Expert Challenge: Mediation und erneuerbare Energien

Zusatzaufgaben für Schnelle | Klasse 10 Gymnasium | Niveau: anspruchsvoll

⭐ Zusatzaufgaben für Schnelle: Du bist mit dem Basis-Arbeitsblatt zur Mediation fertig? Dann kannst du dich hier an anspruchsvolleren Aufgaben versuchen. Es geht nicht mehr nur um das Wiedergeben von Informationen, sondern um Transfer, Bewertung und kritisches Denken: Du passt Inhalte an unterschiedliche Adressaten an, hinterfragst Zahlen und argumentierst auf Englisch. Arbeite sorgfältig und in vollständigen englischen Sätzen. Die Aufgaben kannst du in beliebiger Reihenfolge bearbeiten.

📖 Zusatzmaterial: Erweiterte Informationen zum Thema

Die Stromerzeugung schwankt stark: An windigen und sonnigen Tagen produzieren Anlagen mitunter mehr Strom, als gerade verbraucht wird. In windstillen Winternächten, der sogenannten „Dunkelflaute“, liefern Wind und Sonne dagegen kaum Strom. Zur Speicherung werden unter anderem Batterien, Pumpspeicherkraftwerke und die Herstellung von Wasserstoff diskutiert. Batterien eignen sich gut für kurze Zeiträume, sind aber für große Mengen teuer. Außerdem muss das Stromnetz ausgebaut werden, weil Windstrom oft im Norden erzeugt, aber im Süden verbraucht wird. Gegen neue Windräder und Stromleitungen gibt es in manchen Regionen Widerstand: Anwohner sorgen sich um Landschaftsbild, Lärm und Immobilienwerte.

1 Which statement best describes the 'Dunkelflaute' mentioned in the additional text?

- ☐ A period with little wind and little sunlight, so renewable plants produce very little electricity
- ☐ A storm that damages wind turbines in northern Germany
- ☐ A government programme that pays for new solar panels
- ☐ A method of storing hydrogen in underground tunnels

2 Which of the following problems are mentioned or clearly implied in the additional text? (Choose all that apply.)

- ☐ Electricity is often produced far away from where it is needed.
- ☐ Some local residents oppose new wind turbines and power lines.
- ☐ Batteries are cheap for storing very large amounts of energy.
- ☐ Solar panels produce CO_2 emissions every day.

3 Kreuze an: richtig oder falsch?

	richtig	falsch

4 Kreuze an: richtig oder falsch?

	richtig	falsch

5 Match the German term with the most suitable English expression for use in mediation.

6 Although wind and solar power are climate-friendly, their output _____ depending on the weather, so we need effective energy _____ to balance supply and demand.

7

8 MEDIATION – Addressee-oriented: Your English-speaking exchange partner's 10-year-old brother asks what 'renewable energy' is and why Germany wants more of it. Using the German text from the worksheet, explain the main idea in simple English in 3–4 sentences (no technical terms without explanation).

9 MEDIATION – Selecting information: Your English class is writing a short blog post about the question 'Is Germany's energy transition realistic?'. Using the additional text above, write 4–5 sentences in English that mention only the information relevant for this question. Begin with a clear position (e.g. 'Overall, the goal seems …').

10 EVALUATE: A politician says: 'Because wind and solar produce no CO_2, they have no negative effects on the environment.' Evaluate this statement critically in 4–6 sentences. Use at least two arguments and one connector of contrast (e.g. however, on the other hand, whereas).

11 RESEARCHER TASK – Data critically: The worksheet says wind produces about 30 % and solar about 10 % of Germany's electricity. (a) Explain why this information alone is not enough to judge whether Germany will reach its 2030 goal. (b) Name three further pieces of information you would need and explain briefly why. Write in English (about 100 words).

12 CREATIVE TRANSFER – Role play: Write a short dialogue (6–8 lines) in English between a farmer from northern Germany who wants to build a wind turbine on his field and a neighbour who is against it. Both must give at least two arguments, and the dialogue should end with a possible compromise.

