

4.2 LIVING SUSTAINABLY

What do Germans do to live more sustainably?

C3 Framework Indicator	D2.Civ.14.6-8. Compare historical and contemporary means of changing societies, and promoting the common good.	
Staging the Compelling Question	Students will learn how Germans are working to live more sustainably by exploring how they recycle waste, examining the use of alternative forms of transportation, and studying Freiburg, Germany, known as the single best city for urban development.	
Supporting Question 1	Supporting Question 2	Supporting Question 3
What do Germans do with their trash?	What is sustainable transportation in Germany?	What does a sustainable city look like?
Formative Performance Task	Formative Performance Task	Formative Performance Task
After viewing a YouTube video on waste separation in Germany, students will record what items go in which colored bins.	Student groups will read an article on an assigned form of sustainable transportation to share with the rest of the class.	With a partner, student pairs will read the information about Freiburg, Germany, considered the single best city for sustainable urban development, and consider the feasibility of incorporating these sustainable ideas in their community.
Featured Sources	Featured Sources	Featured Sources
Source A: <i>Waste Separation in Germany: What Goes Where?</i>	Source A: <i>Cycling in Germany: Everything to know</i> Source B: <i>Trains: Traveling by Rail in Germany</i> Source C: <i>Public transportation in Germany: U-Bahn, S-Bahn, Tram & Bus</i> Source D: <i>The German History Scavenger Hunt: Part 3</i>	Source A: Handout 4.2.1 Source B: Handout 4.2.2 Source C: Handout 4.2.3 Source D: <i>Freiburg—A Sustainable City Trip in Germany</i>
Summative Performance Task	<p>Argument: Construct an argument (e.g., detailed outline, poster, essay) that addresses the compelling question using specific claims and relevant evidence from historical or contemporary sources, while acknowledging competing views.</p> <p>Extension 1: Research German Schrebergärten (little gardens).</p> <p>Extension 2: Learn about zero-bulk-waste stores, such as Original Unverpackt, located in Germany.</p> <p>Extension 3: With a partner, read the article “How Marginalized Communities in the South Are Paying the Price for ‘Green Energy’ in Europe.” Create a presentation to share with classmates that shows the impact of these biomass plants on the environment and the people who live near the plants.</p>	
Taking Informed Action	<p>Understand: Becoming more sustainable can be accomplished through small changes in what we consume and how we live.</p> <p>Assess: Examine the ways your school works toward being more sustainable.</p> <p>Act: Work with classmates to develop a campaign to encourage members of your school community to make those small changes and to work toward sustainability.</p>	

❓ COMPELLING QUESTION

- What do Germans do to live more sustainably?

INQUIRY OVERVIEW

In this inquiry, students will learn how Germans work to live more sustainably by exploring how they recycle waste, examining the use of alternative forms of transportation, and studying Freiburg, Germany, known as the single best city for urban development.

TEACHER BACKGROUND

The United Nations Brundtland Commission defined sustainability in 1987 as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”¹

In 2002, Germany adopted its first sustainable development strategy, and the country has updated it sporadically ever since. The strategy adopted in 2016 is based on the 2030 Agenda (a United Nations Resolution that also includes the 17 Sustainable Development Goals), and it was most recently updated in 2021. Germany firmly believes that to achieve the targets of the 2030 Agenda and the German Sustainable Development Strategy, “we must embark on truly demanding

transformation of key areas such as energy, the circular economy, housing, transport, food and agriculture” both on an international level and the national level; in businesses and at home.² From the workforce to manufacturers, investors, research facilities, universities, to consumers—everyone’s input is important to shape change.

“The guiding principles on which the German Sustainability Strategy is based are inter-generational equity, quality of life, social cohesion, and global responsibility.”³ Indicators and targets are laid out in the strategy with medium- and long-term objectives. Some of these objectives are:

- Renewables will account for 60 percent of the energy mix by 2050.
- Organic farming will be 20 percent of all agricultural activity by 2030.
- Vocational qualifications of women and girls will be increased by a third by 2030.
- Final energy consumption in goods transport will be reduced by 15–20 percent by 2030.
- Waste generation will be substantially reduced through prevention, reduction, recycling, and reuse by 2030.

