MCGILL ST LAURENT

Rutherford Consulting
University of Alberta

INTRODUCTIONS

- Morgan
- Mackenzie
- Nupur
- Abby

OBJECTIVES

Benefit from disruption

Analyze effectiveness of current businesses

Efficiently deploy capital

RECOMMENDATION

Get into the power generation business through funds generated in the wood business.

INDUSTRIES


McGill St Laurent
CWP Energy
Canadian Wood Products
Grain St. Laurent

COMPANY STRENGTHS/VALUES

- ❑ Risk takers
- ❑ Up for a challenge
- ❑ Adventurers
- ❑ Value people – what makes you great!
- ❑ Willing to reinvent yourself
- ❑ Competitive spirit
- ❑ Professionals
- ❑ Creative and entrepreneurial in nature

Considerate of your companies strengths and values in recommendation

SECTOR ANALYSIS

	Energy	Lumber and Wood Products	Grain
Opportunity	• High barriers to entry • Strong talent – best risk mgmt. • High innovation potential • Emerging trends toward renewable	• International expansion (high demand) • Leverage relationships • Utilize strong logistic partnerships • Product flexible • Strong brand	• Less volatile • Demand is growing, optimistic long term • Leverage existing relationships • Canada's advantage
Threats	• Volatile market • Government regulation is complex	• Low barriers to entry • Competing with sawmills • Trends speciality • Easily imitable • Stagnant in terms of innovation	• Highly competitive • Not much diversification • Low barriers to entry

ALBERTA ELECTRICITY AND GAS MARKET

- Coal plant shutdowns in AB by 2030
- 30% of energy to be generated from renewables as per the NDP Climate Leadership plan
- AB looking to change from an Energy Only market to a capacity market to incentivize NG generators to come online

ALBERTA ELECTRICITY AND GAS MARKET

- NG prices cheap in 2017, increasing margins for NG generators
- As of Spring 2018, a number of coal plants in AB are coming offline to complete coal to gas conversion projects (~300-600 MW)
- Anticipated energy prices as a result of these conversions are expected to be twice as much as in 2017, around $40/MW

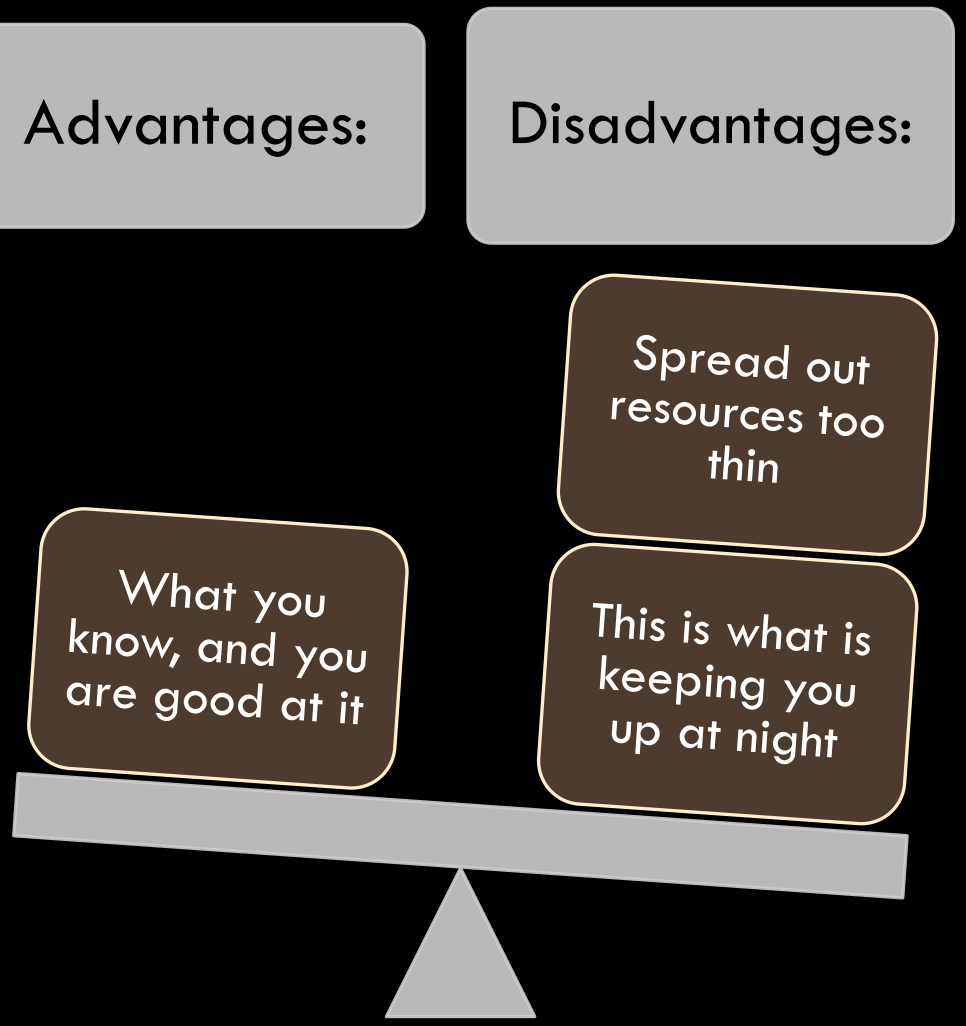
Energy market in Alberta we see as the most rapidly changing market in the next two years =MOST DISRUPTIVE

