



# ***Business Modeling with VMP and the MultiCapital Scorecard: The Greenlight Case***

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Henk de Man - VDMbee

Maxime Van Der Stuyft - University of Ghent

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# Agenda

- Introduction (McElroy) 5 minutes
- Business Modeling and the MCS (de Man) 5 minutes
- The Greenlight Case and Results (Van Der Stuyft ) 20 minutes
- Q&A 10 minutes
- Wrap-up (McElroy) 5 minutes



# Introduction

- This is about the integration of business modeling and triple bottom line (TBL) performance accounting
  - Where the output of one is used as the input of the other
  - In order to report TBL performance before it happens!
- Business modeling part takes form of modeling tool (VMP) developed by VDMbee in The Netherlands
  - Henk de Man of VDMbee will introduce and explain
- TBL performance accounting part takes form of MultiCapital Scorecard (MCS) developed by Thomas & McElroy LLC – a “context-based” methodology
- Greenlight Power, Inc. (GPI) case developed by Maxime Van Der Stuyft at University of Ghent



# The MultiCapital Scorecard (MCS)

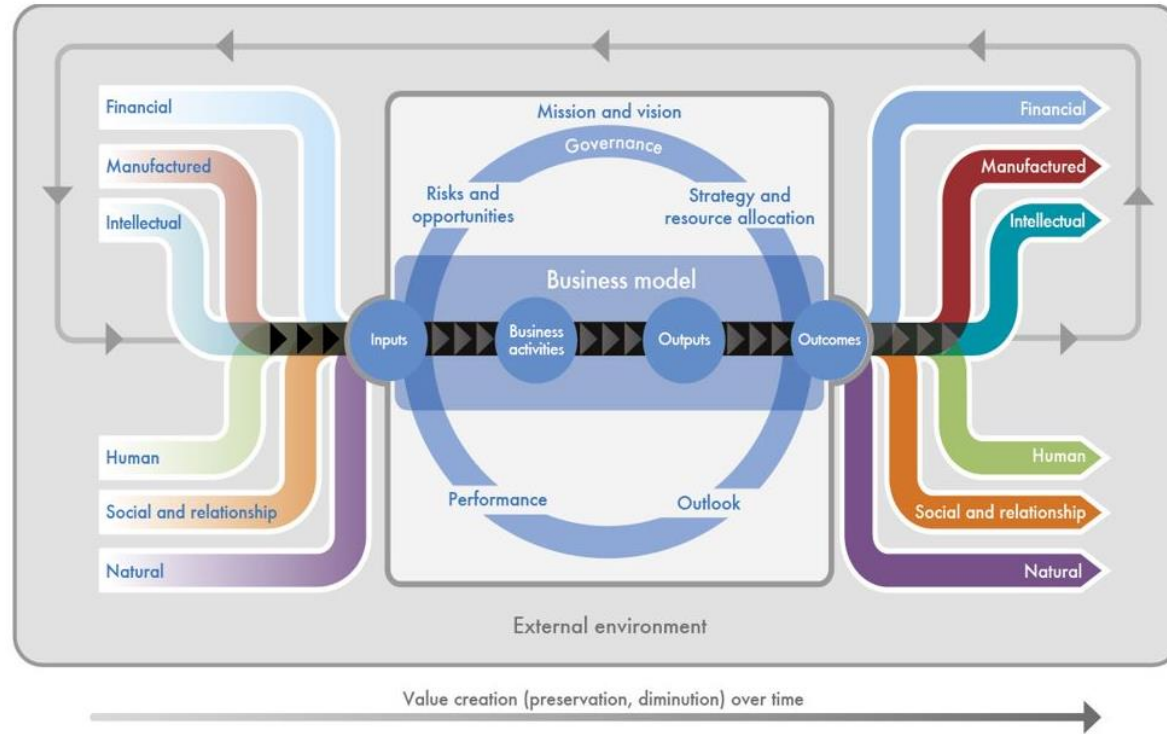
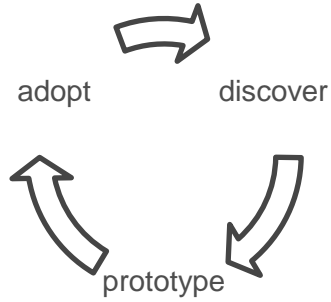
- A context-based TBL performance accounting tool (world's first)
  - *Context-based* in sense that it assesses performance relative to social, economic and environmental limits and thresholds and not just in incremental terms
- Calls for assessment of performance against sustainability targets or norms but does not prescribe them
  - Relies instead on results of organization-specific materiality analyses to identify "areas of impact" (AOIs) to focus on
  - In today's fictitious case, only three such AOIs are used
- Is completely open-source!