Energy transformation, in Germany widely known as the *Energiewende*, is the country’s planned transition to a low-carbon, nuclear-free economy. Among other targets, Germany plans to shut down all nuclear power plants by 2022 and reduce greenhouse gas emissions by 55 percent by 2030. To learn more about the *Energiewende*, visit <https://www.bmwi.de/Redaktion/EN/Dossier/energy-transition.html>.⁴



1 United Nations. (2019). *Academic Impact: Sustainability*. <https://academicimpact.un.org/content/sustainability>.

2 German Federal Government. (2021). *German Sustainable Development Strategy Update 2021* (Summary). German Sustainable Development Strategy - 2021 update ([bundesregierung.de](https://www.bundesregierung.de)).

3 German Federal Government. (2021). *Germany's National Sustainable Development Strategy*. <https://www.bundesregierung.de/breg-en/issues/sustainability/germany-s-national-sustainable-development-strategy-354566>.

4 Federal Ministry for Economic Affairs and Energy. (2021). *Our Energy Transition for an Energy Supply That Is Secure, Clean, and Affordable*. <https://www.bmwi.de/Redaktion/EN/Dossier/energy-transition.html>.

Germany already generates one-third of its electricity from renewables. That significantly reduces emissions of greenhouse gases. So far, emissions in Germany have fallen by 40.8 percent in 2021 since 1990.⁵

Germany leads the world when it comes to recycling of municipal waste. Through the Circular Economy Act of 2012, the German Federal Government achieved its target of recycling 65 percent of municipal waste by 2020.

For more information on the 17 Sustainable Development Goals, see **Inquiry 4.3**.

 **TIME:** Two to three 45-minute periods

INSTRUCTIONAL RESOURCES

- Freiburg: Germany's Most Sustainable City (**Handout 4.2.1**)
- Freiburg: Germany's Most Sustainable City Questions (**Handout 4.2.2**)
- Freiburg: Germany's Most Sustainable City Questions Answer Key (**Handout 4.2.3**)
- Abnett, K. (2021, June 16). EU Eyes Tighter Rules for "Renewable" Biomass Energy Draft. *Reuters*. <https://www.reuters.com/world/europe/eu-eyes-tighter-rules-renewable-biomass-energy-draft-2021-06-16/>.
- Crane.TV. (2015, July 14). *Original Unverpackt: Zero Waste*. YouTube. <https://www.youtube.com/watch?v=dMnwG2iR754>. (2:16)
- de Puy Kamp, Majlie. (2021, July 9). *How Marginalized Communities in the South Are Paying the Price for "Green Energy" in Europe*. CNN. <https://edition.cnn.com/interactive/2021/07/us/american-south-biomass-energy-invs/>.
- DW Travel. (2021, April 28). *Freiburg—A Sustainable City Trip in Germany | Discover Freiburg by Bike and Longboard*. YouTube. <https://www.youtube.com/watch?v=boht9TBmPPo>. (10:34)
- Handbook Germany English. (June 25, 2020). *Waste Separation in Germany: What Goes Where?* YouTube. www.youtube.com/watch?v=lo_kETdq0-0. (1:59)
- HousingAnywhere. (n.d.). *Cycling in Germany: Everything to Know*. Retrieved October 28, 2021, from <https://housinganywhere.com/Germany/cycling-in-germany>.
- How To Germany. (n.d.). *Trains: Traveling by Rail in Germany*. Retrieved October 28, 2021, from <https://www.howtogermany.com/pages/trains.html>.
- iamExpat. (n.d.). *Public Transportation in Germany: U-Bahn, S-Bahn, Tram & Bus*. Retrieved October 28, 2021, from <https://www.iamexpat.de/expat-info/transportation/public-transportation-germany-sbahn-ubahn-tram-bus>.
- Shia. (2017, September 15). *Zero Waste Bulk Stores around the World #1: Unverpackt Kiel in Kiel, Germany*. Wasteland Rebel. <https://wastelandrebel.com/en/the-first-zero-waste-bulk-store-in-germany-unverpackt-kiel/>.
- Transatlantic Outreach Program. (2020, April 24). *The German History Scavenger Hunt: Part 3*. YouTube. <https://www.youtube.com/watch?v=jBNEuqoWv8s&t=185s>. (from 1:57 – 2:45 minutes).
- University of Maine. (n.d.). *"What Is Sustainability?"* Retrieved October 28, 2021, from umaine.edu/sustainability/what-is-sustainability/.



