

The Dam

A Warmer



Work with another student:

- How many ways of generating electricity can you think of?
- Rate them from 0 (none at all) to 5 (very damaging) for how much effect each method has on the environment.



How is the electricity generated in this country?

B Introduction

60% of Germany's electricity is generated by fossil fuel power stations and another 30% from nuclear power stations. The German government would now like to reduce reliance on these forms of electricity generation and move towards renewable methods such as solar, wind and hydro-electric (dams).

To this end, the *National Electricity Network of Germany* is planning to build a new dam on the Rhine River. Electricity consumption is projected to outpace generation within ten years so the dam project is seen as vital to the country's energy policy.

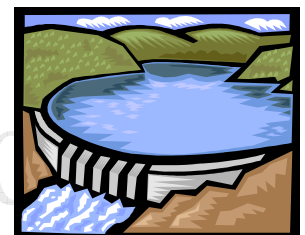
Without the dam, Germany will have a shortfall of some 6% of its energy requirements within ten years. Coal production is falling and nuclear power has become unpopular with the public in the last 15 years.

The Netherlands is not satisfied at the prospect of a dam so near its own borders considering the heavy impact it is likely to have on the local Rhine environment.

C Options

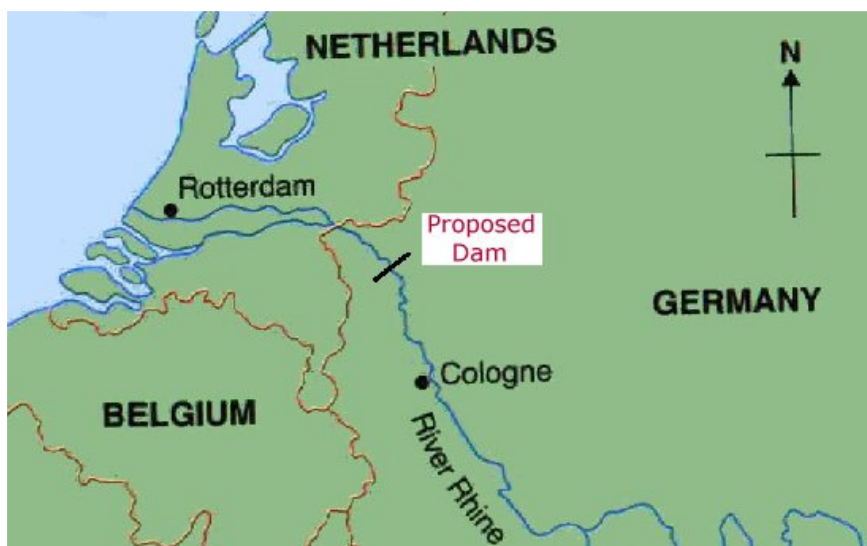
Only two options exist.

- i. The Rhine Dam is built over the next three years and the electricity generated goes a long way towards fulfilling Germany's growing energy requirements over the coming decades.



C Options

- ii. Opposition both in Germany and Holland succeeds in getting the dam project cancelled and the *National Electricity Network of Germany* will have to try and increase coal and nuclear energy production.

D Map**E** The Meeting

The German government has called a meeting to decide on whether to go ahead with the dam project or look for other sources of power.

Attending the meeting will be:

- ❑ 2 representatives of *National Electricity Network of Germany*.
- ❑ The Dutch Minister for the Environment.
- ❑ The German Energy Minister.
- ❑ A member of German anti-nuclear group *No To Nuclear*.
- ❑ The head of *Tourism Board Of Southern Holland*.
- ❑ A member of German environmental group *Green Energy*.
- ❑ 2 residents of Duisberg, a city near the proposed dam site.
- ❑ A representative of local fishermen.



E The Meeting

Each representative will have one vote at the end of the meeting and members of the public will be able to vote too.

A chairperson will be selected before the beginning of the meeting and will keep order in the meeting.

Try and consider the positive aspects of other people's opinions too. Argue your case but also think about what other people are saying.

Read the instructions on the piece of paper your teacher will give you very carefully and plan your arguments either alone or with the other students in your group.

sample lesson ESL Lounge

The Roles

Representative of *National Electricity Network of Germany.*

This dam must be built. Germany is a country of 84 million people and its electricity consumption rises year after year. Failure to build the dam will mean costly delays and inefficient alternatives. The German public has expressed distaste for nuclear power and coal is running out. There are no alternatives. Living in a modern, industrialized country such as Germany requires huge electricity generation. Solar energy and wind power won't be ready to contribute significantly for another twenty years.

Dutch Minister for the Environment.

This dam will have huge consequences for your small country. Germany is a large country ten times the size of your country. Why do they have to build this dam so close to the border? The Rhine River flow will be dramatically affected. What is now a wide, fast-flowing river with associated industrial and leisure activities will, after the dam's opening, become nothing more than a stream. Germany should have seen their energy hole coming and prepared better for it, as Holland has done with extensive wind farm projects.

German Energy Minister

Germany would be irresponsible to continue using nuclear power, which the German people are uneasy with, or coal fired power stations, which are both catastrophic for the environment and increasingly uneconomical due to the rising cost of coal extraction and falling stocks of coal. Your Dutch colleagues insist Germany should have put in place better renewable energy schemes, but they have the advantage of a long windy coastline, which Germany does not. By building this dam, Germany is actually being environmentally responsible and following the recommendations of critics who have always berated the government for not seeking out better renewable energy sources.

sample lesson ESL Lounge

Member of German anti-nuclear group *No To Nuclear*.

