



VILNIUS UNIVERSITY
BUSINESS SCHOOL

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Victoria Chemicals plc (B): Merseyside and Rotterdam Projects

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- Two individually submitted expenditure proposals (Liverpool and Rotterdam)
- The main goal: expand the polypropylene output of their respective plants by 7%
- Both project cannot be accepted as increase in polypropylene output of 14% is not desired
- Projects will be evaluated based on
 1. Net Present Value
 2. Internal Rate of Return
 3. Payback period
 4. Growth in earning per share





Victoria Chemicals plc (B)

The Company Background

General Information

- Executive vice president: James Frawn
- Field: chemicals, leading producer of polypropylene
- 7 majors competitors in Victoria Chemical's market region (including CBTG A.G., Hosche A.G., Montecassino SpA)

Plant location	Built in	Plant annual output (metric tons)
Liverpool	1967	250 000
Rotterdam	1967	250 000



- **Suggestion:**

- to convert the plant's polymerization line from batch to continuous-flow technology;
- to install sophisticated state-of-art process controls throughout the polymerization and compounding operations

- **Project length:** 90 pages which included detailed schematics, engineering comments, strategic analyses, financial projections.

- **Initial cost** – GBP 10,5 Million (over 3 years)

- **Benefit** – the value of a pipeline (used to obtain continuous supply of propylene gas) would be GBP 40 Million in 15 years.

- **Advantage:** the first major European producer to implement new technology (results in reduced costs due to familiarity with the technology);

It would prevent the relevance of Japanese and American companies in the European market



Victoria Chemicals plc: *The Merseyside Project*

- **Suggestion:** to enhance existing facilities and the production process
- **Project length:** 3 pages
- **Initial cost** – GBP 12 Million (over 3 years)
- Theoretically it is possible to add the new controls in 2010 (it would raise Merseyside's margin by 0,6% per year to max of 15%)
- To obtain a supply propylene, it would be necessary to enter 15-year contract with local supplier (GBP 0,4 Million, no need to build a pipeline)