ALTERNATIVES

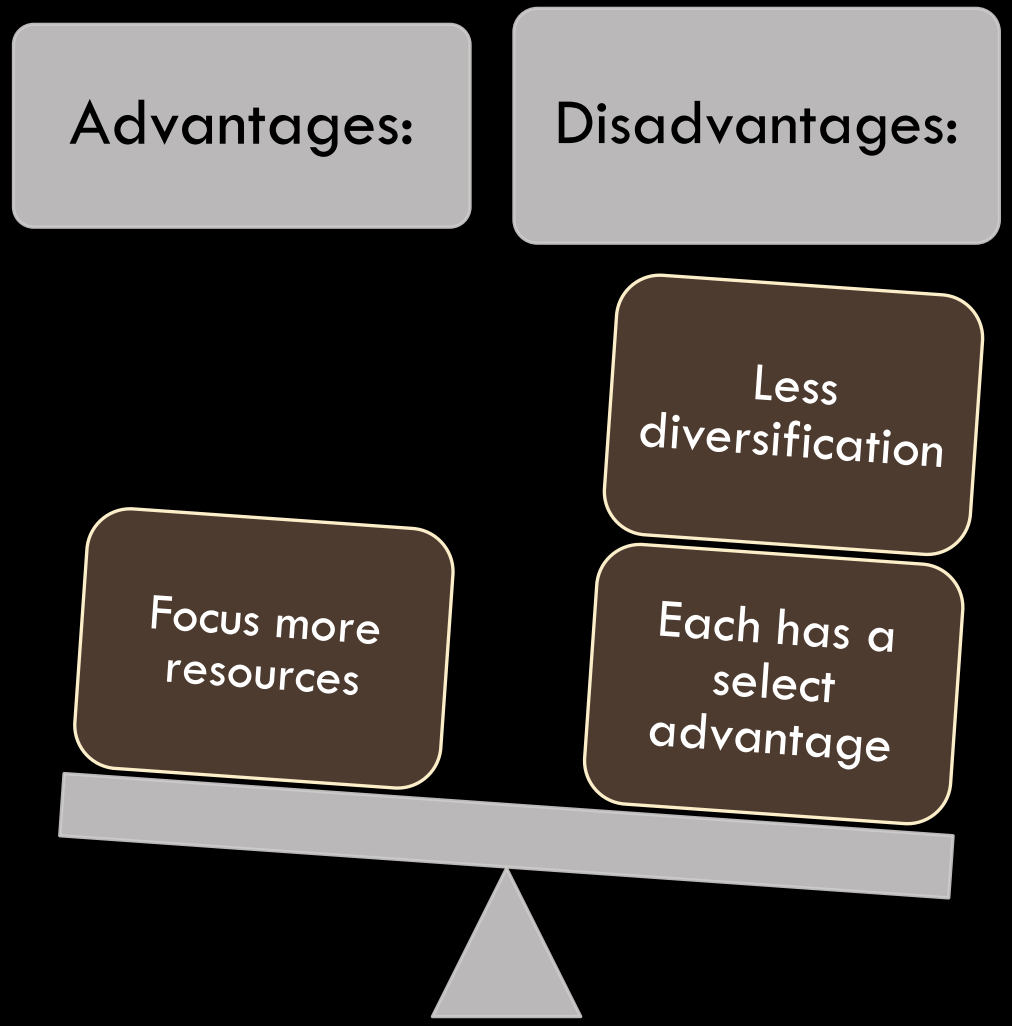
CRITERIA

- Implementation
- Diversification
- Consider future
- Aligns with mission and values
- Risk
- Innovative