30% of Germany's electricity comes from nuclear-powered power stations. This is too high in an era when many countries worldwide are turning away from nuclear power. You believe nuclear power to be fundamentally unsafe both in the day-to-day running of the power stations and in the very difficult task of disposing of the waste and the spent fuel rods. This dam is not the ideal solution but is a better alternative to the other option, which is to continue producing either unsafe or highly polluting energy from other sources.

Head of *Tourism Board of Southern Holland*

This dam will wreak havoc in the Rhine valley in southern Holland. Areas popular with fishermen and water sports enthusiasts will empty as the fast-flowing Rhine becomes a trickle. This will cost many people in the area their jobs, people who work directly in the tourism industry and those who work indirectly for it. Companies in sectors such as catering, retail and transportation will all be severely affected by this dam's construction. And to have another country do this to you makes it even worse!

Member of German environmental group *Green Energy*.

You are not necessarily heavily in favor of dam construction, as it usually has a detrimental effect on the surrounding environment. You would much prefer the German government to pursue a policy of truly renewable energy sources such as wind power through turbines, solar power or wave power using Germany's extensive coast in the north of the country. You understand there will be some damage to the environment both upstream and downstream from the dam but ultimately, you think this acceptable if it means Germany being less reliant on nuclear or coal for its energy.

Residents of Duisberg

Most of the population of Duisberg is firmly opposed to the building of this dam due to the enormous changes it will bring about on the Rhine River. You have been informed that the river's flow will be heavily reduced and that may affect the local industrial and leisure concerns. However, it is also true that both the construction and the operation of the dam will create many jobs in the local community so this may offset the first problem.

Representatives of local fishermen

This dam is going to be a disaster for the fishermen you represent. Both sports anglers and those who fish for a living will find the Rhine River drastically altered after this dam is built. Upstream, what is now river will become nothing more than a stagnant lake. Downstream, what is now river will become nothing more than a mountain stream. And it is not only fishermen who will be affected. Everyone from farmers, factory owners and sailing enthusiasts will be affected by the great changes to the Rhine River valley.

sample lesson ESL Lounge

Teacher Notes

Target Language:

Role Play: persuading, agreeing, disagreeing, negotiating, etc.

Duration:

60 minutes

1 Structure and Timing (all times approximate)

- A. Warmer (10 minutes)
- B. Introduction (5 minutes)
- C. Options (5 minutes)
- D. Map (5 minutes)
- E. The Meeting (20 minutes)
- F. Roles (preparation) (10 minutes)

Total: 60 minutes.

2 Procedure

A. Warmer

Students work in pairs to think of as many types of electricity generation as possible.

Possible answers: *power stations (nuclear, oil-fired, gas-fired, coal-fired, refuse-fired), solar, wind, wave power, hydroelectric.*

You can then have a class discussion on how damaging each one is to the environment.

Opinions will differ but don't get distracted too much as this part of the lesson only serves to get students thinking about energy production and its effects.

B. Introduction

Ask students to read the information given here and ask some general comprehension questions to check understanding. Ask why Germany wants to build the dam. Ask why Holland should be so set against the plan.

C. Options

The role-play will discuss a simple either/or question. Either the dam gets built or it doesn't. There is no third way, for example by building a smaller dam or in a different position. This is an all or nothing question. Make sure the students understand this and that they have understood the consequences of not building the dam – with reference to the information given in the Introduction section of the lesson.

D. Map

This is a basic reference for the students to use before and during the role-play.

E. The Meeting

This is the main part of the lesson.

There are eight role cards so you will need at least 8-10 students. You also have the option to elect a chairperson who should be an outgoing student with good ability in English.

If you have a class of 12, for example, simply give four of the roles to pairs of students. You also have the possibility to allow other students to act as members of the public and give them the chance to ask questions at the end of the meeting. Having enough roles for a class of up to 20 shouldn't be a problem.

After deciding which students will play which roles, give time for preparation, especially important if each role is to be played by two or more students.

The teacher, if necessary, can play one of the roles or act as chairperson.

Classroom furniture should be arranged to allow for a comfortable "round table" discussion.

After students have read their role cards and prepared their arguments for a little time, either the teacher or the chairperson should open the meeting.

The discussion will ebb and flow depending on the abilities and personalities of the students involved. The teacher should ensure everyone gets to speak and encourage the more reserved.

At the end of the discussion, put the issue to a vote. Each student is given one vote and any students playing members of the public, after a "question and answer" session, also have a vote.

F. Roles

These will need to be printed out and cut up so as to allow easy distribution and use.

Hand out role cards to students and ensure they understand everything pertaining to their roles.

Remind students to consider the positive aspects of their own preferred solution as well as the negative aspects of the competing projects.

3 Subscribe Today

This is a free educational resource from esl-lounge Premium for the purposes of teaching students about environmental issues, including climate change.

You can find other similar resources here:

<https://www.esl-lounge.com/premium/free-environment-lesson-plans.php>

esl-lounge Premium opened 20+ years ago and offers:

- ❑ High quality PDF lesson plans such as this one.
- ❑ Integrated listening lessons using mp3 audio files.
- ❑ Hundreds of full-color flashcards.
- ❑ Thousands of simpler PDF worksheets for exam teaching and more.

Sign up today and get access for around **\$0.10 (€0.09 / £0.07)** a day!

<https://www.esl-lounge.com/amember/signup>

esl-lounge Premium home page:

<https://www.esl-lounge.com/premium/>

sample lesson ESL Lounge