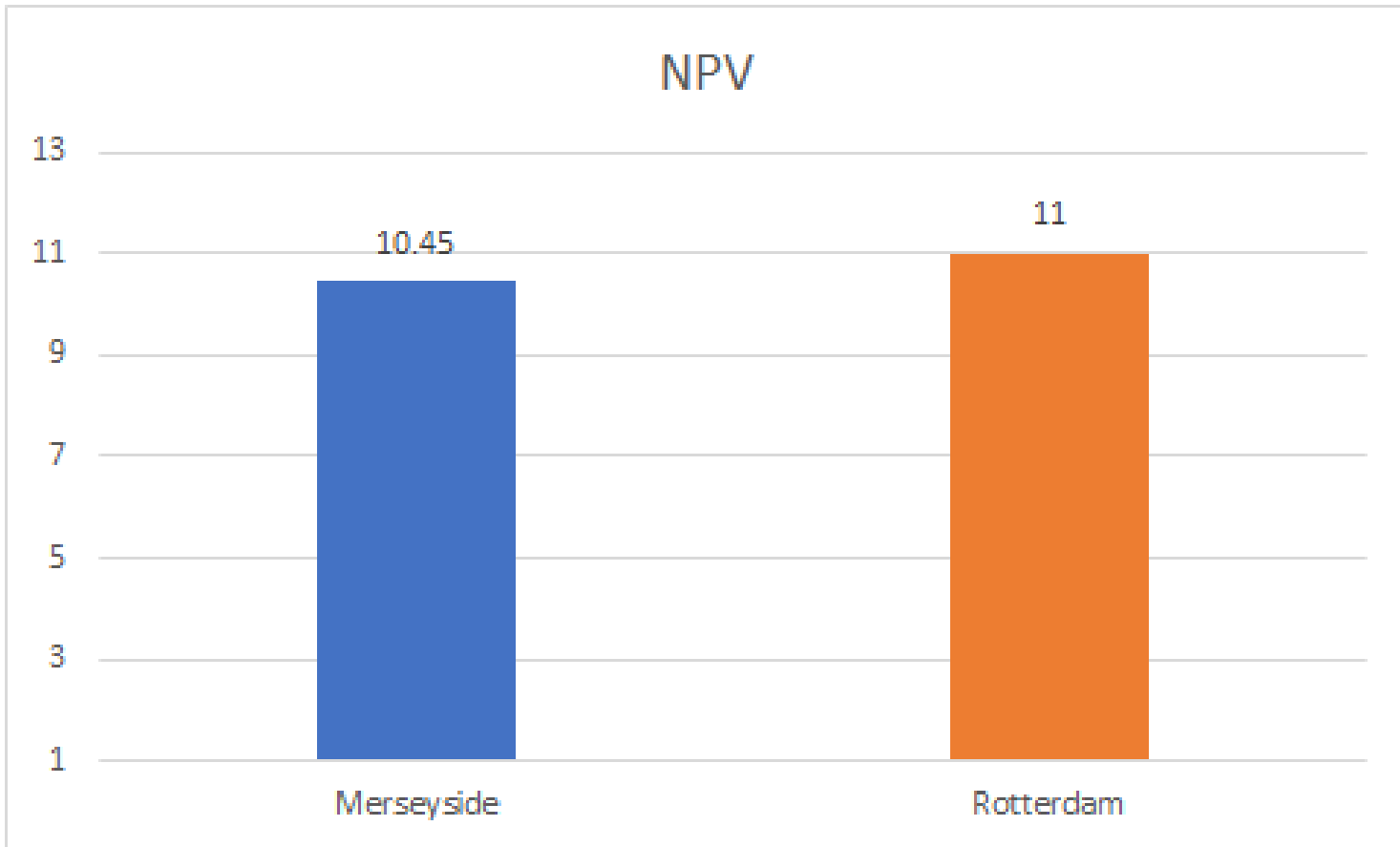




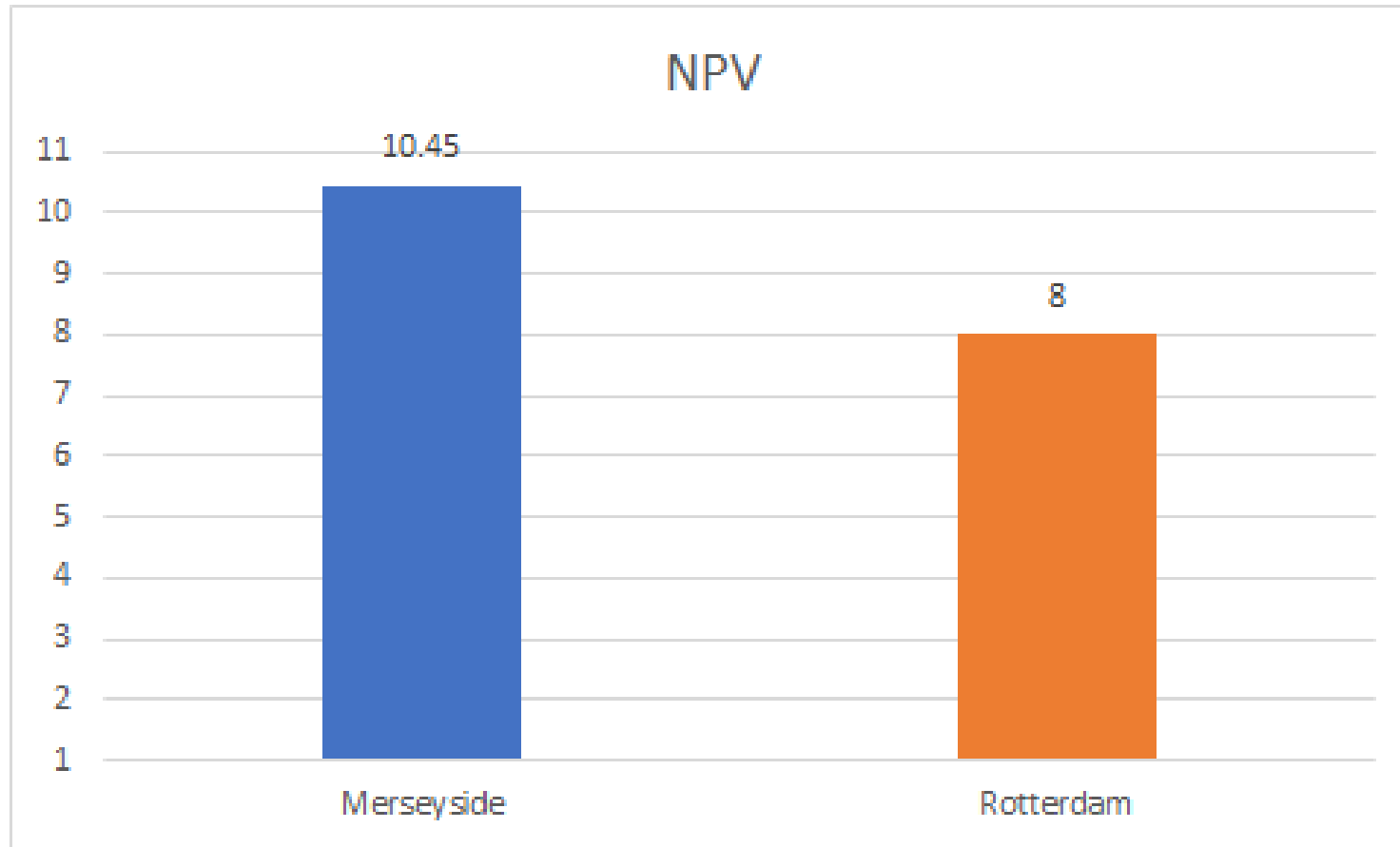
Victoria Chemicals plc (B)