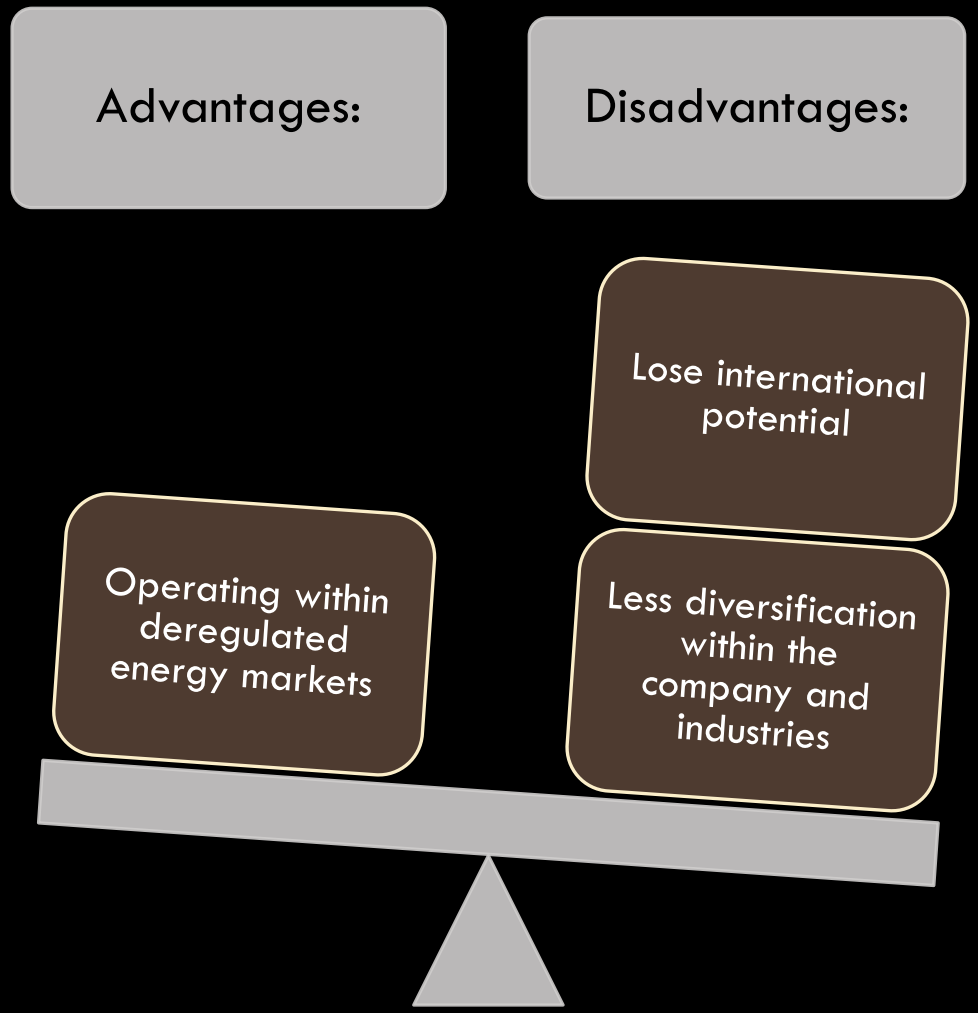
EXPAND INTO NEW COMMODITY



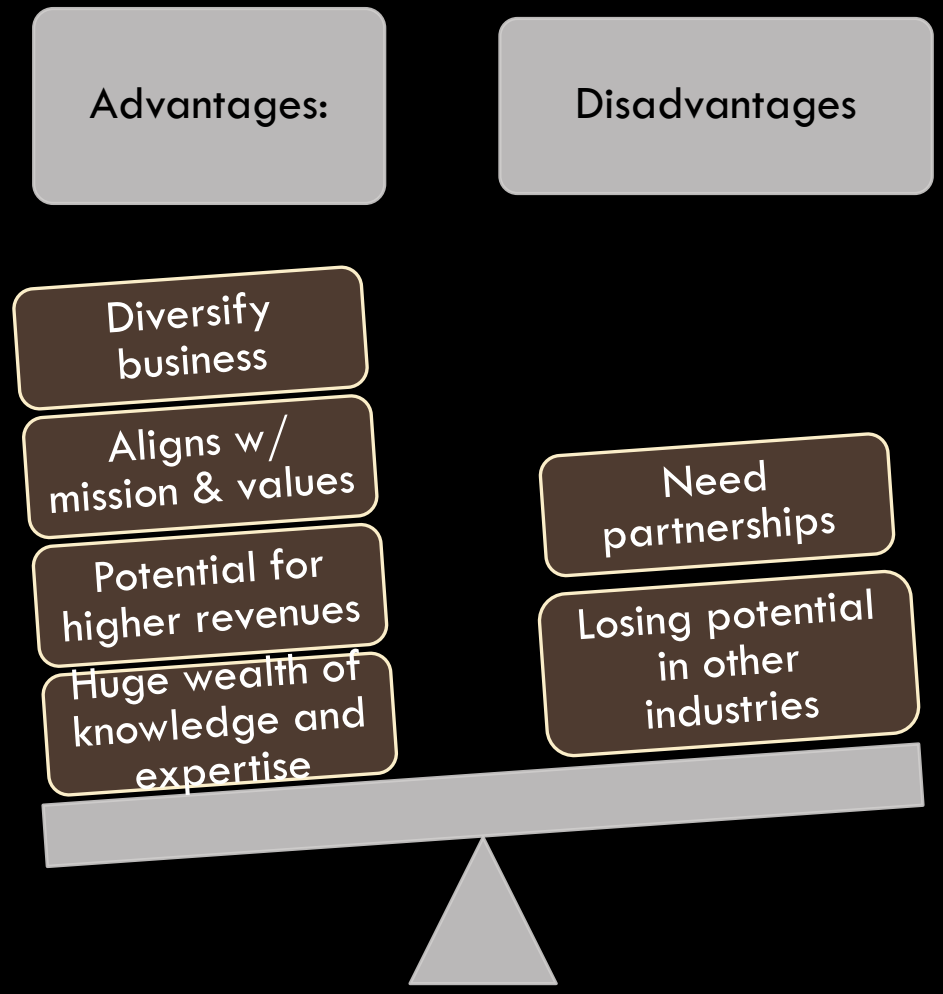
DROP ONE CURRENT INDUSTRY



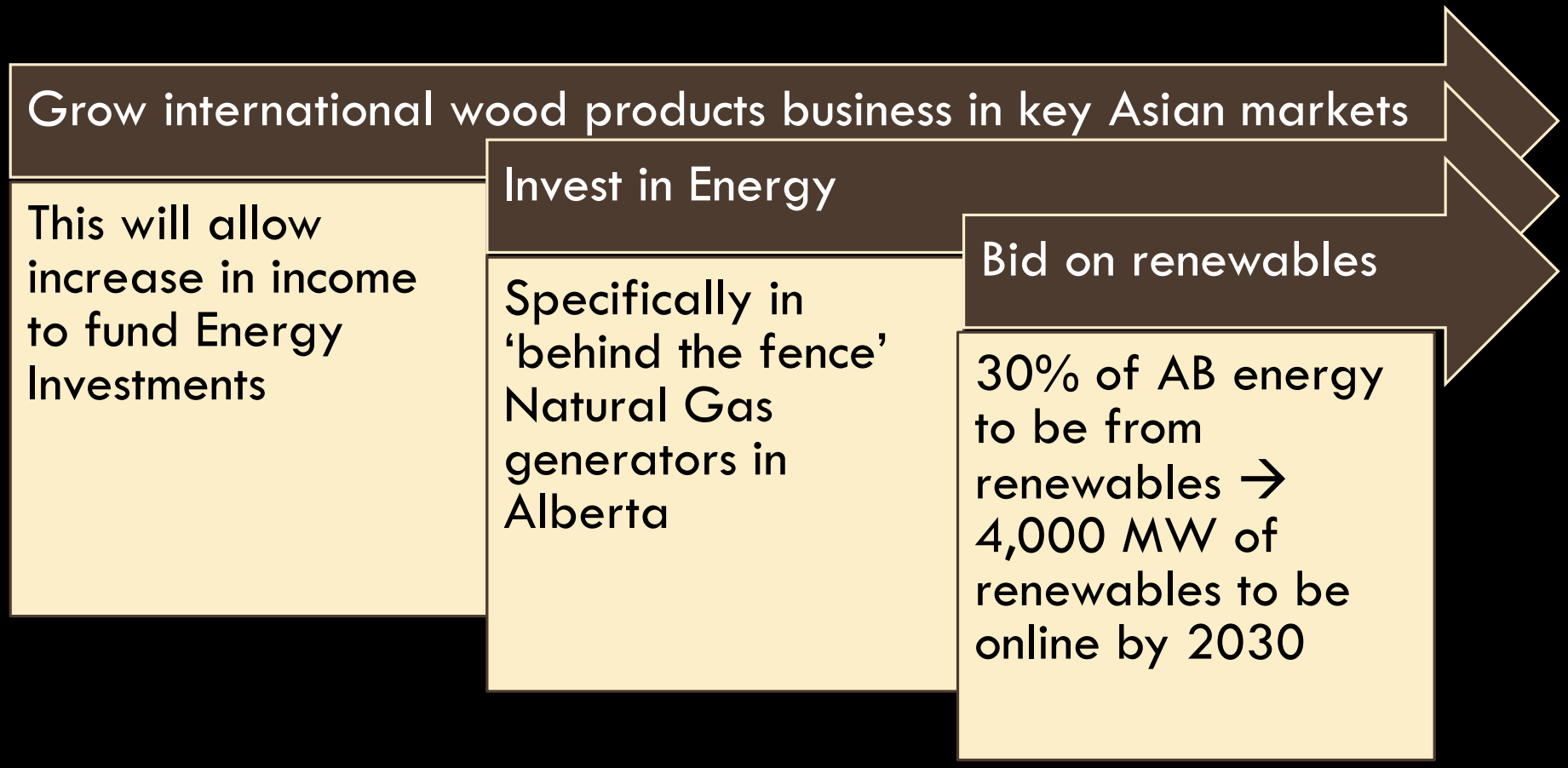
CONTINUE TO GROW DOMESTICALLY (N/A)