# **Business Modeling and the MCS (de Man)**



# Business model transformation

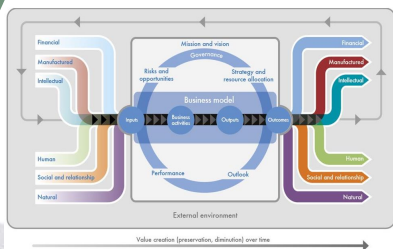


# In ecosystem of business models



# Transformation for sustainability

sustainability



impact

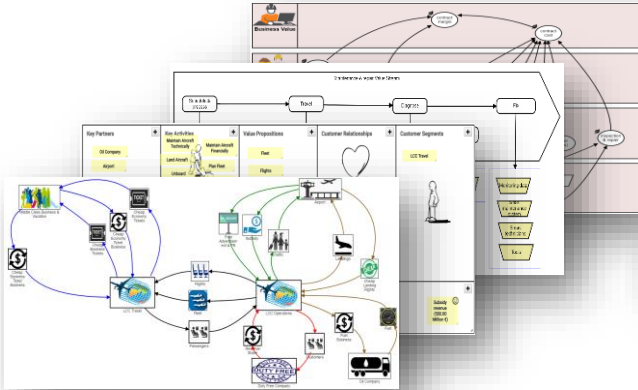


# VDMbee: Model-driven transformation

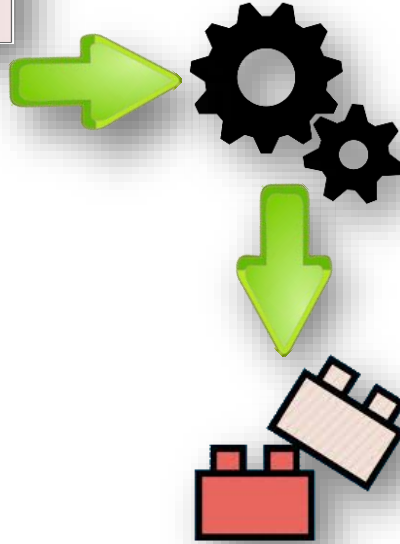
*“discover”*

*“prototype”*

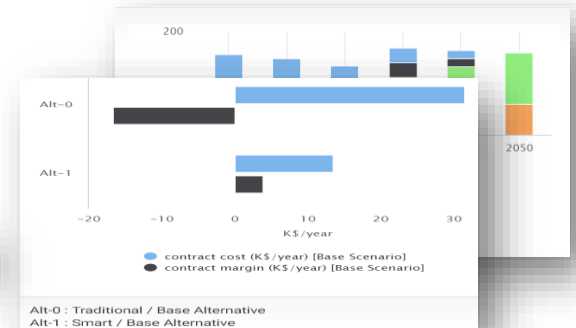
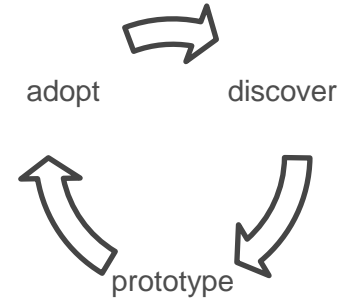
*“adopt”*



diagrams



structure



dashboards & scenarios

# **The Greenlight Case and Results (Van Der Stuyft)**



# The Greenlight Case and Results: 5 Parts

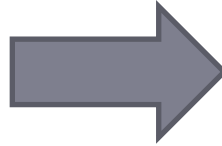
- Business problem facing Greenlight Power, Inc. (GPI)
- GPI Scenario A: *Business As Usual*
- GPI Scenario B: *Transformed Business*
- Comparison of two scenarios
- Moral of the story