13 KNOBELAUFGABE – Language puzzle: Mediation often needs paraphrasing. Rewrite each sentence in English WITHOUT using the underlined key word in brackets, but keep the meaning:

1) Renewable energy is good for the climate. (good)
2) The storage of energy is a big problem. (problem)
3) Experts think Germany can reach its goal. (think)

Lösungen

Expert Challenge: Mediation und erneuerbare Energien · Englisch · Klasse 10

Für dich als Lehrkraft: leichtere Fassung in einer Minute

QR scannen oder lehreule.de/anpassen/mediation-klasse-10 öffnen: kostenloses Konto, dann schreibt Lehreule die leichtere Fassung mit Hilfen — oder Zusatzaufgaben für Schnelle, eine Word-Datei, einen QR-Code für die Klasse.

Aufgabe 1: A period with little wind and little sunlight, so renewable plants produce very little electricity

Aufgabe 2: Electricity is often produced far away from where it is needed., Some local residents oppose new wind turbines and power lines.

Aufgabe 6: fluctuates, storage

Aufgabe 8: Renewable energy is power that comes from sources that never run out, like the wind and the sun. Germany wants to produce most of its electricity this way by 2030 because it does not pollute the air with CO_2 and so it helps to protect the climate. Wind turbines and solar panels already make a lot of Germany's electricity. The difficult part is that we cannot easily save the energy for days when it is not windy or sunny.

Aufgabe 9: Overall, Germany's goal of 80 percent renewable electricity by 2030 seems ambitious but possible. Wind and solar power already supply a large part of the electricity, and experts expect investments to keep rising. However, the production of electricity fluctuates, especially during a 'Dunkelflaute' in winter, so better storage solutions such as batteries or hydrogen are needed. Moreover, the power grid has to be expanded because wind power is mostly generated in the north, but a lot of electricity is used in the south. Finally, protests by local residents could slow down new wind turbines and power lines, so politicians must also win public support.

Aufgabe 10: The statement is too simple and therefore only partly true. It is correct that wind turbines and solar panels do not emit CO_2 while they are producing electricity, which is a great advantage for the climate. However, their production, transport and disposal do use energy, raw materials and land, and this can cause emissions and pollution. Furthermore, wind turbines can affect landscapes and endanger birds and bats, and solar parks need a lot of space. On the other hand, over their whole life cycle, wind and solar power still cause far fewer emissions than coal or gas. So I would say they are much better for the environment than fossil fuels, but not completely free of negative effects.

Aufgabe 11: (a) These numbers only show the present situation, not the development over time. We do not know how fast the share is growing or whether the figures are yearly averages or single values. (b) First, I would need the growth rate of recent years to see whether the trend is fast enough. Second, I would need data on electricity demand, because if demand rises (for example because of electric cars and heat pumps), the same amount of renewable power covers a smaller percentage. Third, I would like to know about planned investments and approval times for new turbines and power lines, because bureaucracy and protests can delay the expansion. Finally, the contribution of other sources like hydro power and biomass would also matter.

Aufgabe 12: Farmer: I would like to put up a wind turbine on my field. It would produce clean electricity for hundreds of households.
Neighbour: I understand that, but I'm worried about the noise and the view. The landscape is why we moved here.
Farmer: Modern turbines are quieter than they used to be, and they must keep a minimum distance from houses. Besides, the turbine would bring income to our village.
Neighbour: Maybe, but the value of my house could fall, and I don't want to live next to a huge machine.
Farmer: What if the village owned a share of the turbine, so that everyone profits from the money it makes?
Neighbour: That sounds better. If the turbine is placed far enough from the houses and we get a say in the plans, I could accept it.
Farmer: Great, let's invite the whole village to a meeting and discuss the details together.

Aufgabe 13: 1) Renewable energy is beneficial / helpful / positive for the climate (or: Renewable energy helps to protect the climate).
2) Storing energy is a major challenge / difficulty / an important issue.
3) Experts believe / expect / are confident that Germany can achieve / meet its target.