Tasks of the Case Study

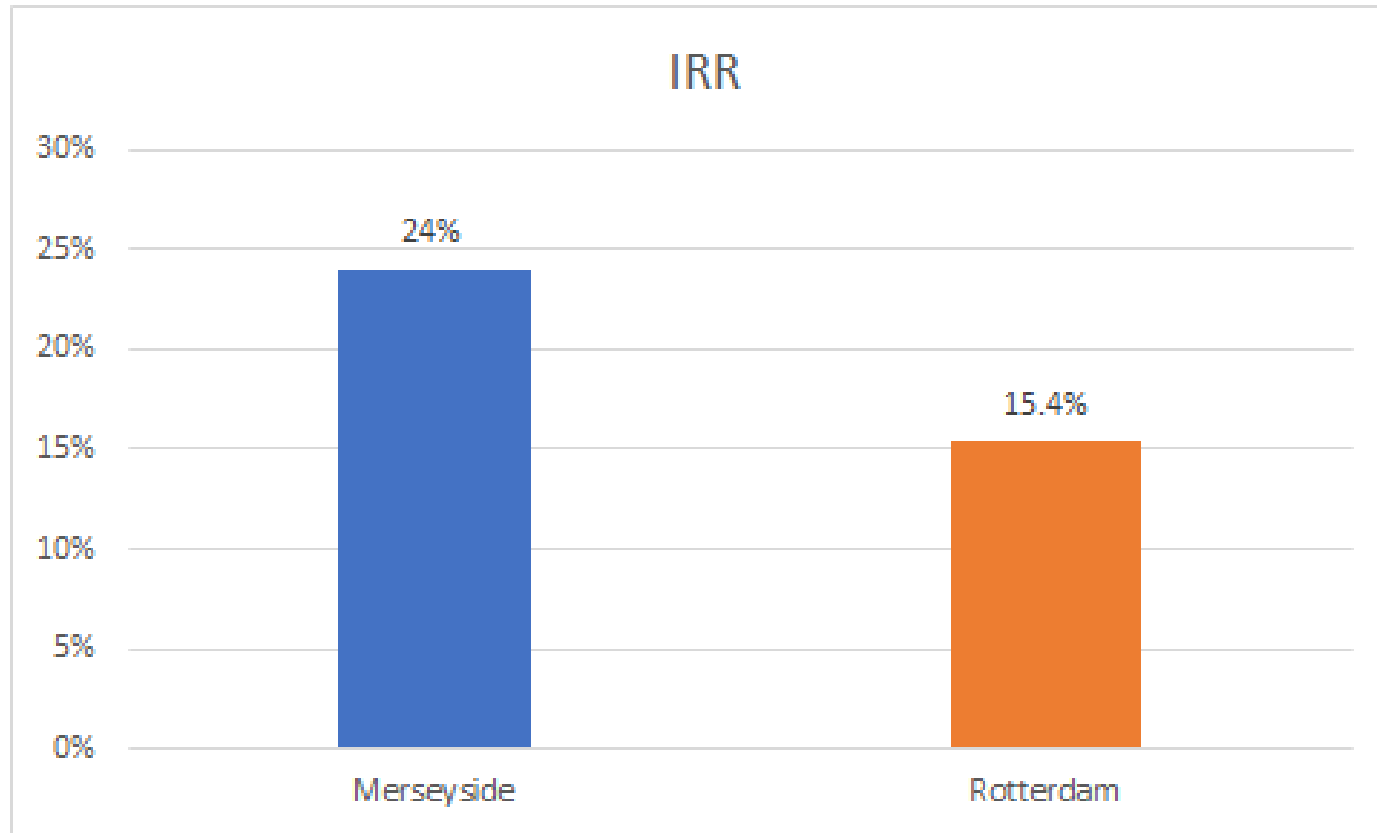
1.1 Net present value (NPV) before erosion in Merseyside volume