# The business problem facing GPI

## Greenlight Power, Inc.

2020



2050



# The business problem: our approach

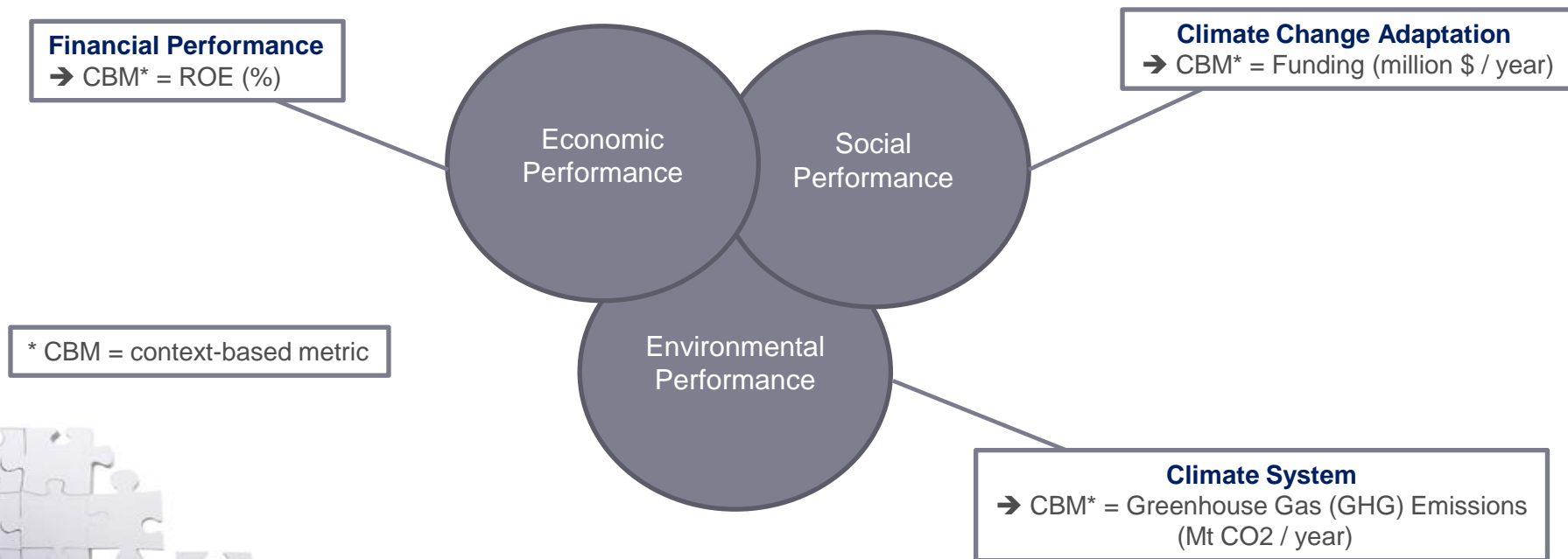
## Two scenarios

Scenario Key Points	A: Business As Usual (BAU)	B: Transformed Business (Tr. Bus.)
<b>Transformation</b>	Investments in the expansion of existing production infrastructure	Investments in new, sustainable generation technologies/innovations
<b>Energy mix</b>	Maintained commitment to <i>fossil fuels</i>	Increased use of <i>sustainable energy resources</i>
<b>Performance</b>	Focus on <i>economic</i> performance	Balanced focus on <i>all aspects</i> of performance



# The business problem: our approach (cont.)

## Only One Area of Impact (AOI) per Bottom Line

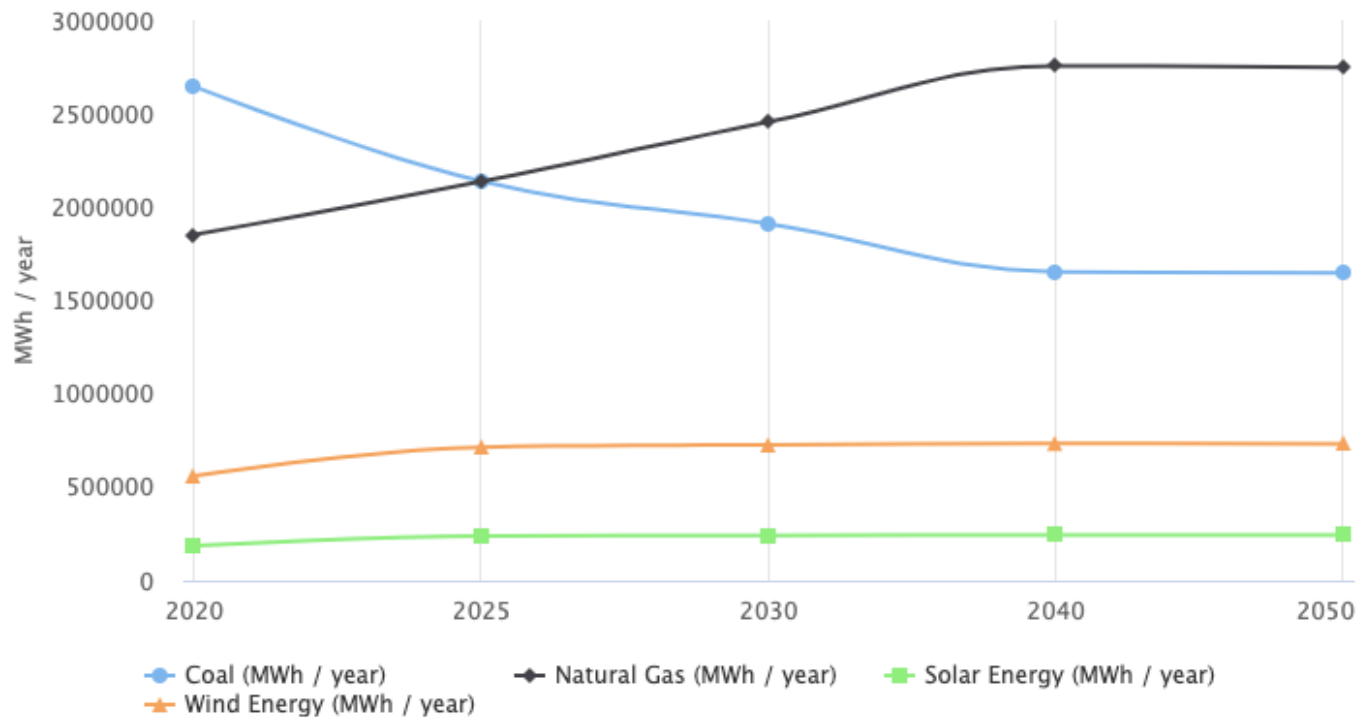


# **GPI Scenario A: *Business As Usual***

**What if GPI does not change anything?**



# Power Generation Portfolio in Scenario A



Source: VMP, VDMbee

# 2050 Forecast for Scenario A

## Comparison of the AOIs with their sustainability norms

Values	2050	
	Business As Usual	Sustainability Norm (minimum treshold)
Areas Of Impact		
Funding for climate change adaptation (million \$ / year)	42.77	60.00
GHG-emissions (context-based score) (Mt CO2 / year)	17.98	0.00
ROE (%)	11.46	8.00