INTRODUCTORY QUESTION

Ask students: "What does it mean to live more sustainably?" Make a list of answers on the board.

Explain that there are many ways we can live more sustainably, such as recycling, reusing, reducing, using public transportation, biking, eating a plant-based diet, and buying second-hand clothing. Living sustainably means living in a way that avoids the depletion of natural resources in order to maintain an ecological balance.

⁵ Umweltbundesamt. (2021, March 15). *Germany's Greenhouse Gas Emissions Down 8.7 Percent in 2020*. <https://www.umweltbundesamt.de/en/press/pressinformation/germanys-greenhouse-gas-emissions-down-87-percent>.

► **Resource**

- University of Maine. (n.d.). What Is Sustainability? umaine.edu/sustainability/what-is-sustainability/.

❓ SUPPORTING QUESTION 1

What do Germans do with their trash?

► **Formative Performance Task**

Ask students: “What does it mean to recycle?” Then ask: “What do we recycle?” Next ask: “Why do we recycle?” Make a list of the reasons for recycling.

Direct students to divide an 8 × 12-inch sheet of paper into six boxes and to label the boxes yellow, black or gray, green or blue, brown, glass 1, and glass 2. Instruct students that as they watch the YouTube video on waste separation in Germany, they should record what items go in which bins.

As a class, discuss the German recycling program: What are the advantages? Disadvantages? Refer to the list from the **Introductory Question**: How does it compare to the recycling program in your state? Region? What are the consequences of not recycling?

Teachers may wish to share the following about German consequences for not recycling.

- The Circular Economy Act, obligates private households to separate waste since 2015. This means that missing or incorrect separation is also punishable. However, there are different regulations at the municipal level.
- If you do not separate your trash properly, the trash collectors may simply leave your garbage without emptying it.
- In the worst-case scenario, you may even be committing an “administrative offense” by not separating your trash. Fines vary considerably depending on the federal state. Fines of up to 5,000 euros may be due, but the average fines are from 25–300 euros.

► **Resource**

- Handbook Germany English. (2020, June 25). *Waste Separation in Germany: What Goes Where?* YouTube. www.youtube.com/watch?v=lo_kETdq0-0. (1:59)

❓ SUPPORTING QUESTION 2

What is sustainable transportation in Germany?

► **Formative Performance Task**

Ask: “What are the concerns regarding most forms of transportation and their impact on the environment?”

List the following on the board: cars, trucks, trains, trams, bicycles, buses, and underground subways. Ask students to rate the forms of transportation from the most sustainable to the least, and to indicate why.

Divide the class into three groups. Assign each group an article on sustainable transportation in Germany from the list of resources. Each group should read the assigned article and take notes on the specific form of sustainable transportation found in the article to share with the rest of the class. Each group should be prepared to answer questions.

Teachers may wish to ask students if anyone has changed their sustainability ranking of the forms of transportation.

To learn more about sustainable transportation in Germany, watch *The German History Scavenger Hunt: Part 3* (1:57–2:45).

► Resources

- HousingAnywhere. (n.d.). *Cycling in Germany: Everything to Know*. Retrieved October 28, 2021, from <https://housinganywhere.com/Germany/cycling-in-germany>.
- How To Germany. (n.d.). *Trains: Traveling by Rail in Germany*. Retrieved October 28, 2021, from <https://www.howtogermany.com/pages/trains.html>.
- IamExpat. (n.d.). *Public Transportation in Germany: U-Bahn, S-Bahn, Tram & Bus*. Retrieved October 28, 2021, from <https://www.iamexpat.de/expat-info/transportation/public-transportation-germany-sbahn-ubahn-tram-bus>.
- Transatlantic Outreach Program. (2020, April 24). *The German History Scavenger Hunt: Part 3*. YouTube. <https://www.youtube.com/watch?v=jBNEuqoWv8s&t=185s>. (1:57–2:45).

