

EXERCISE 5 – THE IMPACT OF CRITICAL THINKING ON GREEN TECHNOLOGY DEVELOPMENT



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Scenarios to be analysed

SCENARIO I

The Selection of Renewable Energy Technologies

The city is planning to switch to renewable energy sources. It has three technologies to choose from: solar panels, wind farms or geothermal. Each of these options has advantages and disadvantages, as well as different initial costs and long-term benefits.

Task for the group

- Analyse the options available in terms of cost, efficiency, environmental impact and potential risks

- Choose one technology that the city should implement and justify your decision

SCENARIO II

Reducing the company's plastic consumption

A large manufacturing company is trying to reduce its environmental impact, especially in terms of plastic consumption. It is possible to switch to alternative materials such as bioplastics or fully biodegradable packaging. However, each of these materials has different properties, production costs and environmental impact.

Task for the group

- ➔ Evaluate different alternatives to plastic, taking into account their environmental impact, production costs, and long-term durability

- ➔ Choose the best solution for the company and give reasons for your decision

SCENARIO III

Introduction of new recycling technology

A waste management company is considering a new recycling technology that would allow it to process a wider range of waste, including hard-to-recycle plastics. The technology is innovative, but comes with high upfront costs and operational risks.

Task for the group

- ➔ Analyse whether the investment in the new technology is worthwhile, taking into account costs, potential environmental benefits and implementation risks

- ➔ Decide whether to implement or reject the technology, justifying your choice

SCENARIO IV

Development of green urban infrastructure

The city plans to develop green infrastructure, including parks, rain gardens and green roofs on public buildings. The aim is to improve air quality and increase rainwater retention. However, there is a funding problem for all initiatives, forcing the selection of the most cost-effective projects.

Task for the group

- ➔ Evaluate the proposed initiatives in terms of their environmental impact, implementation costs and long-term benefits for residents

- ➔ Choose which projects the city should implement first and justify your choice

Exercise 5 – The Impact of Critical Thinking on Green Technology Development

Materials

- Flipcharts or whiteboards for recording group results
- Supporting information on critical thinking and decision analysis

