0,.-0

4

Underground Carbon Storage

Science: Store captured CO_2 underground. Carbon is injected into porous rock under oil fields.

Logistics: investment here is into refinements of high-pressure oxy-firing technology, as well as improving existing sequestering infrastructure. Alberta's government subsidized the oil industry there to sequester/store carbon in sedimentary rock.

Investment at Level 2.0 places cards 2.1/2.2/2.3 into the player's hand (after time cost).

Effect: 1.5% reduction in GHG emissions/Round.

/

"13.*...8
"/3.*...

AP 1

R 0

0,1-0

5

Carbon Utilization: Fuels and Chemicals

Science: converting waste CO_2 into industrial products like alcohols, polymers and plastics, and fuel.

Logistics: A partnership with companies or investors to incorporate up cycled carbon into their products and produce on a certain scale. Future investment/ renewal improves this infrastructure.

Investment can be renewed at an ongoing cost with less AP.

Effect: 1.5% reduction in GHG emissions/Round.

/ "23.*...8 "/0.*... AP 2:1 R 8

0,2-0

8

Carbon Utilization Mineralization

Science: this process creates carbonate cement and mortar, recycling or up-cycling trapped carbon for construction materials.

Logistics: With existing connections to industrial partners in the construction industry, this process will go more smoothly. Future investment/renewal improves this infrastructure.

Investment can be renewed at an ongoing cost with less AP.

Effect: 1.5% reduction in GHG emissions/Round.

/

"23.*...8
"/0.*...

AP 2:1

R 8

0,3-0

9

Carbon Utilization: Bio Products/Algae

Science: Algae bioreactors mix CO_2, wastewater, and sunlight to be further refined into products suitable for consumption like animal feed, supplements, and bio fuel.

Logistics: agricultural partners or proximate industries, pharmaceutical industry connections, as well as fuel subsidiaries or connections as part of oil refinement are all required here and require maintenance. Future investment/renewal improves this infrastructure.

Effect: 1.5% reduction in GHG emissions/Round.

Investment can be renewed at an ongoing cost with less AP.

I

"23.*...8
"/0.*...

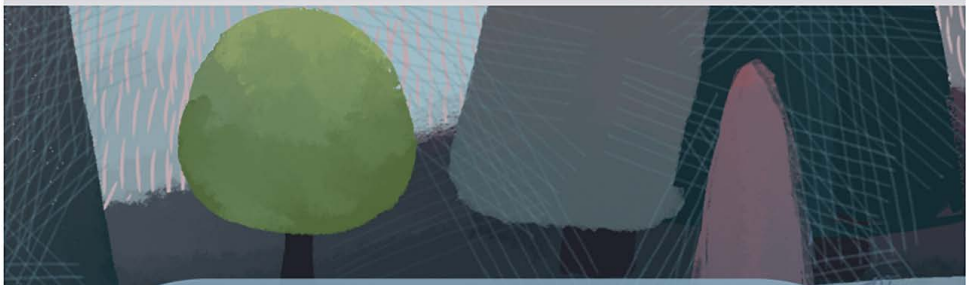
AP 2:1

R 8

1/1

11

Offset: Afforestation



Science: Trees are planted in areas previously not forested. Trees naturally sequester/store carbon.

Logistics: the carbon offset (compensating for other emissions by investing in another carbon reducing area) is counted immediately, but there are repeated risks throughout the life of a forest (like forest fires or land disputes). The government insures the investment.

Effect: 1.5% reduction in GHG emissions/Round. For each forest in play a chance roll must be rolled every round.

Investment can be renewed at a variable cost and the same AP.

0 $100,000 AP 2 R 11

1/1

12

Offset: Soil Carbon Storage

Science: Supporting sustainable farming outfits/practices encourages carbon sequestration in the soil; techniques include no-till farming, crop rotation, and cover cropping.

Logistics: investing in organic farming offsets presents a risk of economic failure (industrial farms are more efficient), as well as variability due to weather and unforeseen circumstances. The government insures the investment.

