

# Green Collar Jobs: Exploring Opportunities

## AIM

The lessons aim to develop students' understanding of green collar jobs, what they are and their connection to current economic challenges. Through listening, reading, speaking, writing and researching local green construction training programs, students examine how green collar jobs present new opportunities.

## OBJECTIVES

At the end of this session, students will be able to:

- Define *green collar jobs*, *retrofitting* and *sustainability*.
- Interpret English-language news articles that contain vocabulary pertaining to construction, green building methods and retrofitting.
- Recognize some common English prefixes in new words to help guess the meaning.
- Recognize some nouns that can never be plural in English.
- Access and research websites, including [www.kqed.org](http://www.kqed.org), that list green job training and employment opportunities in their area.
- Explain the possible benefit of training for green collar jobs in the current economic downturn.
- Paraphrase an original source in their own words and acknowledge the author in parentheses.
- Explain the difference between a direct quote, paraphrasing and plagiarism.

## TARGET GROUP

Intermediate to high-level ESL students (levels 6–8)  
(For the purpose of this lesson, the target group levels range from 1 through 8, with the following guidelines: 1 = beginning, 5 = intermediate, 8 = advanced.)

## LENGTH

5 class periods of approximately 60 minutes each

## OVERVIEW

In these lessons, students hear directly from Van Jones, President Barack Obama's former advisor on Green Jobs, Enterprise and Innovation, about his hopes for America's economy. Through viewing a segment from *QUEST* (a KQED science program), they learn about the innovative green construction methods used in building the new Academy of Sciences in San Francisco. Students explore the meaning of green jobs, read about money the federal government allocates to training programs for green jobs, and make connections between the environmental crisis facing the world and the new economic opportunities arising from the crisis.

Students learn vocabulary pertaining to construction, retrofitting, and green building methods and standards while practicing listening, reading, speaking and writing skills. The unit concludes with a lesson on paraphrasing and plagiarism before students embark on their final research paper on a green collar job program.

## DAY 1

### Comprehension Exercises

1. Begin with a short warm-up discussion to introduce the concept of green collar jobs. Ask students the following questions:
  - Do you have a job?
  - If so, do you wear a uniform? What color is it?
  - Do people who work in offices wear the same clothes as people who fix cars?
  - What is a white collar job?
  - What is a blue collar job?
  - What is a green collar job?
2. Stream the first 9 minutes and 10 seconds (9:10) of the video "Green Jobs: Hope or Hype" (<http://www.pbs.org/now/shows/522/index.html>). Pause the video after the section about the remodeling of a house in New England. In the clip, we hear Van Jones discuss his vision of a green economy, and we see a New England home being renovated with innovative recycled, energy-saving and nontoxic materials.

NOTE: It may be necessary to replay the video for students to grasp all the main ideas.

**MATERIALS**

- **“Green Jobs: Hope or Hype,”** a segment on NOW (PBS) 5 on /29/09, available at <http://www.pbs.org/nov/shows/522/index.html> —an interview with Van Jones, special Obama administration advisor on Green Jobs, Enterprise and Innovation.
- **“What Are Green Collar Jobs?”** an article available at <http://www.greenforall.org/green-collar-jobs> —from Green for All, a national organization dedicated to building an inclusive green economy strong enough to lift people out of poverty.
- **“Green Building Revolution,”** a video clip from a segment of *QUEST*, available at <http://www.kqed.org/quest/television/view/155> —looks at the new Academy of Sciences housed in a 400,000-square-foot green building in Golden Gate Park.
- **Solar Living Institute** <http://www.solarliving.org/> —nonprofit educational organization whose mission is to promote sustainable living through inspirational environmental education; its website provides information on local training programs.
- **JobMonkey.com** [www.jobmonkey.com](http://www.jobmonkey.com) — a job search site that offers green collar job listings.

3. Have students work in small groups to answer the following comprehension questions based on the video clip.

“A green job is essentially a *blue collar job* that has been *upgraded* or *upskilled* to better respect the environment.”

- What does “upgrade” mean? What does “respect” mean?

“For so long we’ve had this false division, this false debate—are we going to have better economic performance or better environmental performance? People felt you had to choose. ... It’s a false dichotomy. ... There’s a concern that you will have no net increase in jobs. Or that you might have a net loss in jobs. ... Everything that’s good for the environment is a job. ... Homes don’t weatherize themselves ... trees don’t plant themselves ....”

- What does this mean?
- Do you agree?
- Is it possible for both the economy and the environment to improve together?

“A big part of it (the solution) is retrofitting millions of buildings.”