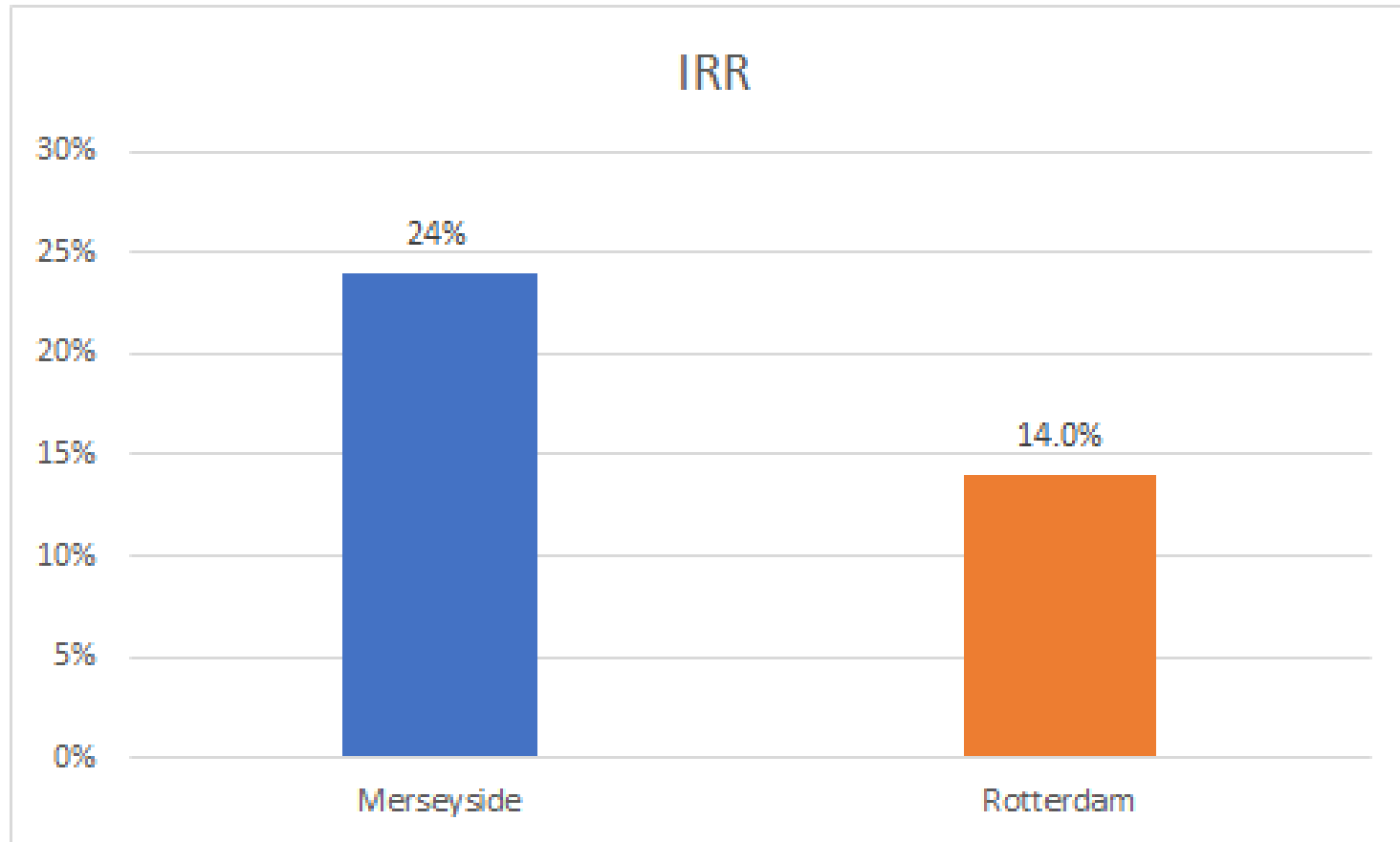
1.2 Net present value (NPV) after adjustment for erosion in Merseyside volume



