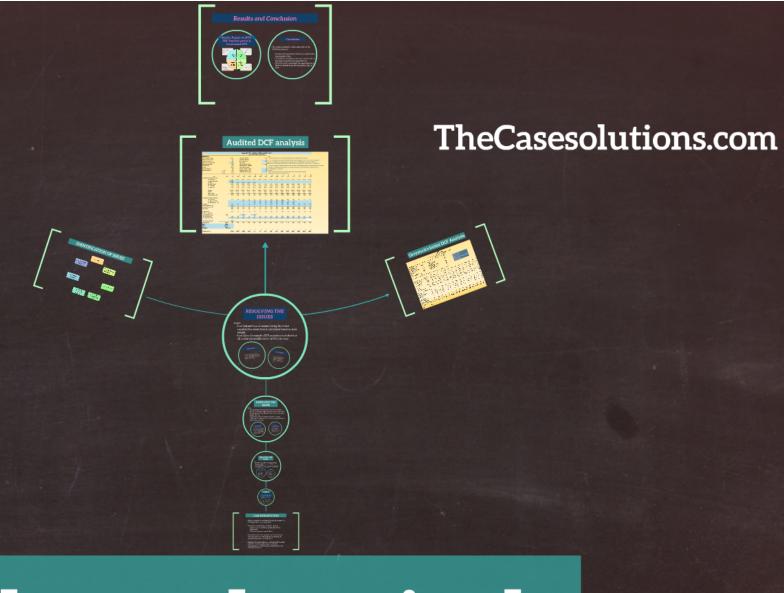


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Project Risk and Cost Management
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## **CASE INTRODUCTION**

- Major competitor in worldwide chemicals industry & a leading producer of polypropylene
- Morris is recommending a £9 million project;
  - Renovate and rationalize a production line at Merseyside
  - To increase production efficiency
- Several objections to the project have been raised at corporate, and the initial analysis from Greystock contains errors that need to be fixed
- Objective: To evaluate Frank Greystock's DCF Analysis
  of the Merseyside project, impacts to related
  departments, and overall appeal of the project to the
  Diamond enterprise.

## Greystock's Initial DCF Analysis

## Exhibit 2

DIAMOND CHEMICALS (A)

## Frank Greystock's DCF Analysis of Merseyside Project

(Financial values in millions of British Pounds)

Assumptions				
Annual Output (metric tons) 250,000 Discount rate 10.0%				
Output Gain/Original Output 7.0% Depreciable Life (years) 15  Price/ton (gounds sterling) 541 Overhead/Investment 3.5% NPV: 9.00	`			
The territory of the medianist of the medianism of the me	,			
Infation Rate (prices and costs) 0.0% Salvage Value 0 IRR: 25.9%	4			
Gloss Margin (ex. Deprec.) 12.50% Wile inventory/cost of Gloods 5.0%				
Old Gross Margin 11.5% Months Downtime, Construction 1.5 Payback P	'eriod:	: 3.6 vi	'S	
Tax Rafe 30.0% After ax Scrap Pinceeds 0				
Investment Outlay (mill.) 9.00 Preliminary Engineering Costs 0.5				
Energy Savings/Sales Yr. 1-5 1.25%				
Yr. 6-10 0.8%				
Yr. 11-15 0.0%				
1 2 3 4 5 6 7 8 9 10 11	12	13	14	15
Year Now 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011	2012	2013	2014	2015
1. Estimate of incremental Gross Proft				
New Output (tons) 267,500 267,500 267,500 267,500 267,500 267,500 267,500 267,500 267,500 267,500 267,500	267,500	267,500	267,500	267,500
Lost Output—Construction (33,438)				
New Sales (Millions) 126.63 144.72 144.72 144.72 144.72 144.72 144.72 144.72 144.72 144.72 144.72 144.72	144.72	144.72	144.72	144.72
New Gross Margin 13.8% 13.8% 13.8% 13.8% 13.3% 13.3% 13.3% 13.3% 13.3% 13.3% 13.3%	12.5%	12.5%	12.5%	12.5%
New Gross Profit 17.41 19.90 19.90 19.90 19.18 19.18 19.18 19.18 19.18 18.09	18.09	18.09	18.09	18.09
Old Output 250,000 250,000 250,000 250,000 250,000 250,000 250,000 250,000 250,000 250,000 250,000	250,000	250,000	250,000	250,000
Old Sales 135.25 135.25 135.25 135.25 135.25 135.25 135.25 135.25 135.25 135.25	135.25	135.25	135.25	135.25
Old Gross Profit 15.55 15.55 15.55 15.55 15.55 15.55 15.55 15.55 15.55 15.55 15.55	15.55	15.55	15.55	15.55
Incremental Gross Profit 1.86 4.34 4.34 4.34 4.34 3.62 3.62 3.62 3.62 3.62 2.54	2.54	2.54	2.54	2.54
2. Estimate of Incremental Depreciation				
New Depreciation 1.20 1.04 0.90 0.78 0.68 0.59 0.51 0.44 0.38 0.33 0.43	0.43	0.43	0.43	0.43
3. Overhead 0.32 0.32 0.32 0.32 0.32 0.32 0.32 0.32	0.32	0.32	0.32	0.32
4. Prelim. Engineering Costs 0.50				
5. Pretax Incremental Proft -0.16 2.99 3.13 3.25 3.35 2.72 2.80 2.87 2.92 2.98 1.79	1.79	1.79	1.79	1.79
6. Tax Expense	0.54	0.54	0.54	0.54
7. After-tax Profit -0.11 2.09 2.19 2.27 2.35 1.90 1.96 2.01 2.05 2.08 1.25	1.25	1.25	1.25	1.25
8. Cash Flow Adjustments				
Less Capital Expend -9.00				
Add back Depreciation 1.20 1.04 0.90 0.78 0.68 0.59 0.51 0.44 0.38 0.33 0.43	0.43	0.43	0.43	0.43
Less Added WIP inventory 0.31 -0.47 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00	0.00	0.00	0.00
Ater-tax Scrap Proceeds 0.00				
8. Free Cash Flow -9.00 1.40 2.66 3.09 3.06 3.02 2.49 2.47 2.45 2.43 2.41 1.68	1.68	1.68	1.68	1.68
NPV = 9.00				
IRR = 25.9%				