Source: VMP, VDMbee



# Scenario A MultiCapital Scorecard in 2050

Measuring performances impacting five types of vital capitals

## MultiCapital Scorecard for Greenlight Power - 2050

Scenario: Business As Usual

### Vital Capitals Legend:\*

Constructed	Internal Economic – Financial
Human	Internal Economic – Non-Financial
External Economic – Financial	Natural
External Economic – Non-Financial	Social & Relationship

\*Intellectual capital is embedded in most of the others.

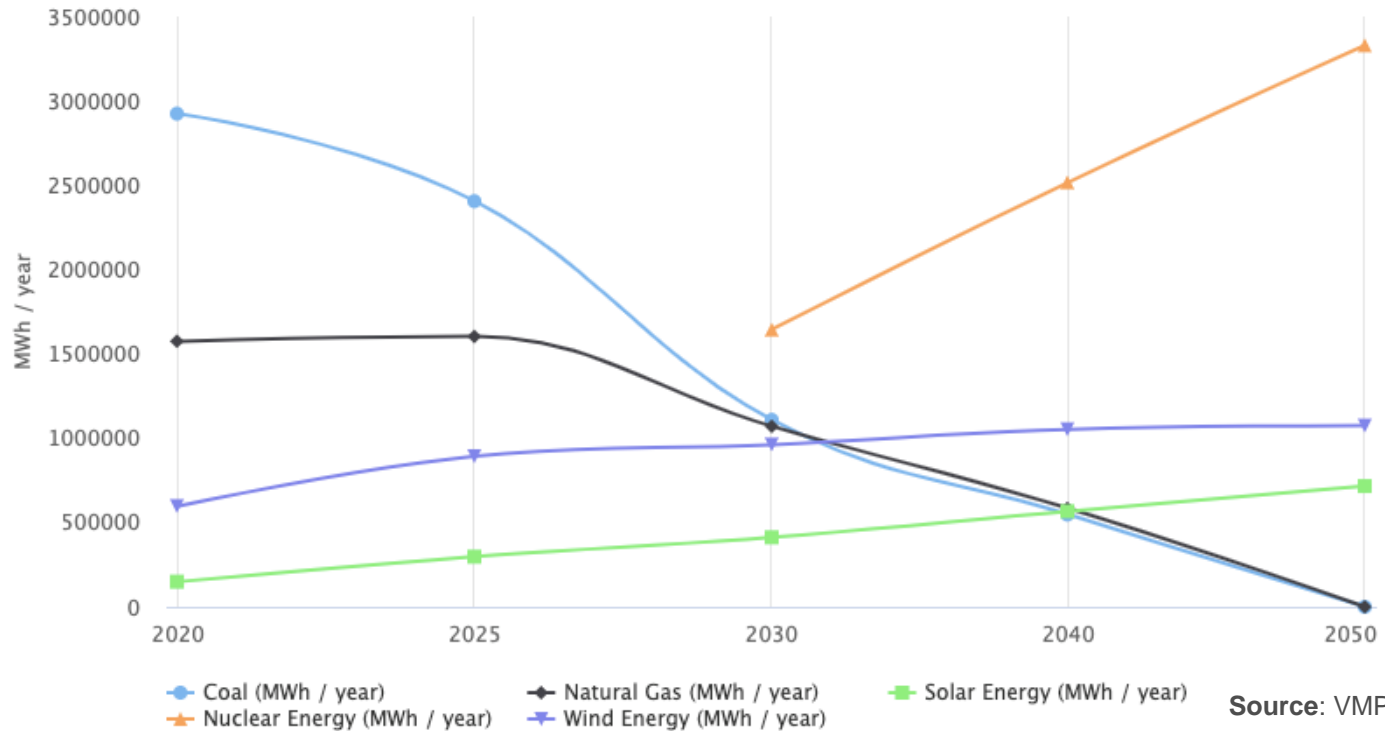
BOTTOM LINE DIMENSIONS OF PERFORMANCE	INDIVIDUAL AREAS OF IMPACT (AOIs)	CONTEXT-BASED METRICS	CAPITALS IMPACTED	Progress	Weight	Weighted	Fully Sustainable	Gap to Fully Sustainable	INDIVIDUAL AOI SCORES (C/D)	BOTTOM LINE SCORES	OVERALL SCORE
Social	Climate Change Adaptation	Funding for Climate Change Adaptation	<div><div></div><div></div><div></div></div>	-3	1,00	-3	3	6	-100%	-100%	11%
Environmental	Climate System	Greenhouse Gas (GHG) Emissions	<div><div></div></div>	-3	3,00	-9	9	18	-100%	-100%	
Economic	Financial Performance	Return on Equity	<div><div></div></div>	3	5,00	15	15	0	100%	100%	
			SUMMARY TOTALS			3	27	24	© 2019 Thomas & McElroy LLC		
Total Weighting Points					9,00						

