

## 7.2 GERMANY: A MODEL OF SUSTAINABILITY

### **?** FOCUS QUESTION:

- How do the collaborative efforts of government, corporations and individuals help to create a sustainable environment?

**STANDARD #3** PEOPLE, PLACES AND ENVIRONMENTS.

**STANDARD #8** SCIENCE, TECHNOLOGY AND SOCIETY.

### LESSON OVERVIEW:

In this lesson students will conduct research on Germany's successful efforts to work toward a sustainable environment. Students will use the knowledge and concepts learned to help them develop projects they will share with peers during their participation in a Sustainability Exposition. The exposition will require students to be able to describe and discuss a specific course of action being taken by Germany for the purpose of providing background and conveying information about sustainability efforts in Germany.

### TEACHER BACKGROUND INFORMATION:

Sustainable development is an ongoing task and is considered a benchmark for a society's progress. In a 2008 progress report on Germany's National Sustainability Strategy, the German government focused on topics such as climate and energy, the management of raw materials, and food for the world. The aims of the sustainability strategic plan are to promote intergenerational equity, a good quality of life, social cohesion, and international responsibility. Sustainability affects all policy areas both at national and international levels. It does not stop at the peripheries; nor does it stop at borders.

Germany is a successful contributor in the global challenge to create a sustainable environment. Government initiatives help to make Germany a major player in the fight to save the environment. Its support and direction to develop programs such as waste prevention and recycling guidelines, green space planning, international solar competitions to promote green technology, and policies to inspire business compliance bring Germany to the forefront as a 21st-century world leader of sustainability. Being proactive has helped Germany face the challenge of reducing pollution and enhancing the environment. Germany's commitment to environmental protection has remained strong despite the economic crises of 2008/2009 and the sovereign-debt crises within the EU starting in 2011. In spite of the international economic and political pressures faced by all countries around the world, Germany is still a significant role model for other major industrial nations.



**TIME:**



(4) 45 minute class periods

**INSTRUCTIONAL RESOURCES:**

- Internet access
- *Transforming Deutsche Bank’s Head Office into a Green Building* (**Handout 7.2.1 on Instructional Resource Disc**)
- Deutsche Bank: Personal observations by Gerrit Book (**Handout 7.2.2 on Instructional Resource Disc**)

**PROCEDURE:**



**DAYS 1-3:**

- **Anticipatory Set:** Students will participate in a class discussion about America’s efforts to help create a sustainable environment. What is the US doing to help reach that goal? Are there local initiatives across America? As ideas are offered, the teacher should write these suggestions on the board in columns without indicating that he/she is putting them into categories. See below for an example. When ideas are exhausted, the teacher should ask students to label each column. This will vary per class, but offer a jumping off point for the next day’s lesson that will require students to investigate Germany’s efforts.

Recycling and waste prevention: reducing, reusing, upcycling	Green Technology	Green Structure and Urban Planning	Public Transportation
Bottle returns	Motion sensor lights	Government-owned parks in city centers that prohibit development	Creation of bike lanes
	Solar energy	Green spaces	








The Anticipatory Set should help to start students thinking about sustainability efforts in their own communities and nation. Now they will investigate Germany’s initiatives.

- The teacher should inform students that in groups they will
  - a. research the sustainability efforts that Germany has instituted, and
  - b. showcase their findings at a Sustainability Exposition. At the exposition, students are required to showcase their findings by:
    - Creating a visual (tri-boards, posters, images/reproductions, copies of primary source documents, photos, artwork, etc.)
    - Submitting a 3-4 page report of their findings as the registration “fee”.
    - Giving a 2-3 minute summary or “sound bite” as attendees stop at their exhibit. This may be performed as a skit or other means of delivery, such as a giving a monologue in the character of a famous German.
 (The exposition may take place in class or in an arena such as the cafeteria.)
- Students should be divided into four groups or eight groups depending on class size to conduct research on how Germany addresses one of the following:
  - a. recycling and waste prevention: reducing, reusing, upcycling,
  - b. green spaces, green structure and urban planning,
  - c. green technology: solar energy and wind energy
  - d. a case study on the Deutsche Bank Towers.