DIVERSIFY IN EXISTING INDUSTRIES

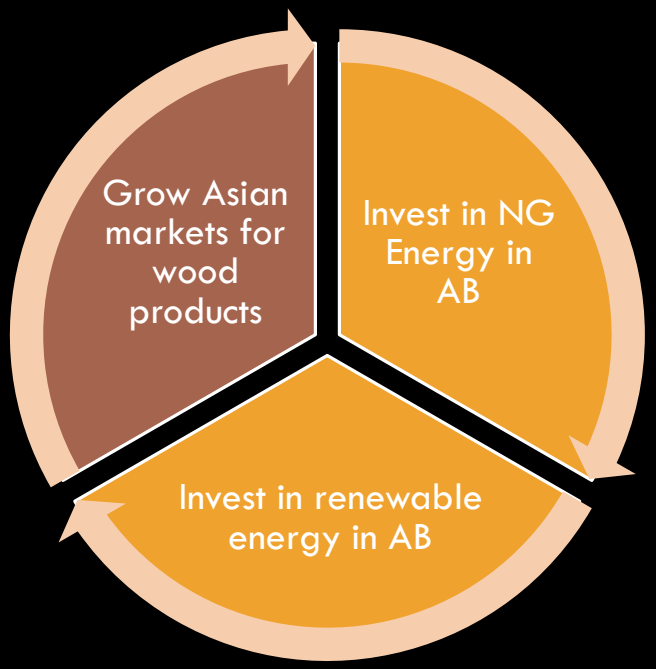


RECOMMENDATION



IMPLEMENTATION

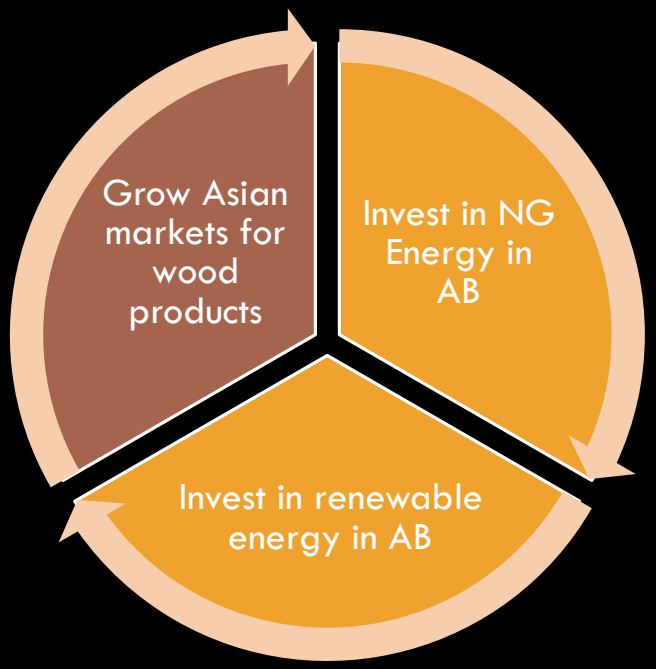
DIVERSIFICATION



- Diversification is key to your company's success
- Diversity can help cover risks from volatile changes in energy market
- Leverage massive growth in wood products to do this

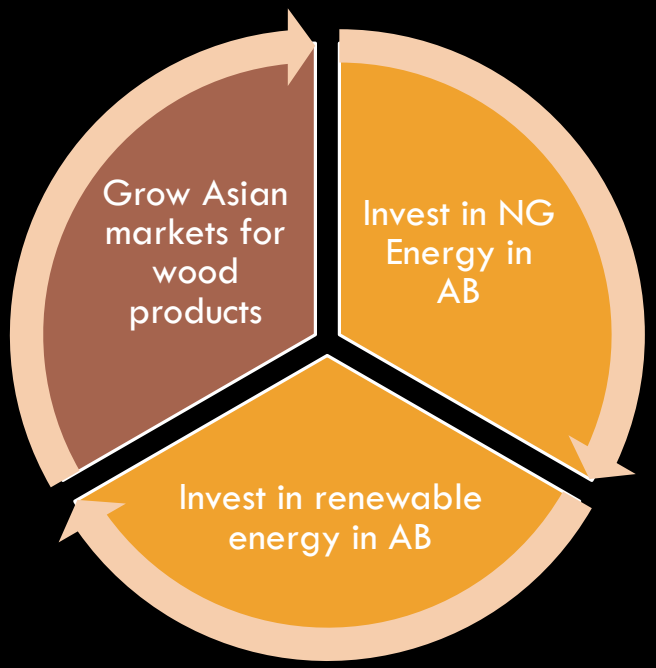
Grow in key Asian Markets

CANADA/KOREA



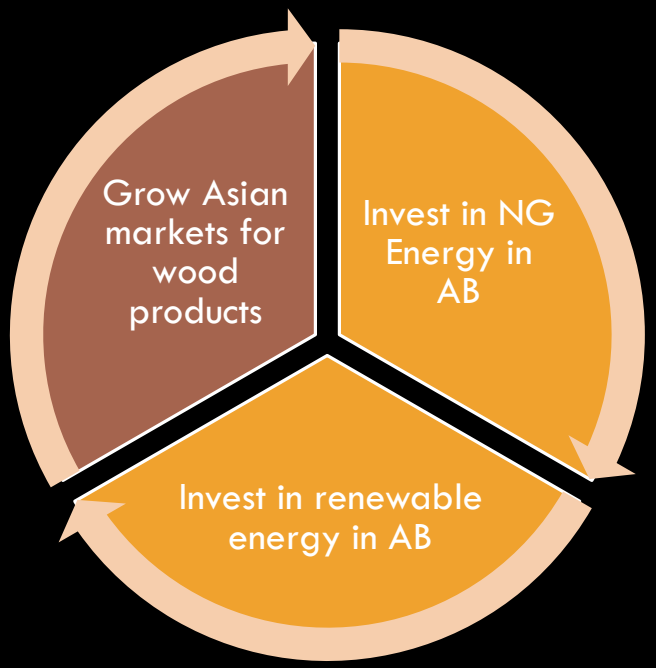
- Leverage strength of Canadian brand and the recent adoption of Canada- Korea free trade agreement
- Tariffs will continue to lower over the next decade
  - Customers are willing to pay premium
  - As tariffs lower margins increase
- Other considerations:
  - TPP and Canada/China

IMPLEMENTATION



Step	Time
1) Hire manager in key Asian Markets Korea, China, Japan ($100,000 *3 = $300,000)	0-6 Months
2) Use managers to establish strategic partnerships with architectural firms and builders	6-12 Months
3) Use relationships to increase sales and develop innovate wood product offerings for Asian countries	12 Months +