- What does “retrofit” mean? What does “renovate” mean?
- What would be the different benefits of retrofitting?
- Do you know anyone who works in construction? What does he or she do more, build new houses or remodel old houses?

Which do you prefer? To give a person unemployment money each month or give a person a job?

- Why? What are the long-term effects?

“Each wind turbine has enough steel in it to make 25 cars. You could put Detroit back to work making not only smart energy cars but advanced energy components.”

- What happened to the car factories in Detroit?
- Why does Van Jones say, “Put Detroit back to work”?

4. Invite students to share their answers in a whole-class discussion to check if they have understood the main points of video.

**Vocabulary Exercises: Prefixes**

- Write on the board the following terms from the video and ask students if they can find the prefix.

upgrade	retrofitting	unemployed
outdated	remodel	renovate

Prefix	Meaning	Students' examples of other words that have prefix
retro-	go back	
re-	do again	
un-	not	
up-	make better	
out-	more than	

- Ask students to write down the answers to the following questions in order to demonstrate their understanding of the meaning.

- Do you have a machine that is *outdated*? What is it?  
Do you want to buy a new one?
- Do you have any clothes that are "*retro*" in style?  
Where did you get them?
- Do you know anyone who is *unemployed*?
- If you could *remodel* one room in your house,  
which room would you fix up?
- Do you know why they are *retrofitting* the Bay Bridge?
- Do you want to *upgrade* your cell phone? Why or why not?

## DAY 2

### Reading Exercise

This excerpt is from an article on the website of *Green for All* (<http://www.greenforall.org/green-collar-jobs>), a national organization dedicated to building an inclusive green economy strong enough to lift people out of poverty.

### “What Are Green Collar Jobs?”

#### Background

What’s the best way to give Americans of all socioeconomic backgrounds a tangible stake in fighting for issues like global warming?

Easy: Make it their livelihood. Every day, about 135 million people go to work in the U.S. Imagine what would happen if millions of those jobs—plus new ones created for people who are currently unemployed—were in fields like renewable energy, sustainable agriculture, and green building. Our two crucial concerns about survival—the environment and making a living—would be combined. A person’s commitment to their job would also be their commitment to the planet.

Right now, there’s a great opportunity not only to make America’s economy stronger by making it greener, but to make Americans living in poverty part of a revitalized middle class. The first thing we have to do is provide the training that will turn 20th-century blue collar jobs into secure 21st-century green collar jobs.

#### Did You Know ...

- There’s already a huge green economy developing. In 2006, renewable energy and energy-efficiency technologies generated 8.5 million new jobs, nearly \$970 billion in revenue and more than \$100 billion in industry profits.
- According to the National Renewable Energy Lab, the major barriers to a more rapid adoption of renewable energy and energy efficiency in America are insufficient skills and training.
- In December 2007, President Bush signed the Green Jobs Act to train workers for green collar jobs. It authorizes \$125 million for workforce training programs targeted to veterans, displaced workers, at-risk youth and families in extreme poverty. It will train people for jobs like installing solar panels and weatherization.

#### Green Collar Jobs ...

- Rebuild a strong middle class
- Provide pathways out of poverty
- Require some new skills (and some new thinking about old skills)
- Tend to be local jobs
- Strengthen urban and rural communities
- Protect our health and the health of the planet

### Reading Comprehension Questions

Ask students to write the answers to these questions using one or two sentences.

- What does *making a living* mean?
- What two things does the writer of this article want to combine?
- What is the first thing that people will need in order to make this possible?
- Have there been any new jobs in the *green economy* recently?
- Is the American government going to pay for people to learn new skills for these new jobs?
- Give two examples of green collar jobs that might exist in the future.

### Viewing Exercise

Stream “Green Building Revolution” (<http://www.kqed.org/quest/television/view/155>), from *QUEST*. This episode looks at the new Academy of Sciences, which is housed in a 400,000-square-foot green building in Golden Gate Park.

### Viewing Comprehension Questions

After students have watched the video, ask them to gather in small groups and respond to the following questions.

- What are the biggest users of energy? Automobiles, industry and \_\_\_\_\_.
- LEED is a system that was started recently to rate buildings. What does “LEED” stand for? (Leadership in Energy and Environmental Design)
- LEED is a way to give the buildings a “grade” to show what?
- To get a good LEED score, what does a building need to do?
- Which new building has the highest LEED certification (best score possible) in the country? Where is it? Have you been there?
- When they destroyed the old Academy of Sciences museum in San Francisco, what did they do with the old materials?
- What is *steel*? What kind of steel did the builders use in the new museum?
- *Insulation* is what goes inside a building’s walls to make it warm in the winter. What was put inside the walls of the new museum? Why is it blue?
- What do *sustainable* and *sustainability* mean?
- Why do is the museum’s roof called a “living roof”?
- Spokespeople for the company that built the new museum say they hope this will be a model for the rest of the nation. Do you think it will be? Who has money to try new types of construction? Who would be interested?