❓ SUPPORTING QUESTION 3

What does a sustainable city look like?

► Formative Performance Task

Freiburg, Germany, is considered an excellent example of sustainable urban development. With a partner, students will read the information about Freiburg in **Handout 4.2.1** and answer the questions in **Handout 4.2.2**.

As a class, make a list of the reasons Freiburg is considered the best city for sustainable urban development and whether it would be possible for the community in which students live to incorporate these sustainable ideas, if they do not already exist.

Teachers may want students to view the YouTube video of a tour of Freiburg.

► Resources

- Freiburg: Germany's Most Sustainable City (**Handout 4.2.1**)
- Freiburg: Germany's Most Sustainable City Questions (**Handout 4.2.2**)
- Freiburg: Germany's Most Sustainable City Questions Answer Key (**Handout 4.2.3**)
- DW Travel. (2021, April 28). *Freiburg—A Sustainable City Trip in Germany | Discover Freiburg by Bike and Longboard*. YouTube. <https://www.youtube.com/watch?v=boht9TBmPPo>. (10:34)

✔️ SUMMATIVE PERFORMANCE TASK

What do Germans do to live more sustainably?

Construct an argument (e.g., detailed outline, poster, essay) that addresses the compelling question using specific claims and relevant evidence from contemporary sources, while acknowledging competing views.

⊕ EXTENSION (OPTIONAL) TASK 1

Research German *Schrebergärten* (little gardens). What are they? How did they originate? How did people benefit from *Schrebergärten* during WWI and WWII? How did their role change during the 1950s, '60s, and '70s? What about now? How are they regulated?

Create a presentation to share at a local gardening society or at a local facility for the elderly.

⊕ EXTENSION (OPTIONAL) TASK 2

Learn about zero-bulk-waste stores, such as *Original Unverpackt*, located in Germany. In these stores, nothing is packaged! What are the benefits of this type of store? What are the challenges? Reach out to your local area business regarding ways they could reduce the packaging of products. Below are links to start your research.

- Crane.TV. (2015, July 14). *Original Unverpackt: Zero Waste*. YouTube. <https://www.youtube.com/watch?v=dMnwG2iR754>. (2:16)
- Shia. (2017, September 15). *Zero Waste Bulk Stores around the World #1: Unverpackt Kiel in Kiel, Germany*. Wasteland Rebel. <https://wastelandrebel.com/en/the-first-zero-waste-bulk-store-in-germany-unverpackt-kiel/>.

➕ EXTENSION (OPTIONAL) TASK 3

Renewable sources provide around 20 percent of European Union (EU) energy in 2019. More than half of that is biomass, which the EU ranks as having a low-carbon footprint, because the carbon dioxide emissions produced from wood burning are partly balanced by the carbon dioxide absorbed by the trees as they grow.*

Enviva, the world's largest biomass producer and one of nearly a dozen companies that benefit from the sustainability commitment of the EU, has multiple plants located in North Carolina. With a partner, read the article "How Marginalized Communities in the South Are Paying the Price for 'Green Energy' in Europe." Create a presentation to share with classmates that shows the impact of these biomass plants on the environment and the people who live near the plants.

► Resource

- de Puy Kamp, Majlie. (2021, July 9). *How Marginalized Communities in the South Are Paying the Price for "Green Energy" in Europe*. CNN. <https://edition.cnn.com/interactive/2021/07/us/american-south-biomass-energy-invs/>.

*Abnett, K. (2021, June 16). EU Eyes Tighter Rules for "Renewable" Biomass Energy Draft. *Reuters*. <https://www.reuters.com/world/europe/eu-eyes-tighter-rules-renewable-biomass-energy-draft-2021-06-16/>.

★ TAKING INFORMED ACTION

Understand: Becoming more sustainable can be accomplished through small changes in what we consume and how we live.

Assess: Examine the ways your school works toward being more sustainable.

Act: Work with classmates to develop a campaign to encourage members of your school community to make those small changes and to work toward sustainability.

CONCEPTS LIST

- Sustainability
- Recycle
- Urban development
- Solar energy
- Bioenergy
- Green building
- Alternative transit
- *Energiewende*