IMPLEMENTATION – RELATIONSHIP BUILDING



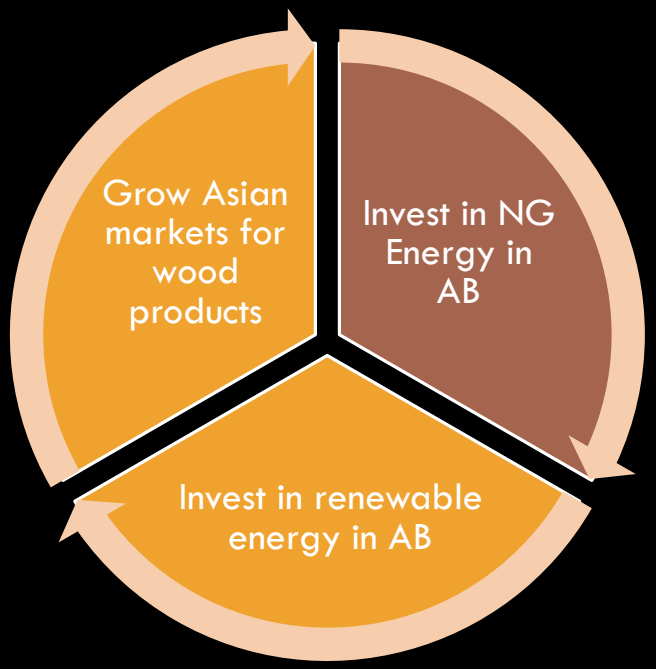
How to grow in Asian countries? STRONG RELATIONSHIPS

Establish country managers → Partner with local architectural firms and builders → Use relationships and local knowledge to help develop more innovative wood products

KEY PERFORMANCE INDICATORS

Lumber and Wood Products	Increase share from international profits to 35% by 2020
	Increase in margins from 25-30% to greater than 40%
	Have country managers building strong relationships 2019

IMPLEMENTATION

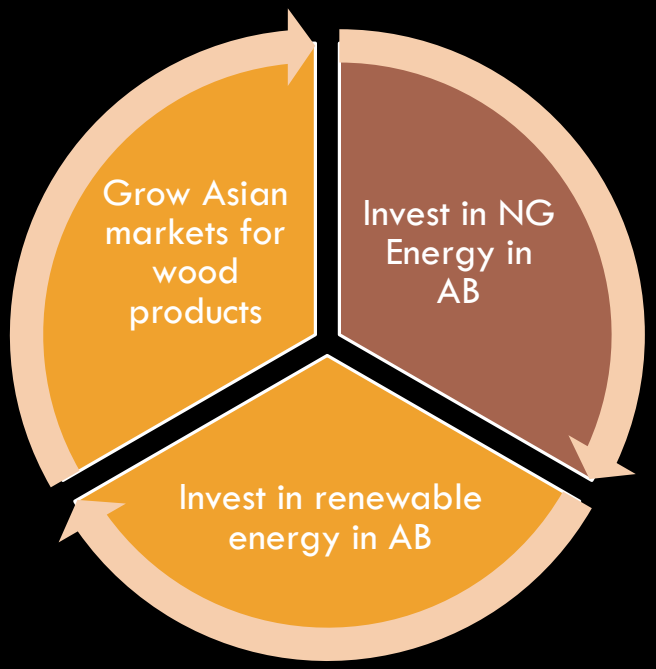


Behind the fence generators:

- Cogen facilities operated by companies in petrochemical, oil and gas, etc.
- These companies primary goal is reliability
- They are not energy generators
- There is expected to be ~300 MW available in 'behind the fence' generators for turbines that are not upgraded and are currently unable to run full time online
- Additional generation exists in generators that are not connected to the grid in Northern Alberta

There is an investment opportunity here that your company could capitalize on

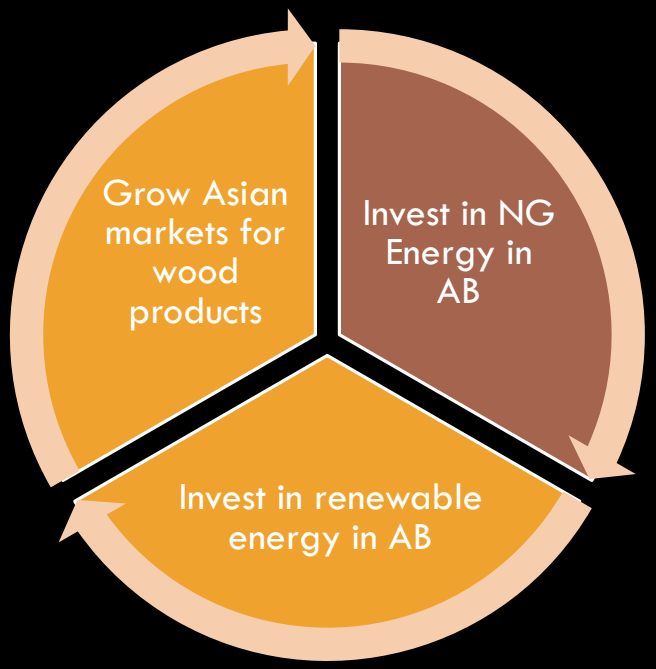
IMPLEMENTATION



For cheaper than building a greenfield plant, these turbines could be upgraded with your capital and you could control the throttle.

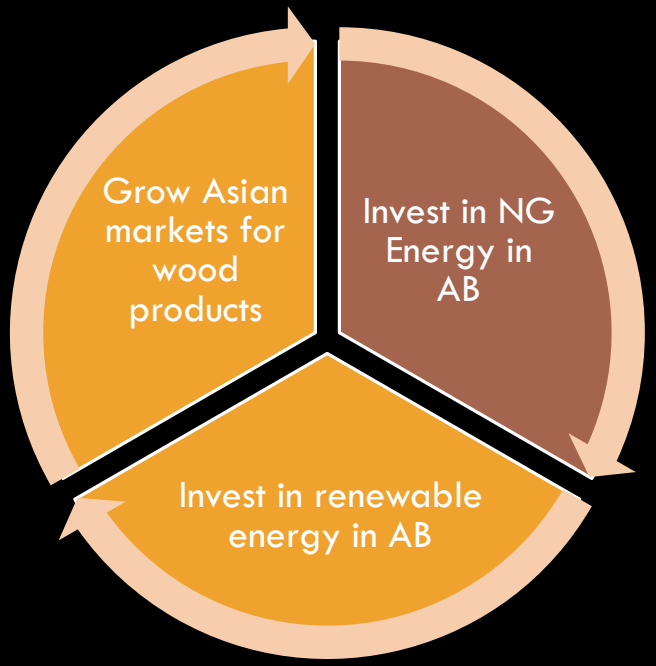
For a capital cost of ~$90,000/MW you could control a gas generator and dispatch it into the market accordingly