In the last sentence of the movie a woman says, “We’re hoping that green building *standards* will become part of the *mainstream* and just part of how we do business.” What does she mean?

### Vocabulary Exercises

Ask students to finish the sentences using a word from the box.

industry	rates	insulation	sustainable
construction	standards	mainstream	steel

- The newspaper \_\_\_\_\_ movies as having four stars, three stars, two stars or one star. Four stars means really good. One star means really bad.
- \_\_\_\_\_ is a strong metal that people use to make cars and buildings.
- If you live in a cold place, the walls in your house should have \_\_\_\_\_.
- Michael Jackson's music was \_\_\_\_\_. Everyone knew it. Everyone liked it.
- In California, the \_\_\_\_\_ for making new buildings are very strict because we have earthquakes here.
- If people cut down trees for paper but don't plant more trees, the paper \_\_\_\_\_ (noun) is not \_\_\_\_\_ (adjective).
- There are two kinds of \_\_\_\_\_: making new buildings and remodeling old ones.

### Homework Assignment

Invite students to choose one topic and write half a page on it.

- How can people make the construction of new buildings more sustainable?
- In the winter, do you have a high heating bill? What can you do so that your house doesn't lose so much heat? What can you do every day if you want to use the heater less?
- In the summer, do you use electric fans? Does that make your electricity bill higher?
- Can you make a house cooler without using fans or air conditioning?

### DAY 3

#### Group Discussions

Read each question aloud and ask students who wrote on that topic to sit together and compare their answers. They should prepare to report back their ideas to the class. Allow sufficient time for each group to share their ideas with the class.

Finally, ask students to hand in their writing. Underline grammatical errors and return the work to students for them to try to correct themselves.

#### Grammar Exercise

Noncount and Count Nouns

Introduce the concept of noncount nouns and count nouns. Start a two-column list on the board of words that you can make plural by adding “s” and words that can never be or are rarely made plural.

COUNT NOUNS	NONCOUNT NOUNS
house ⇄ houses	housing
building ⇄ buildings	construction
standard ⇄ standards	architecture

#### Practice Exercise

Write the following list of count and noncount nouns on the board.

material, metal, wood, cotton, fiberglass, steel, glass, resource, source, training program, skill, job, opportunity, city, unemployment, wage, cost, environment, job, work, career, factory, industry, poverty, transportation, insulation, construction, protection, training, reducing, recycling, preserving, self-sufficiency, retrofitting, installing

Ask students to draw a vertical line down the middle of their notebook page and to label the two columns “Count Nouns” and “Noncount Nouns.”

Then have students write down the words from the board into the appropriate column on their notebook page.

#### Report back

Invite students to comment on what they noticed about most of the words that end with *-tion* and *-ment*. Are they usually verbs, nouns or adjectives?

What part of speech are most words that end with *-ty* and *-try* and *-cy*? Are they nouns, verbs or adjectives?

Are there nouns that end in *-ty* and also adjectives that end in *-ty*? (e.g., the noun *poverty* and the adjective *pretty*)

Are there some words that are sometimes noncountable and other times countable? (e.g., *material* for clothing vs. *materials* for construction)

#### DAY 4

Announce to students that they will each write a one-page research paper to be submitted a week from today. It will require using ideas from news articles on the Internet *but not copying the exact words*.

#### Paraphrasing Lesson

1. Make photocopies of a small portion of the article entitled “What Are Green Collar Jobs?” (<http://www.greenforall.org/green-collar-jobs>) used two days ago. Leave the lower portion of the paper blank for the students to write their paraphrasing on.
2. Put the following excerpt up on an overhead projector or copy it on the board. Put quotation marks at the beginning and end. Explain that the author’s name needs to be included after the quotation if it is used in a research paper.