# **GPI Scenario B: *Transformed Business***

**What if GPI puts effort into transformation?**

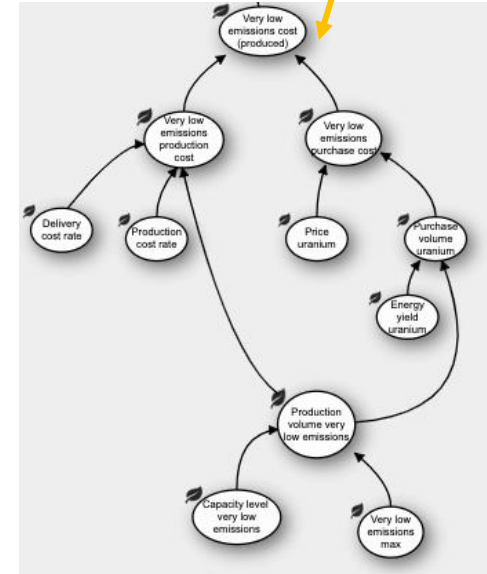
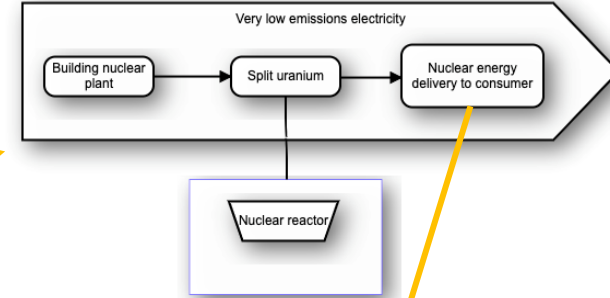
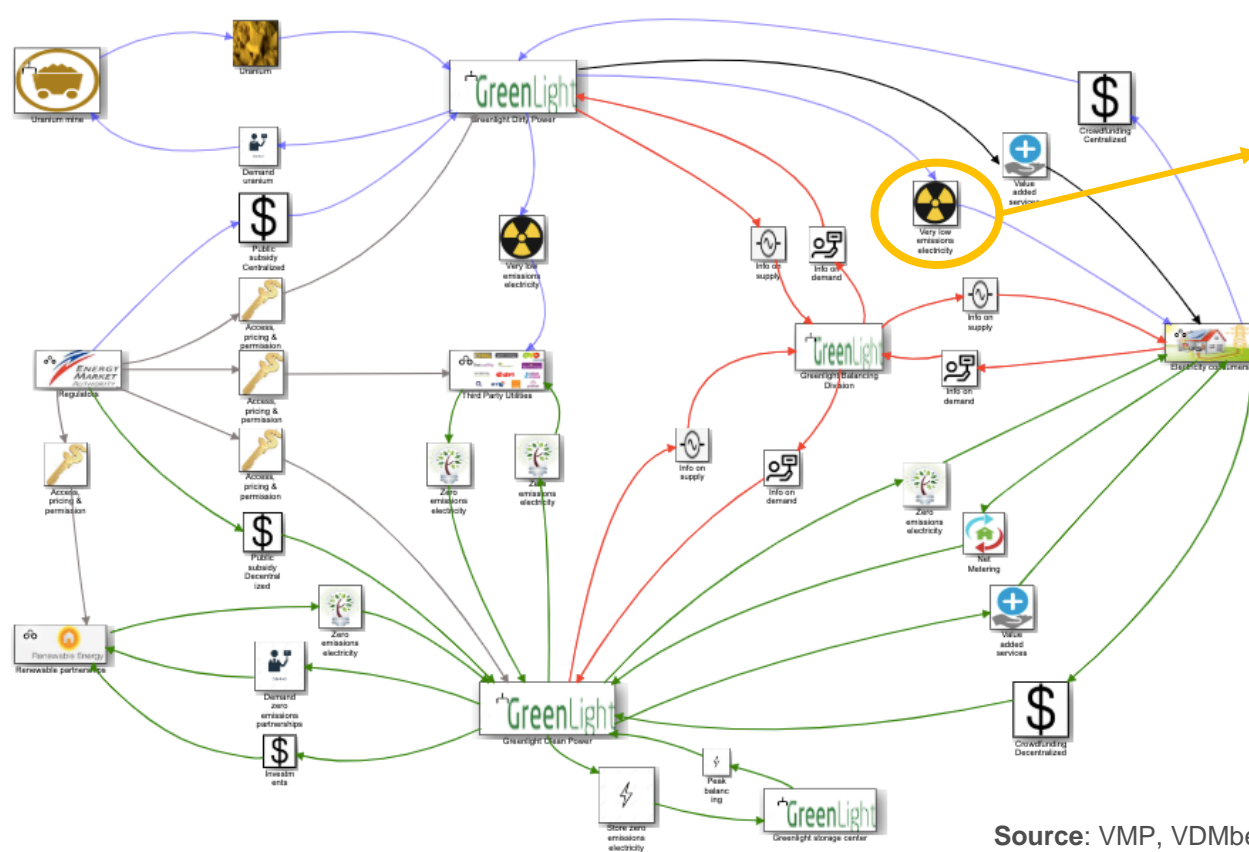