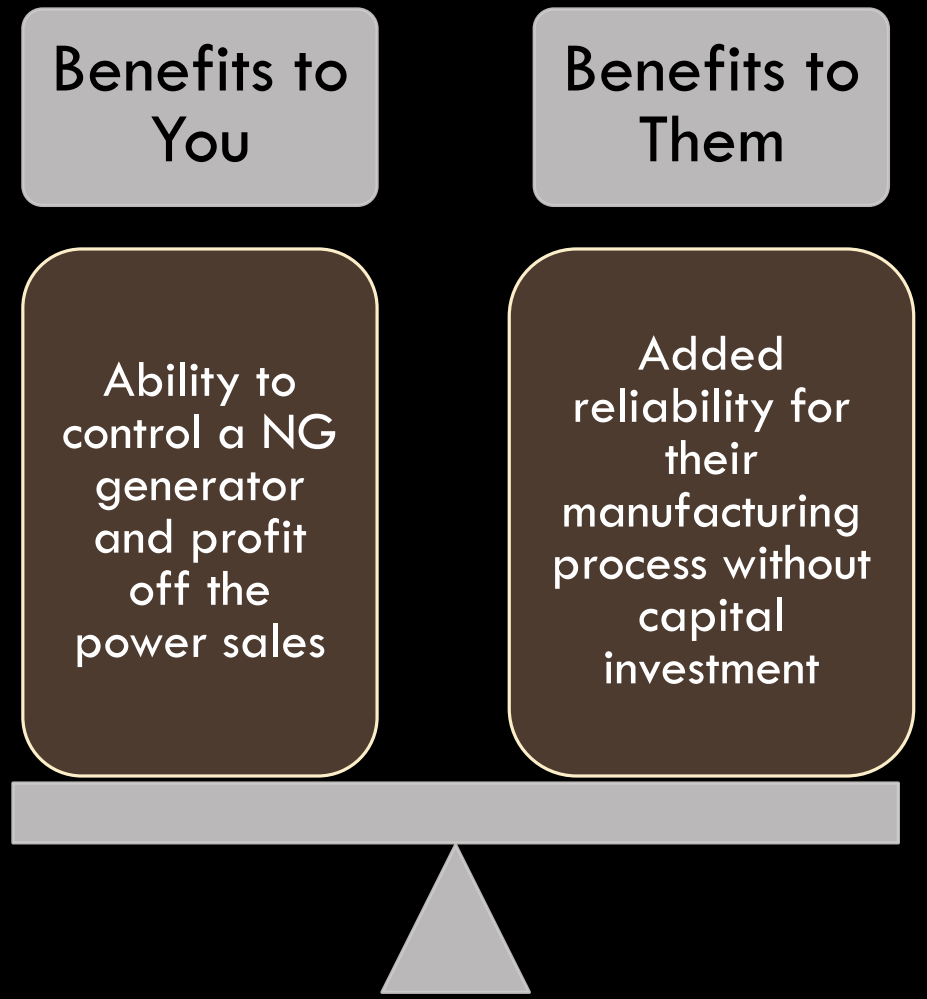
IMPLEMENTATION



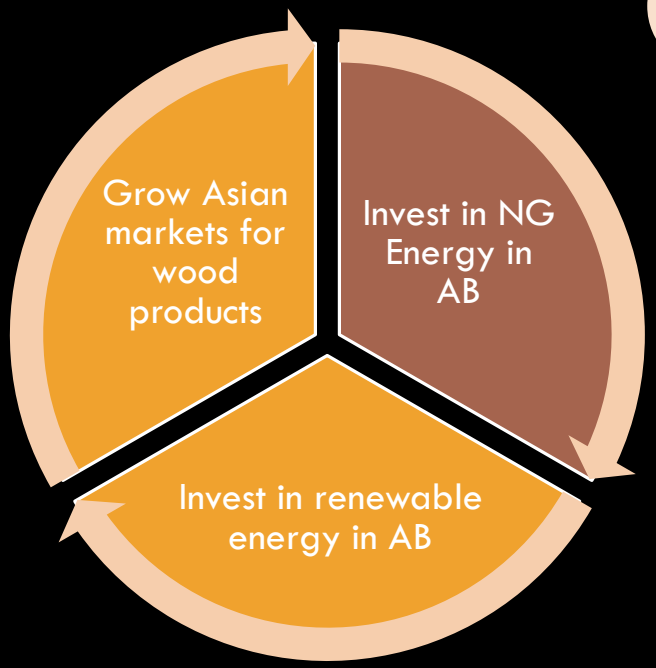
Eg. Dow Chemical
100 MW gas turbine in Fort Saskatchewan, AB
→ Turbine currently only able to operate 3 months/year due to NOx restrictions
→ For $9,000,000 CAD, this turbine could be upgraded to run full time

IMPLEMENTATION





IMPLEMENTATION



Phase 1

Need a team in Calgary to seek these partnerships starting in Jan 2018

Phase 2

Team to approach:

