wide emission reduction projects

CLIMATE COUNCIL

CLEAN ENERGY FINANCE CORPORATION

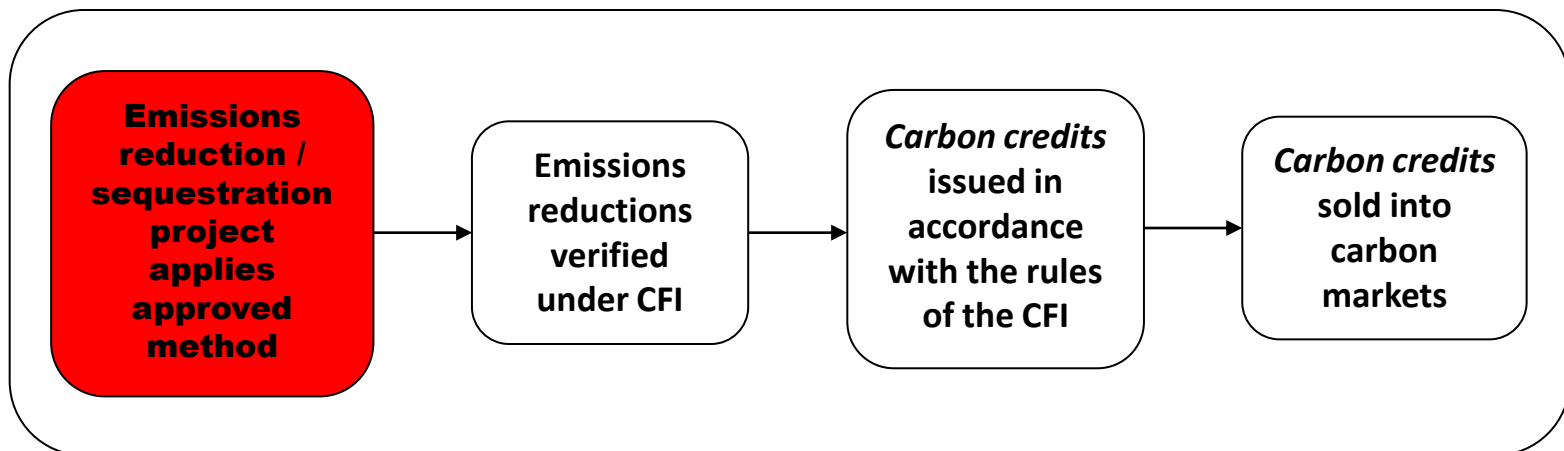
CLIMATE CHANGE AUTHORITY

CLEAN ENERGY REGULATOR



ABOUT THE CFI

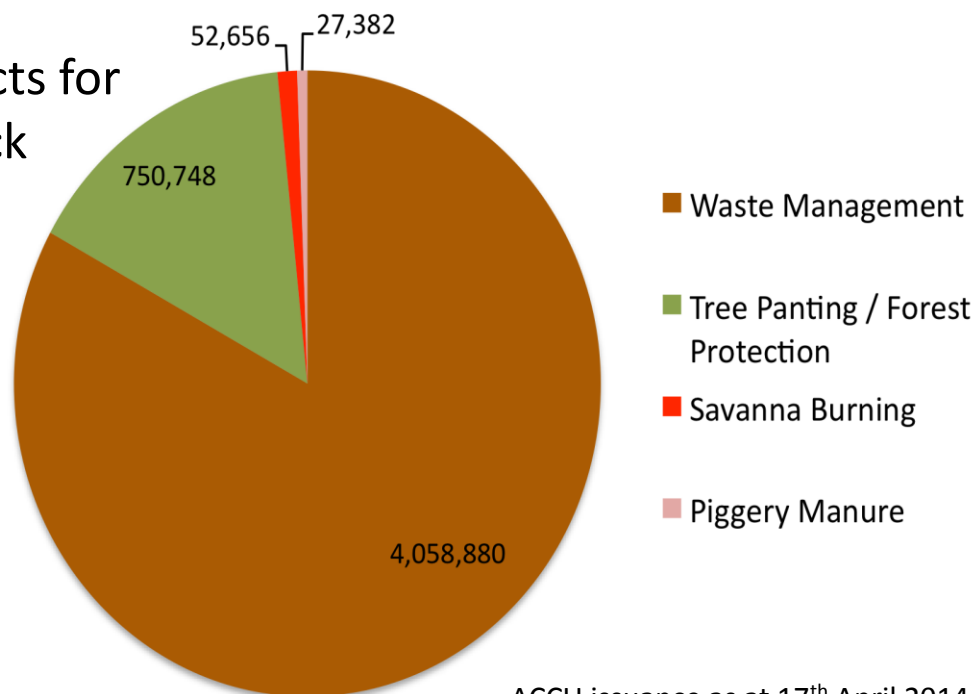
- The CFI aims to provide financial incentives for landholders and landfill operators to develop projects that will reduce greenhouse gas emissions.
- CFI projects issued with carbon credits called Australian carbon credit units (ACCUs).
- 1 ACCU = 1 tCO₂e reduced or sequestered



CFI & AGRICULTURE

• Projects

- 7 approved projects out of 122 relate to agriculture
- All are piggeries manure methane flaring
- No approved projects for cropping or livestock operations



ACCU issuance as at 17th April 2014

WHAT WILL CHANGE UNDER ERF?

- CFI will be folded into the ERF creating one programme.
- All existing CFI projects and methodologies will be recognized under the ERF legislation.
- Extends coverage of the CFI to allow crediting of emissions reductions across the economy.
- Reverse auctions to purchase emissions reductions by Clean Energy Regulator.
- Crediting improvements in emissions intensity.



WINE INDUSTRY OPTIONS

- Energy efficiency

- Refrigeration + air conditioning
- Water heating + heat recovery
- Air compressor performance

- Wastewater treatment + other renewables

- Fertiliser management

- Value-add products – grape marc methane inhibition in livestock

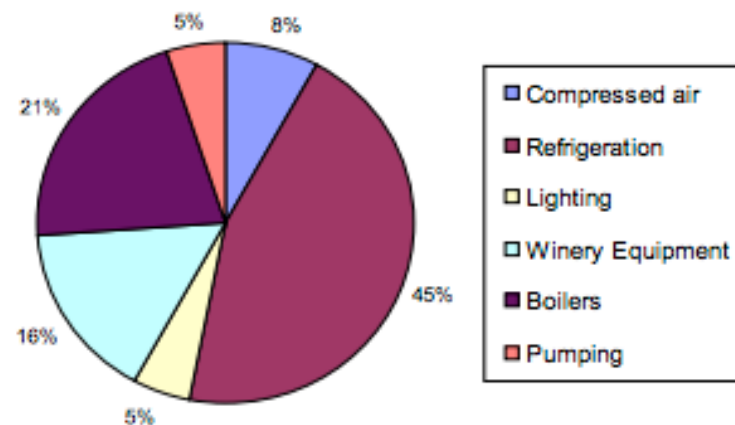


Figure 1: Winery energy use by process area

Source: AWRI Energy Audit fact sheet

CHALLENGES & OPPORTUNITIES

- Current challenges
 - Lack of available/applicable methodologies
 - Aggregation to overcome transaction costs
 - Price signal isn't clear (yet)
- Opportunity
 - Emissions sources often represent lost energy or waste
 - So, cutting emissions = productivity improvement
 - Major R&D + E&O effort into emissions reducing techniques
 - Increased productivity + carbon credits = improved profitability



Thank you

Philip Cohn

Director, RAMP Carbon

0410 411 161

phil@rampcarbon.com

www.rampcarbon.com