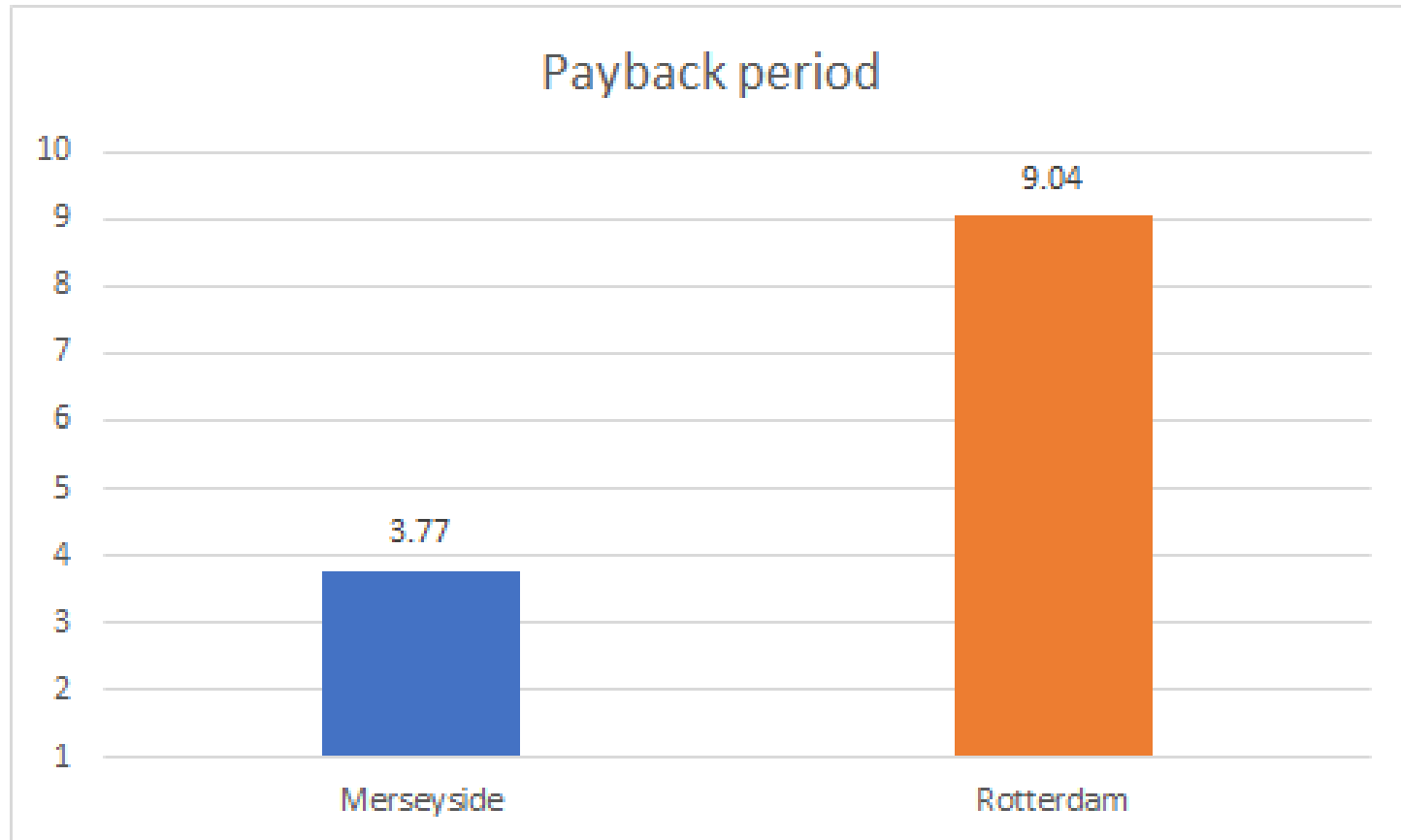
2.1 Internal rate of return (IRR) before erosion in Merseyside volume