# Power Generation Portfolio in Scenario B



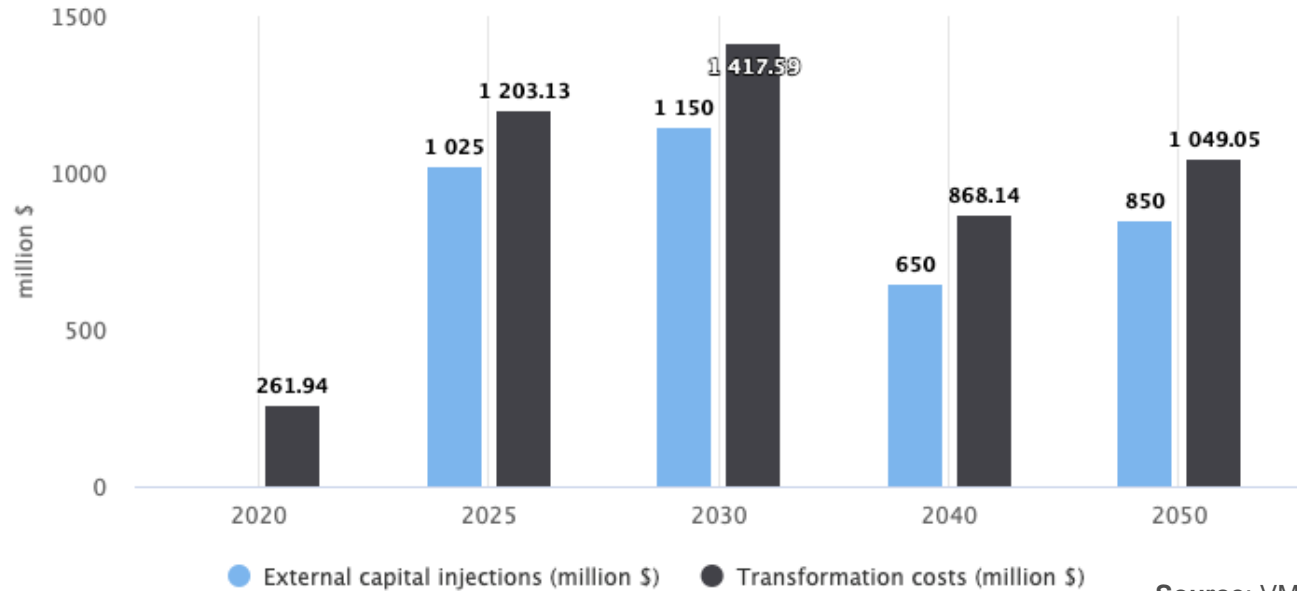
Source: VMP, VDMbee

# 2050 ecosystem in Scenario B



Source: VMP, VDMbee

# Financial impact



Source: VMP, VDMbee

## Self-financing level

100%

15%

19%

25%

19%

# 2050 Forecast for Scenario B

## Comparison of the AOIs with their sustainability norms

Values	2050	
	Base / Transformed business	Base / Sustainability Norm
Areas Of Impact		
Funding for climate change adaptation (million \$ / year)	67.45	60.00
GHG-emissions (context-based score) (Mt CO2 / year)	1.13	0.00
ROE (%)	7.32	8.00

Source: VMP, VDMbee



# Scenario B MultiCapital Scorecard in 2050

Measuring performances impacting five types of vital capitals

## MultiCapital Scorecard for Greenlight Power - 2050

Scenario: Transformed Business

### Vital Capitals Legend:\*

 Constructed	 Internal Economic – Financial
 Human	 Internal Economic – Non-Financial
 External Economic – Financial	 Natural
 External Economic – Non-Financial	 Social & Relationship

\*Intellectual capital is embedded in most of the others.