Effect: 1.5% reduction in GHG emissions/Round. For each farm offset in play a chance roll must be rolled every round.

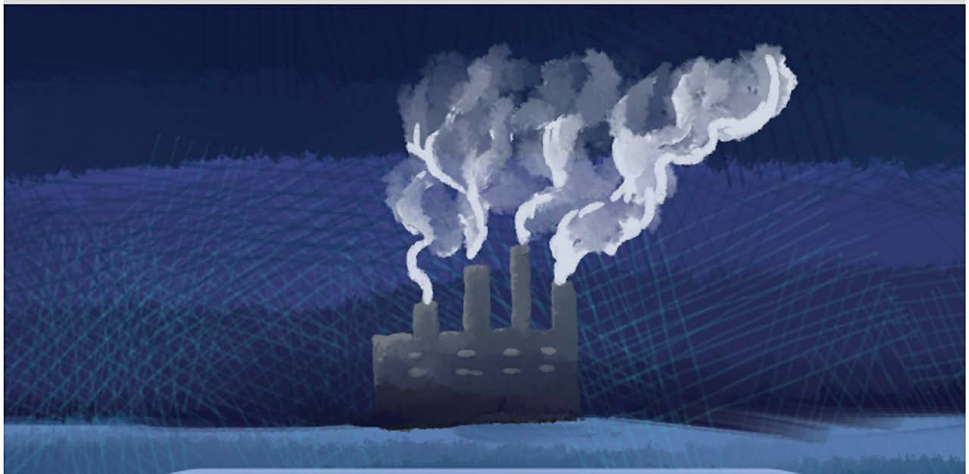
Investment can be renewed at a variable cost and the same AP.

0 $100,000 AP 2 R 10

1/1

19

Increase Production



Grow your business by increasing production. This generates more profit, but increases your emissions.

Logistics: Production increase of 1% = 1% emissions increase/round. Budget increases by 1%/round.

Effect: +1(%) emissions/round. +1(%) budget per round. For every extra percentage raised in a single play the risk goes up by 2.

2(%) $350,000: AP 2(%) R 12

1/1

20

Decrease Production

Reduce emissions by decreasing production. This also reduces your profit, potentially damaging stakeholder confidence.

Logistics: Production decrease of 1% = 1% emissions decrease/round. Budget decreases by 1%/round.

Effect: -1(%) emissions/round. -1(%) budget per round. For every additional percentage point raised per play, raise risk by 2.

Lorem Ipsum

2(%)

$350,000 (%)

AP 2(%)

R 12

1/1

21

Move Production

Move production to another facility outside of the Province. This means that your emissions are outside market boundaries.

Logistics: Production move of 1% = 1% emissions decrease/round.

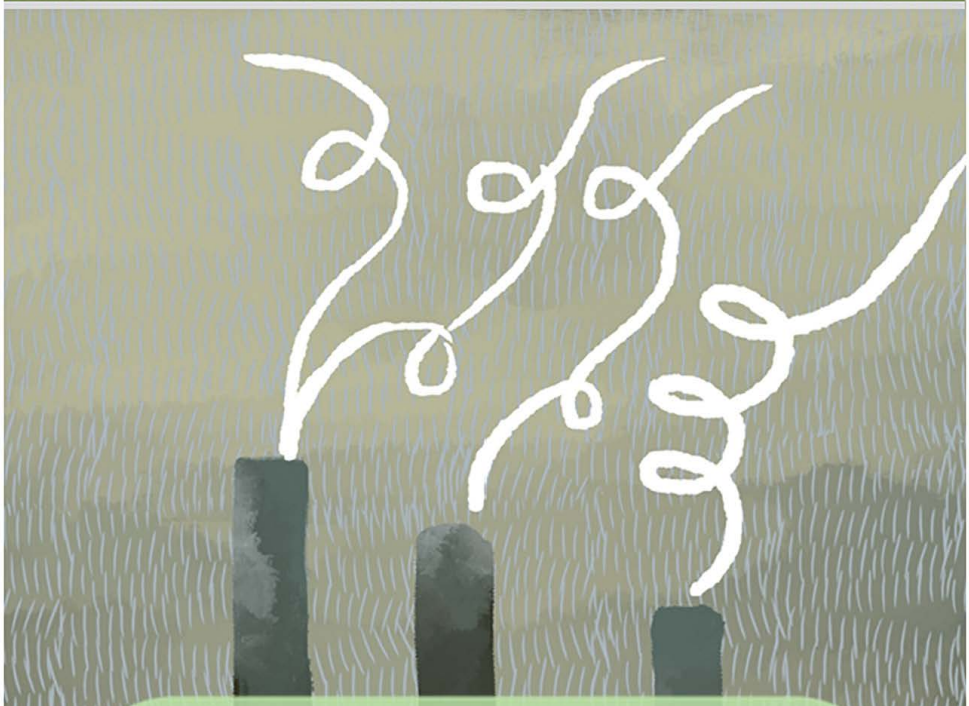
Effect: –1(%) emissions/round. Risk goes up by 3 for every additional percentage moved.