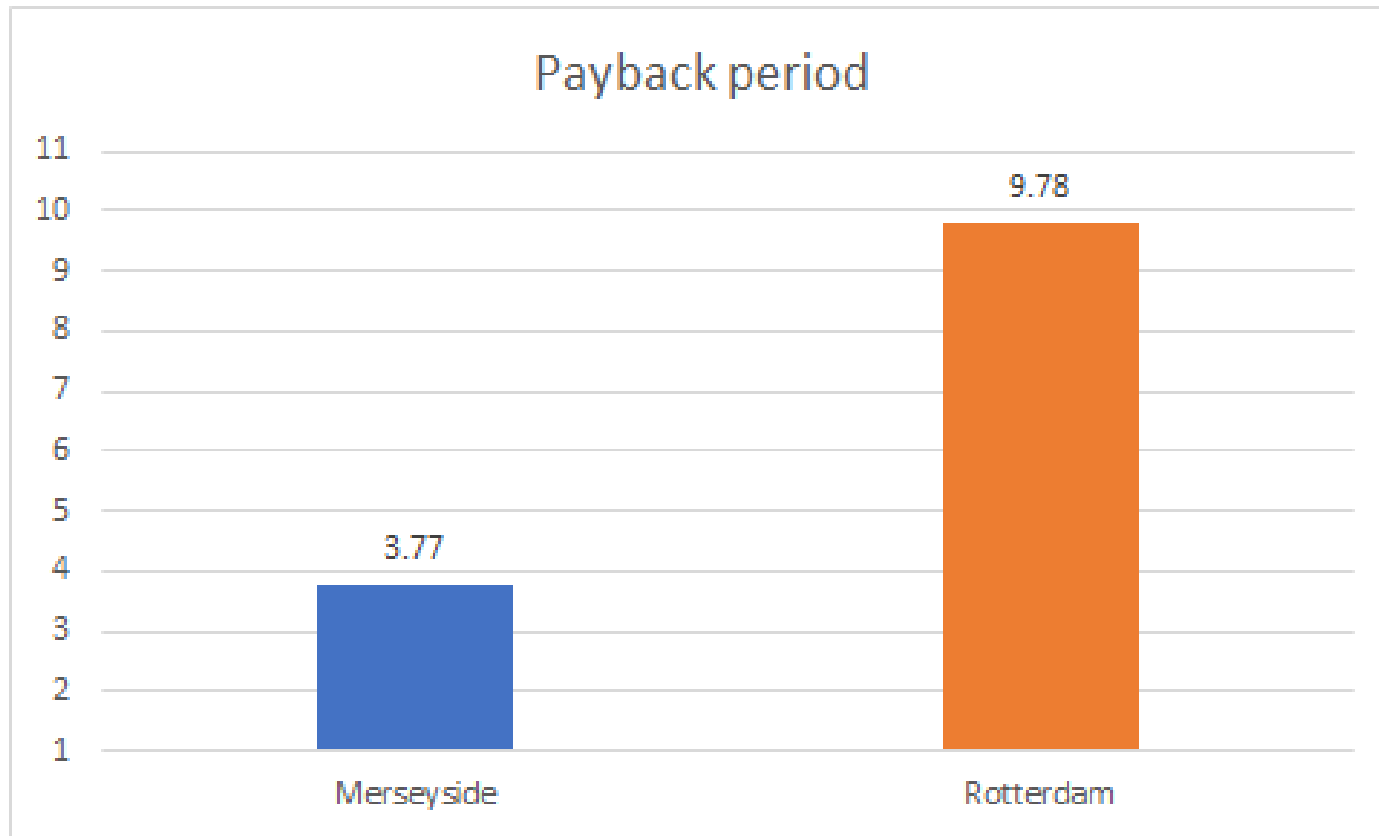
2.2 Internal rate of return (IRR) after adjustment for erosion in Merseyside volume