*Our two crucial concerns about survival—the environment and making a living—would be combined. A person’s commitment to their job would also be their commitment to the planet. Right now, there’s a great opportunity not only to make America’s economy stronger by making it greener, but to make Americans living in poverty part of a revitalized middle class.*

3. Have the class look at their copy of the article from Day 2 and find the author’s last name only. Write on the projector/board the author’s last name or the whole title of an article without an author’s name in parentheses after the direct quote. Explain that is a direct quotation.
4. Erase the quotation marks and the author’s name and explain that if students do not add the quotation marks *and* do not include the source, they are plagiarizing, which is stealing someone’s words.
5. Explain that students should not copy 100 lines from an article and paste it into their writing, but should learn to paraphrase which also demonstrates *understanding*. Stating the writer’s idea *in your own words*, is paraphrasing and at the end of a paraphrase, the writer’s last name must be given in parentheses. It shows that it was not your idea.
6. Underline some difficult words (e.g., crucial, concern, combine) and ask students if they know a synonym for those words. Then ask for volunteers to say the sentence with the first word using a synonym. Explain that when paraphrasing, you can change both the order and the words, but you cannot change the main idea.



### Individual Paraphrase Practice Activity

Ask students to paraphrase the following paragraph from the same article, "What Are Green Collar Jobs?"

*In December 2007, President Bush signed the Green Jobs Act to train workers for green collar jobs. It authorizes \$125 million for workforce training programs targeted to veterans, displaced workers, at-risk youth and families in extreme poverty. It will train people for jobs like installing solar panels and weatherization.*

Suggest that students exchange their paraphrasing with another student. They should then read their partner's paper slowly, looking at the original and underlining any part that has five words or more in a row that are the same as the original.

After students return the papers to their partner, ask them to look through their work. How many parts or words were underlined?

### Homework

Ask students to use the Internet to research programs that train people for green collar jobs. They should choose *one* article about *one* program and write a one-page report that is to be handed in a week from today.

Hand out a list of words for students to study for the vocabulary test tomorrow.

upgrade	materials
unemployed	skills
remodel	unemployment
renovate	environment
industry	insulation
to rate	reduce
insulation	preserve
sustainable	retrofit
standards	install

**DAY 5**

**Multiple Choice Vocabulary Test**

Ask students to choose the definition that is correct.

1. To **upgrade** means ...
  - a) to raise
  - b) to give a good rating
  - c) to make better
  
2. To **retrofit** means ...
  - a) to destroy and build new
  - b) to change a building to make it safer for today
  - c) to build in an old "retro" style
  
3. To **reduce** means ...
  - a) to recycle
  - b) to use more
  - c) to use less
  
4. The verb "**to rate**" means ...
  - a) to give a price
  - b) to tell the speed
  - c) to say if something is good or bad
  
5. To **preserve** means ...
  - a) to throw away
  - b) to change
  - c) to keep the same
  
6. To **install** means ...
  - a) to sell
  - b) to fix
  - c) to put in
  
7. **Insulation** goes inside the \_\_\_\_\_ of a house.
  - a) windows
  - b) floor
  - c) walls
  
8. The word "**unemployment**" refers to ...
  - a) having a job
  - b) not having a job
  - c) being a boss
  
9. **Materials** (plural noun) are ...
  - a) the things you make
  - b) the things you use to make something
  - c) fabric for sewing clothes

10. When something is **sustainable**, it means it ...
  - a) uses all new materials
  - b) uses a lot of energy
  - c) uses less new materials and less energy
  
11. The **environment** is ...
  - a) the air and the oceans
  - b) the forests and animals
  - c) a and b
  
12. The phrase "**automobile industry**" refers to ...
  - a) all the cars in the world
  - b) all the companies and factories that make cars
  - c) all the workers who make cars

### Research Assignment

Send students to the computer lab or library to begin their research paper on programs that train people for green collar jobs. Be sure to circulate to check that students are having success in their searches.

Offer helpful sources, such as:

**Solar Living Institute** – nonprofit educational organization whose mission is to promote sustainable living through inspirational environmental education; its website provides information on local training programs. <http://www.solarliving.org/>

**JobMonkey.com** – a job search site that offers green collar job listings; suggest students use search terms such as green jobs or green training programs. [www.jobmonkey.com](http://www.jobmonkey.com)

**Green for All** – offers both green job listings and resources for green collar jobs training  
<http://www.greenforall.org/resources/green-collar-jobs-resources>

Other useful links:

- <http://www.sustainlane.com/green-jobs>
- <http://www.greenjobs.net/>
- <http://jobs.greenbiz.com/>

Conclude by ensuring that students have the opportunity to share findings and discuss useful training opportunities for green collar jobs. If they are interested in any of these training programs in particular, consider inviting a speaker to the class from one of the organizations that offers the training program or a green collar worker who is qualified in the field.

Also consider compiling a list of the training programs that they have found and posting it on the class notice board or school website.

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