2(%) $100,000 AP 1(% R 7

1/1

22

Buy Emission Credits



Purchase emissions credits from the market to reduce your emissions/round.

Logistics: Price of carbon ($) multiplied by # of tonnes in credit = price of credit.

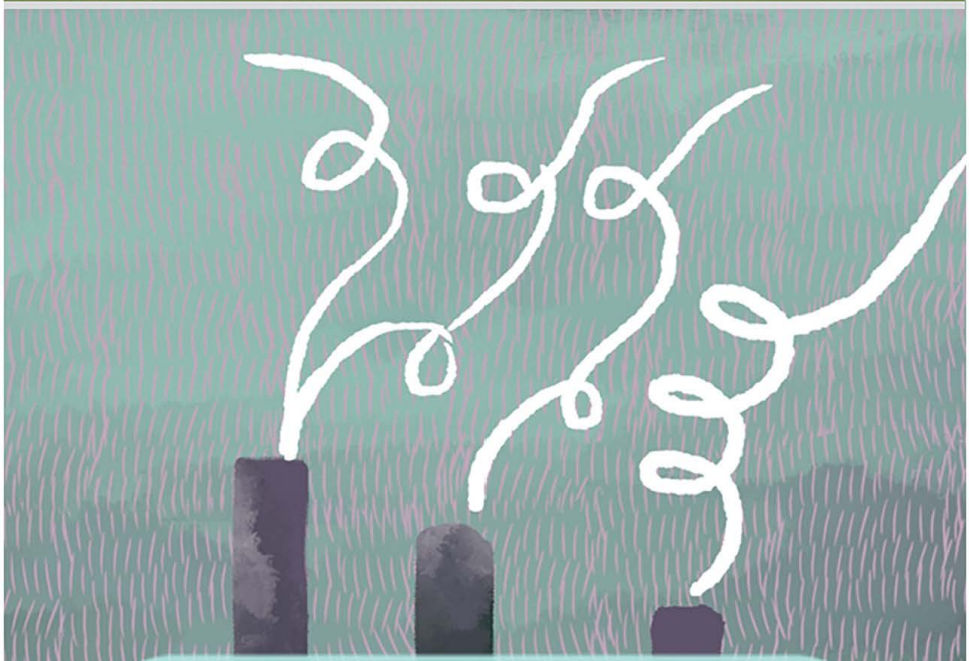
Effect: reduce GHG emissions/round by the credit's amount.

1 (#) -CB (# o tonnes) AP 1 R 0

1/1

23

Sell Emission Credits



Sell emission credits to the market. You receive cash, but this will increase your emission reduction target.

Logistics: Price of carbon at time of sale ($) determines sale price ($ X #of tonnes sold).

Effect: Add the # of tonnes sold to your emissions/round.

1(#)

+CB (# of tonnes)

AP 1

R 0