

We are currently teaching at upper secondary level (students aged 17 and 18 years). As an introduction to the new subject area 'Raw materials and resources', the learners are asked to analyse the mining of lithium in Chile and evaluate the individual dimensions of sustainability.

→ [...] In a relaxed, open working atmosphere, the students are given the following task: "Chile's economy is growing due to the increasing extraction of lithium. Discuss the advantages and disadvantages according to the individual perspectives of the sustainability triangle. Then evaluate the extraction of the raw material."

In plenary, the students weigh up the advantages and disadvantages according to the individual perspectives and the teacher notes the most important arguments on the board. The final step is the numerical evaluation of lithium mining based on the aspects. The teacher moderates the negotiation process and notes the values without voting themself.

SUSTAINABILITY DIAGRAM – RESULT OF THE TASK ON THE BLACKBOARD

Explanation of the diagram:

- each axis represents one of the three dimensions of the sustainability triangle
- each dimension is rated on a scale of 1 to 6:
1 point = little sustainable
6 points = very sustainable

positive aspects:

- utilisation of the → desert vs. eco-system with living beings
- indirect → saving of CO₂ > use for electric cars
- solar energy for extraction processes (as a suggestion)

negative aspects:

- water use and water availability
- no knowledge about long-term effects

ECONOMY

positive aspects:

- high demand
- long-term usability due to high occurrence

negative aspects:

- costs for → transport and extraction
- foreign companies

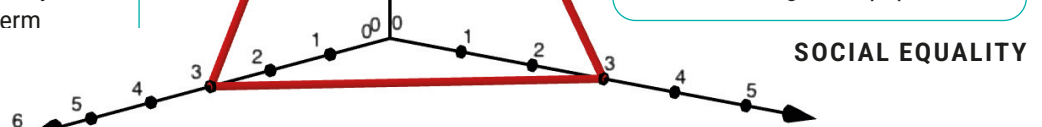
positive aspects:

- → GDP increases > money for social projects
- jobs

negative aspects:

- losses for agriculture and small businesses
- threat to indigenous population

ECOLOGY



STUDENT ABOUT UTILISATION OF THE DESERT:

'Well, nothing lives in the desert anyway, so it's okay to use it. It would be much worse if you found lithium in the Amazon and cleared it for it. So, as a habitat, the rainforest is worth more than the desert.'

TEACHERS' CONSIDERATION AFTER THE LESSON

"Phew, this lesson was really packed with new content for the learners, but also exciting discussions. I was amazed at how actively some of the students got involved in the lesson. I particularly remember the situation where we discussed the sustainability triangle as a diagram. I was really surprised by the variety of arguments. I found the statement that mining takes place in the desert and is therefore not so bad from an ecological perspective particularly interesting. Many of the students also responded to this. I had a moment where I had to come to terms with the statement myself. Where does this statement that the Atacama is worth less come from and who actually decides that?"