BOTTOM LINE DIMENSIONS OF PERFORMANCE	INDIVIDUAL AREAS OF IMPACT (AOIs)	CONTEXT-BASED METRICS	CAPITALS IMPACTED	Progress	Weight	Weighted	Fully Sustainable	Gap to Fully Sustainable	INDIVIDUAL AOI SCORES (C/D)	BOTTOM LINE SCORES	OVERALL SCORE
Social	Climate Change Adaptation	Funding for Climate Change Adaptation	<div><div></div><div></div><div></div></div>	3	3,25	10	10	0	100%	100%	37%
Environmental	Climate System	Greenhouse Gas (GHG) Emissions	<div><div></div></div>	1	3,00	3	9	6	33%	33%	
Economic	Financial Performance	Return on Equity	<div><div></div></div>	-1	2,75	-3	8	11	-33%	-33%	
				SUMMARY TOTALS		10	27	17	© 2019 Thomas & McElroy LLC		
Total Weighting Points					9,00						

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**Scenario A *Business As Usual***  
**VS.**  
**Scenario B *Transformed Business***

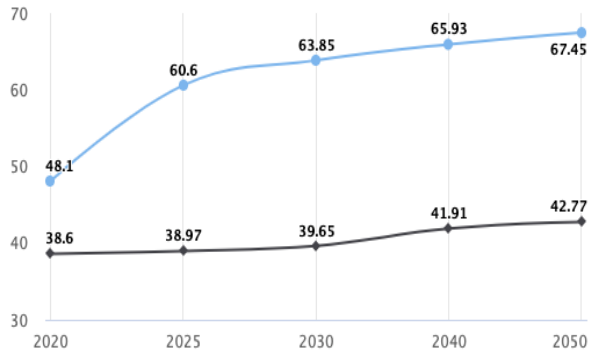


# Evolution of AOIs

## Social bottom line:

### Climate Change Adaptation

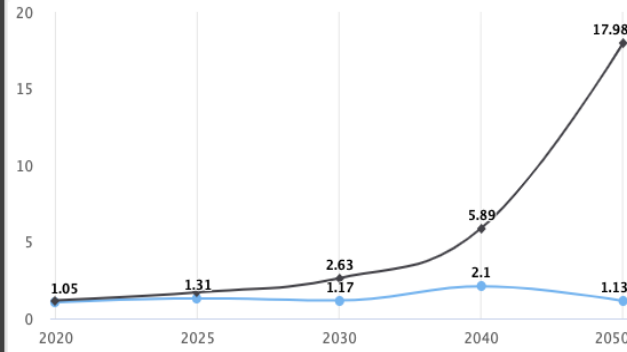
CBM = Funding (million \$ / year)



## Environmental bottom line:

### Climate System

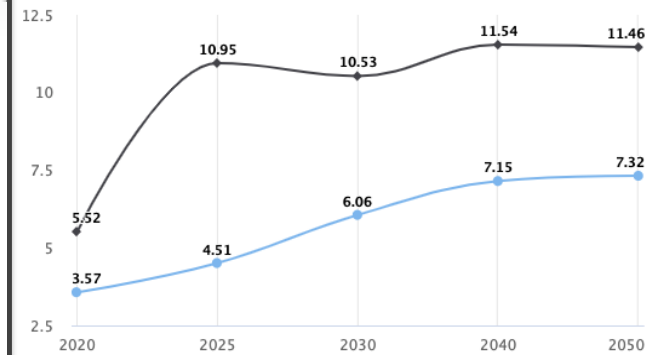
CBM = GHG-emissions (Mt CO2 / year)



## Economic bottom line:

### Financial Performance

CBM = ROE (%)