Dow Chemical

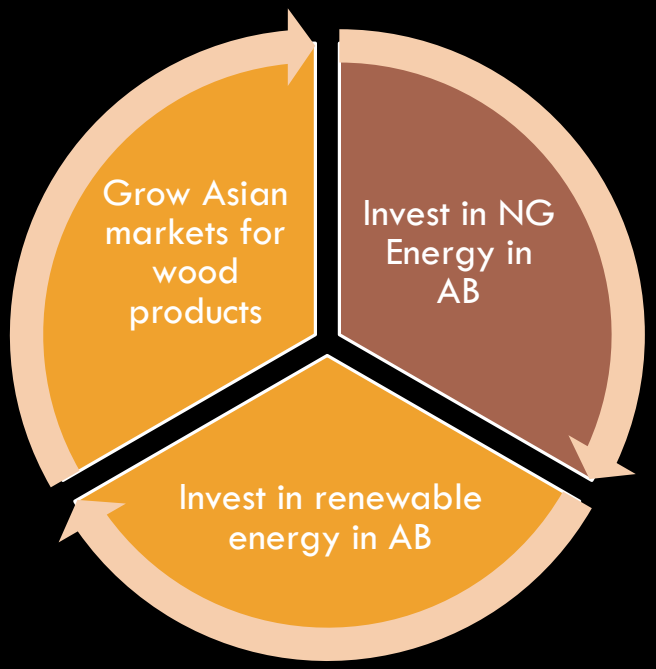
Suncor

Shell

Phase 3

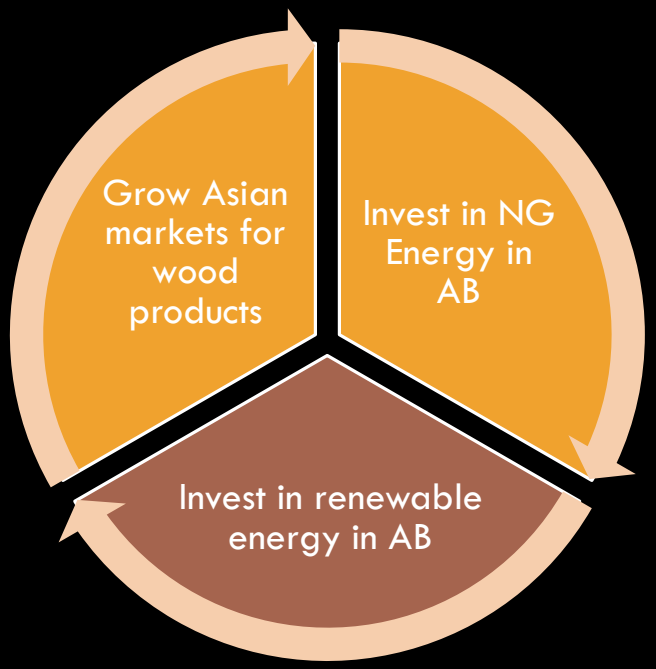
Seek to initiate capital investment beginning in November 2018 – ending by Feb 2019

IMPLEMENTATION – PAYBACK PERIOD



Eg. Dow Chemical
$9,000,000 CAD
Gas prices of $2.00/GJ
Generator Heat Rate of 10,000 kJ/MW
→Cost per MW would be $20/MW
Power price of $30/MW
Margin is $10/MW
Generator capacity 100 MW → Making $1000/hr
Payback period for investment would be ~375 days, one year
Cost for maintenance/operations to Dow ~ $2 million/year

IMPLEMENTATION



Investing in Renewable Energy:

- Capacity market bidding process has started
- Companies such as Transalta and Capital Power are seeking companies to provide capital investment for wind generation
- Recommend that once team has exhausted options for 'behind the fence' generators they seek out options for capital investment in this area
- ~6,000 MW of renewable capacity to come online by 2030

FINANCIALS

PROJECTED GROWTH FROM WOOD

Projected growth from wood (Gross Profit) (millions CAD)			
	2018	**2019**	**2020**
Current estimates	26	40	48
Our strategy low	26	49	64
Our strategy high	27	58	79

Divert some of this profit to capital investment in NG energy

ENERGY PROFIT

Assumptions: $9,000,000 CAD investment over 2018 and 2019

Gas prices of $2.00/GJ

Generator Heat Rate of 10,000 kJ/MW

→ Cost per MW would be $20/MW

Margin is $10/MW

Generator capacity 100 MW

Gas price of $2.00/GJ		
Energy Prices/MW	Profit Per Day ($CAD)	Payback period (days)
25	12000	750
30	24000	375
35	36000	250
40	48000	187.5
45	60000	150

ENERGY PROFIT SENSITIVE TO GAS PRICES

Assumption of $2.00/GJ, but this could change

Overall profit will be sensitive to potential changes

Energy price of $35/MW			
Gas price	$/GJ	Profit per day	Payback period (days)
$ 0.50	$ 5.00	72,000	125
$ 1.00	$ 10.00	60,000	150
$ 1.50	$ 15.00	48,000	187.5
$ 2.00	$ 20.00	36,000	250
$ 2.50	$ 25.00	24,000	375
$ 3.00	$ 30.00	12,000	750

Assumption in the table above is still the $9,000,000 CAD initial investment

OVERALL COSTS – HIGH LEVEL

Overall Costs		
Cost	**Amount**	**Spent**
3 managers in key Asian markets	300,000	2018
Team to seek energy opportunities	300,000	2018
Capital for turbine upgrades - split over two fiscal years	4,500,000	2018
	4,500,000	2019

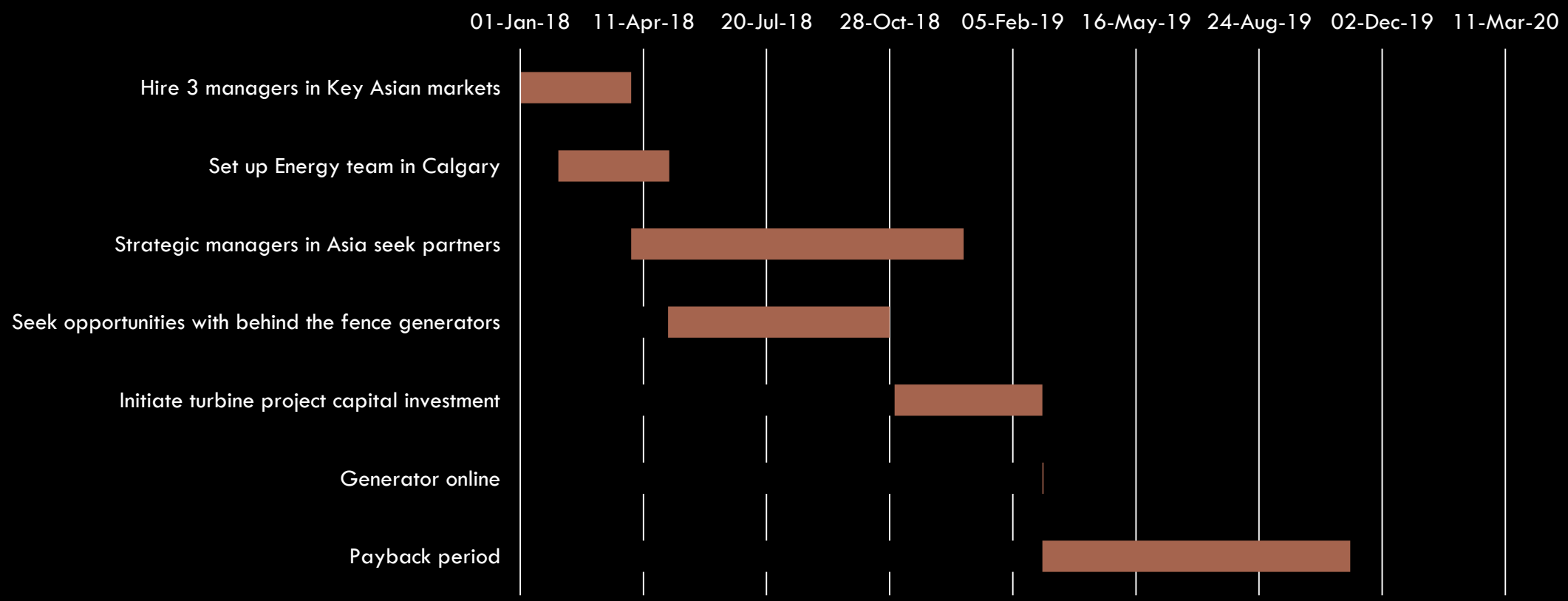
Assumption in the table above is still the $9,000,000 CAD initial investment for generation, but depending on generation partner, capital investments and MW available may be different