3.1 Payback before erosion in Merseyside volume



3.2 Payback after adjustment for erosion in Merseyside volume




- +it is possible that technology could deliver more efficiencies than estimated in the cash flows if the controls reached the potential boasted by the Japanese engineering team;
- +obvious cost and output improvements expected from the new system, as well as from advantage from being the first one in European producer to implement the new technology;
- +being the first to implement the technology probably meant a head start in moving the the learning curve towards reducing costs as organization become familiar with technology;
- the same technology is installed in Japan and even though it brings positive improvements on average, the efficiency gains have been varying considerably;
- there is a chance that technology would not work as well as hoped and once the technology is installed there would be no ongoing back.



- +theoretically it is possible to add the new controls in 2010 (it would raise Merseyside's margin by 0,6% per year to max of 15%);
- it is not an innovative, not long-term solution, as competitors are investing in new technologies and becoming market leaders at the moment;
- +/- To obtain a supply propylene, it would be necessary to enter 15-year contract with local supplier (GBP 0,4 Million, no need to build a pipeline).





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Summary

- 1. NPV indicator:** even though in the best-case scenario the NPV of Rotterdam Project is higher than Merseyside Project by 0.55, in the worst-case scenario, NPV of Rotterdam Project is lower by 2.45 compared to the Merseyside's;
- 2. IRR indicator:** in both best and worst scenarios the IRR is higher of Merseyside Project. In the best-case scenario it is higher by 8.6% and in the worst-case scenario it is higher by 10%;
- 3. Payback period indicator:** in in both best and worst scenarios the payback period on investment is longer in Rotterdam Project, in the best-case scenario it is longer by 5.27 of the year and in the worst - it is longer by 6.01 of the year
- 4. Growth in earning per share:** after discussion we decided not to consider 4th indicator – growth in earnings per share, as it does not take into account the cost of interest rate impact of early investment in relations to later large investment, so the growth in earnings per share does not give a fair picture.



5. Indicators of strategic factors: both projects have strategic indicators that are positive and negative, however ones outweigh the others, for example:

- there is a chance that Rotterdam Project's technology would not work as well as hoped and once it is installed there would be no ongoing back;
- there are no assurance that the technology of Rotterdam Project will bring high efficiency gains;
- if the company chooses the proposition of Merseyside, it will be possible to add the new controls later in the future, consequently achieving more or less the same efficiency outputs as with Rotterdam Project.

CONCLUSION:

Victoria Chemicals plc should choose the Merseyside Project

