Water Beneath Lithium

How economic policies shape resource use and development

WG.C.6.2 "Compare the impact of government policies in both market and command economic systems on the availability and use of natural resources and development."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each government policy, circle its effect on groundwater, and number the effects on jobs or other development. Use your marks to compare the two economic systems.

Two Economies, One Scarce Resource

1 Imagine two neighboring countries with similar lithium deposits beneath dry salt flats. Both need groundwater for farms and homes, and both hope lithium mining will bring jobs. In North Basin, a market economy, private companies decide whether to build mines based on expected profits. The government sells limited pumping permits and charges for each unit of groundwater used. Companies compete for lithium, but water costs make recycling water more attractive. One company invests in a recycling system and hires local workers to run it. Less pumping leaves more groundwater available for other users, although permit fees can raise mining costs.

2 In South Basin, a command economy, a government agency owns the lithium mines and sets annual production targets. It assigns workers, equipment, and groundwater to each mine rather than letting companies bid for permits. To speed battery production, officials initially set high lithium targets and give mines first claim on groundwater. Output rises and new roads serve the mines, but nearby farms receive less water during dry months. When farmers report shortages, the agency lowers its pumping allotment and orders mines to reuse water. These changes protect farm supplies, but lower output may slow new factory plans.

3 Neither economic system automatically conserves resources. North Basin's water charge pushes firms to limit pumping, but officials must check meter readings and enforce permit limits. South Basin can cut pumping quickly through a single order, but its production targets may pressure mine managers to hide shortages. In both places, lithium remains underground after a mining slowdown. What changes first is how much groundwater people can use and how fast mining and related industries grow. Residents ask a practical question: which policy protects water while still supporting lasting jobs? The answer depends on how each government sets and enforces its rules.

2 ANSWER WITH EVIDENCE

Use the passage

1. How do North Basin's pumping permits and South Basin's initial water assignments differ in their effects on groundwater available to farms?

2. Compare how a government policy in each basin affects mining or related jobs.

3. When each government tries to reduce groundwater use, how does it change what mines do?

4. Compare one challenge each government faces when trying to make its water policy work.

3 YOUR TURN

Your own words

A severe drought reaches both basins. In five or six sentences, propose one new government action for each basin that is not already in the passage, then compare how the actions could affect groundwater and development.

ANSWER KEY

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HIGH SCHOOL · WG.C.6.2

PART 1 · READ AND MARK

Underline each government policy, circle its effect on groundwater, and number the effects on jobs or other development. Use your marks to compare the two economic systems. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How do North Basin's pumping permits and South Basin's initial water assignments differ in their effects on groundwater available to farms?	**North Basin's limited permits and water charges encourage less pumping, leaving more groundwater for other users. South Basin initially gives mines first claim, leaving nearby farms less water in dry months.**
2	Compare how a government policy in each basin affects mining or related jobs.	**North Basin's water charge encourages a company to invest in recycling and hire workers to run it, though fees raise costs. South Basin's high production targets increase output and bring mine roads, though later pumping cuts may slow factory plans.**
3	When each government tries to reduce groundwater use, how does it change what mines do?	**North Basin charges for water, making recycling more attractive to private firms. South Basin directly lowers mines' pumping allotments and orders them to reuse water.**
4	Compare one challenge each government faces when trying to make its water policy work.	**North Basin must check meters and enforce permit limits. South Basin must address pressure on mine managers to hide shortages when production targets remain high.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

During the drought, North Basin should require mines to stop pumping when monitoring wells fall below a set level. This would protect groundwater for farms, but temporary shutdowns could reduce mining shifts. South Basin should fund a plant that treats municipal wastewater for non-drinking uses at its mines. Replacing some groundwater with treated water could protect farm wells while mines keep operating. The plant would cost public money and take time to build. North Basin would set a rule for private firms, while South Basin would direct public spending and mine operations.

Accept other passage-supported comparisons that distinguish market incentives from direct government assignments. For Part 3, accept feasible new actions if the response explains a groundwater effect and a development tradeoff for each basin.