OVERALL PROJECTIONS – WOOD & ENERGY

in millions CAD	**2018**	**2019**	**2020**
Gross Profit Low	20.9	45.25	60.725
Gross Profit High	21.9	62.62	87.04

Assumption in the table above is still the $9,000,000 CAD initial investment for generation, includes other costs associated with hiring teams as discussed
High projection is based off of Gas price of $2.00/GJ, energy price of $35/MW
Low projection based on Gas price of >$3.00/GJ, energy price of $35/MW

TIMELINE


01-Jan-18
11-Apr-18
20-Jul-18
28-Oct-18
05-Feb-19
16-May-19
24-Aug-19
02-Dec-19
11-Mar-20
Hire 3 managers in Key Asian markets
Set up Energy team in Calgary
Strategic managers in Asia seek partners
Seek opportunities with behind the fence generators
Initiate turbine project capital investment
Generator online
Payback period

KEY PERFORMANCE INDICATORS

Energy Sector	Seek opportunity which will provide a payback period of ~270 days
	100 MW of capacity would be good first step

OTHER CONSIDERATIONS - AGRICULTURE

The world population is growing – who will feed it?

- Opportunities not to ignore forever – but must prioritize
  - Increase demand in organics internationally
  - Own more of the supply chain – ensure transparency, and have good partnerships for logistics
  - Canada's competitive advantage – possibly watch for innovative technology
  - Longer term – want to keep in this industry

Recommend stay in this industry – optimistic future, but time to consider

RISKS AND MITIGATION

RISKS AND MITIGATIONS

Risk	Probability	Impact	Action
Cannot find a behind the fence generator to partner with	L	H	Divert attention to capital investment in wind generation, also high likelihood
Alberta energy prices are low in 2019 and 2020	L	H	Diversification with lumber in Asia, agriculture
It might take longer to develop relationships in Asia	H	L	Relationships matter to you – benefit in the L/T Time is crucial that's why we want to diversify in energy

CONCLUSION

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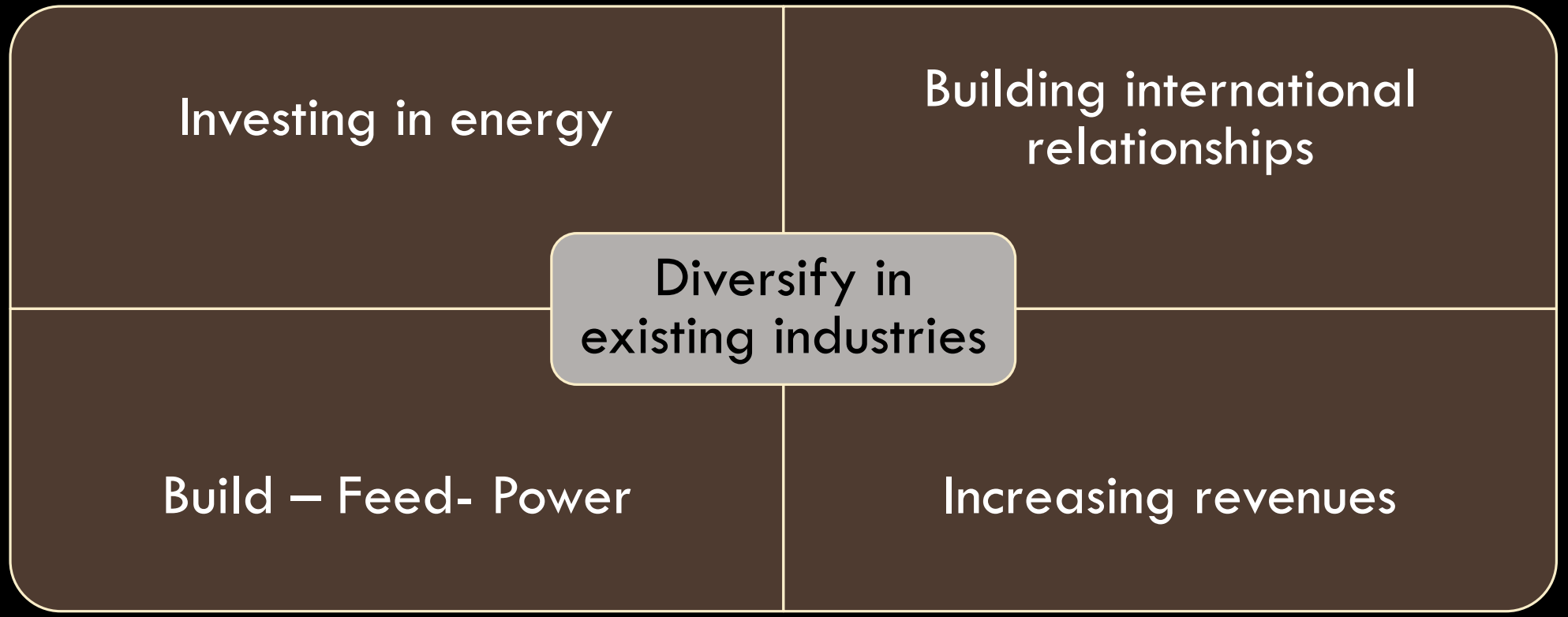
Investing in energy
Building international relationships
Diversify in existing industries
Build – Feed- Power
Increasing revenues