- Each group will be provided some suggested articles found on the Internet, but they are urged to go beyond these sources and conduct a wider search for information. Students should collect information that may include: a general description, a brief history of the project, the goals, the difficulties and challenges, influence of government policies, connection to German culture, current action being taken, etc. *It is important that the teacher review in advance the websites listed below to make sure that these are still active sites.*

Suggested Sites and Resources:



1. Recycling and waste prevention: reducing, reusing, upcycling

-  a. <http://www.howtogermaany.com/pages/recycling.html>
-  b. <http://earth911.com/news/2009/07/13/trash-planet-germany/>
-  c. [http://www.export.gov/faq/eg\\_main\\_017514.asp](http://www.export.gov/faq/eg_main_017514.asp)
-  d. [http://1.bp.blogspot.com/\\_pbkjSzbFM0k/TQilw5tvN6I/AAAAAAAAAB8/XZ-Ag9cvB4k/s1600/berlinrecyclingx2.jpg](http://1.bp.blogspot.com/_pbkjSzbFM0k/TQilw5tvN6I/AAAAAAAAAB8/XZ-Ag9cvB4k/s1600/berlinrecyclingx2.jpg)
-  e. <http://livegreenmom.com/wp-content/uploads/2010/09/german-recycling.jpg>
-  f. <http://livegreenmom.com/wp-content/uploads/2010/09/GreenDot.jpg>
-  g. [http://www.tradeangles.fsbusiness.co.uk/articles/green\\_dot.htm](http://www.tradeangles.fsbusiness.co.uk/articles/green_dot.htm)
-  h. <http://www.dw-world.de/dw/article/0,,14943224,00.html>

2. Green structure, green space and urban planning

-  a. <http://books.google.com/books?id=oUAEAAAAMBAJ&pg=PA16>
-  b. [http://andrewhammel.typepad.com/german\\_joys/2008/09/a-spontaneous-eco-wander-through-germany---by-william-powers---slate-magazine.html](http://andrewhammel.typepad.com/german_joys/2008/09/a-spontaneous-eco-wander-through-germany---by-william-powers---slate-magazine.html)
-  c. <http://www.umweltfrankfurt.de/en/frankfurt-the-green-city/>

3. Green technology: Solar Energy

-  a. <http://www.abb.us/cawp/seitp202/e719ddd22a2e6dadcd1257654002715d6.aspx>
-  b. <http://www.abb.us/cawp/seitp202/543f9874d9545e81c125763b002bc92c.aspx>

c. <http://www.solardecathlon.tu-darmstadt.de/home/home.en.jsp>

d. [http://www.solardecathlon.tu-darmstadt.de/solar\\_decathlon\\_2/landingpagesolardecathlon07.de.jsp](http://www.solardecathlon.tu-darmstadt.de/solar_decathlon_2/landingpagesolardecathlon07.de.jsp)

e. <http://www.solardecathlon.gov/scoring/>

f. <http://bouteiller.wordpress.com/2008/08/15/rotating-solar-house-in-germany-freiburg/>

4. A case study on the Deutsche Bank Towers.

a. *Transforming Deutsche Bank's Head Office into a Green Building* (**Handout 7.2.1 on Instructional Resource Disc**)

b. Deutsche Bank: Personal observations by Gerrit Book (**Handout 7.2.2 on Instructional Resource Disc**)

c. <http://www.thestar.com/entertainment/article/805450>



#### DAY 4:

- Students showcase their project at the Sustainability Exposition.

#### WHOLE GROUP REFLECTION:

- The teacher should lead the class in a discussion of Germany's efforts in meeting the challenge of creating a sustainable environment.

#### MODIFICATIONS:

- If the Sustainability Exposition cannot be held in a single space but rather in individual classrooms, the teacher may take pictures of each student group exhibit and create a PowerPoint to share with the other classes.
- This lesson may be an interdisciplinary project with English and science classes. The social studies teacher assesses the students' research skills and data relevancy and accuracy, the English teacher assesses the written and oral reports for communication elements, and the science teacher assesses the accuracy of scientific data.

**EXTENSIONS:**

- Students may conduct a letter campaign to US political leaders offering suggestions for programs the US government may initiate to help promote sustainability.
- Students may take the guise of a reporter and write a review/commentary on the Sustainability Exposition that summarizes the event and offers suggestions for the cause to continue.
- Students should plan and implement a school competition for innovation. How might the school/community improve its sustainability effort?

**Sources:**

*The National Sustainability Strategy.* (n.d.). Retrieved from the Press and Information Office of the Federal Government of Germany, August 2012: [www.bundesregierung.de/nn\\_208962/Content/EN/StatischeSeiten/Schwerpunkte/Nachhaltigkeit/nachhaltigkeit-2006-07-27-die-nationale-nachhaltigkeitsstrategie.html](http://www.bundesregierung.de/nn_208962/Content/EN/StatischeSeiten/Schwerpunkte/Nachhaltigkeit/nachhaltigkeit-2006-07-27-die-nationale-nachhaltigkeitsstrategie.html)