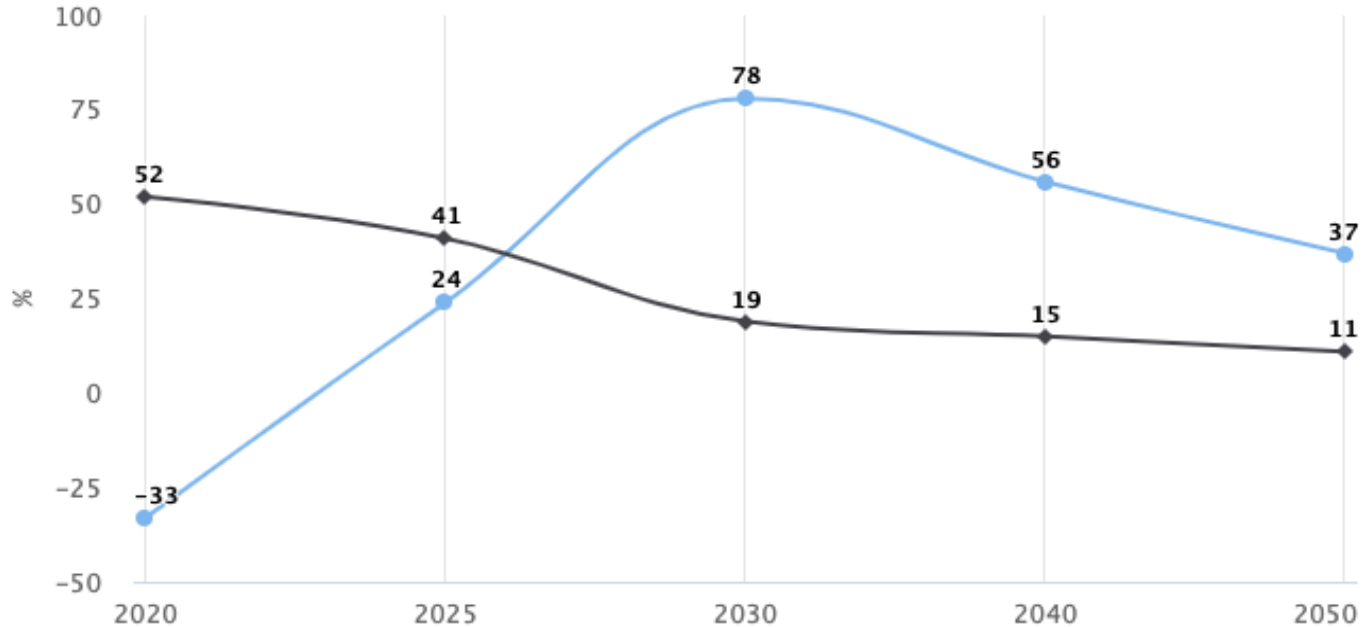


- Scenario A
- Scenario B

Source: VMP, VDMbee



# Overall sustainability performance (MCS) by phase



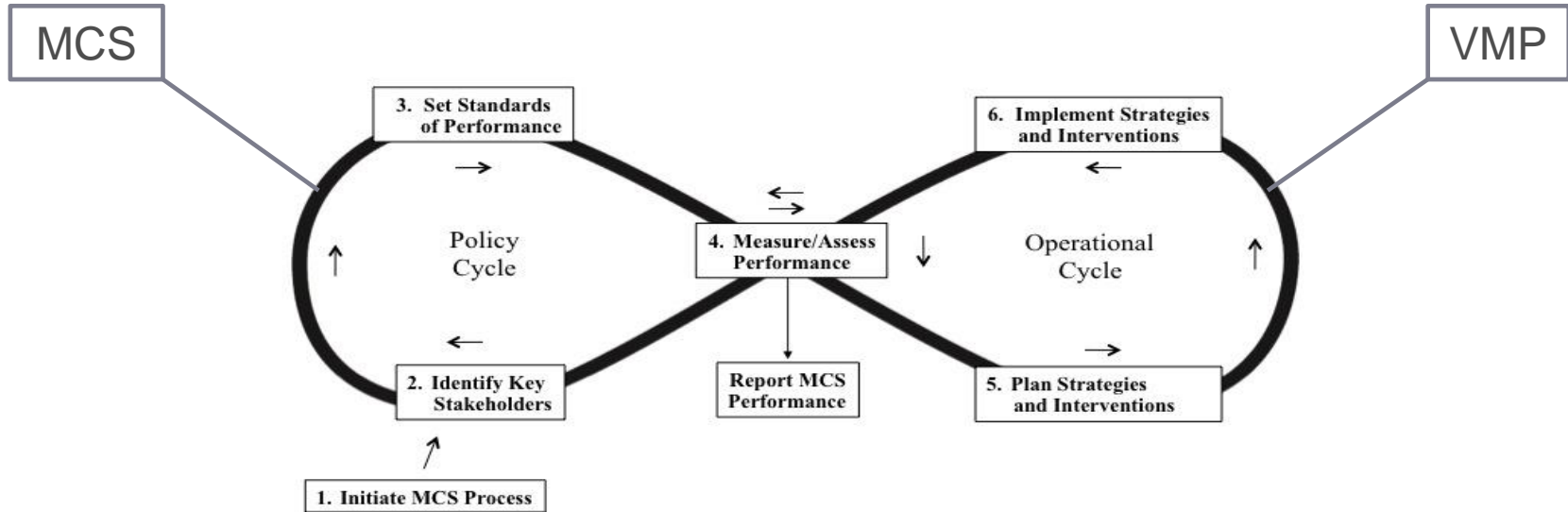
- Scenario A
- Scenario B

Source: VMP, VDMbee

# **Moral of the Story**



# Double-loop learning cycles



Source: McElroy and Van Engelen (*Corporate Sustainability Management*, Routledge, 2012)

# Q&A



# Wrap-up (McElroy)



# Wrap-up

- Three key takeaways:
  1. That not only can the financial performance of alternative new business models or scenarios be forecasted, so can their full triple bottom line performance and in a context-based way – it can be done!
  2. That the overall performance of an organization can look very different when non-financial impacts are taken explicitly into account (e.g., Scenario B's overall TBL performance was superior to Scenario A's despite the fact that its financial performance worsened by comparison).
  3. That values, weightings and priorities matter when it comes to judging performance (e.g., if GPI's Scenario B's weightings had been the same in 2050 as they were in Scenario A, its performance would have dropped from 37% to 4% – worse than Scenario A's BAU performance of 11%!
- This takes the *state-of-the-art* for business planning and scenario modeling to a new level – *for goodness sake, use it!*



# ***Thank You!***

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