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Ready-to-Use English Lessons by Sean Banville

Level 3 – 11th June, 2018

Scientists close to turning air into fuel

11th June, 2018

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https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Contents

Please try Levels 0, 1 and 2 (they are easier).

THE ARTICLE

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Scientists at the Canadian company Carbon Engineering have said they are close to making carbon capture work. Carbon capture is the process of capturing waste carbon dioxide (CO2) from places like power plants and then storing it so it does not harm the environment. Carbon Engineering say its scientists are close to capturing CO2 from the atmosphere and turning it into carbon-neutral fuel. This could be a big step forward in the fight against global warming. The scientists also said they have greatly reduced the cost of carbon capture, to as low as $94 per ton of CO2 captured. Many scientists believed carbon capture would cost about $1,000 per ton captured.

The technology works by sucking air into special industrial towers. The CO2 is mixed with an alkaline liquid and frozen. It is then heated and combined with hydrogen. This produces liquid fuels like gasoline and jet fuel. The founder of Carbon Engineering, Professor David Keith, was optimistic about the future of this process. He believes his company could help to combat climate change. He said: "After 100 years of practical engineering and cost analysis, we can confidently say that while air capture is not some magical cheap solution, it is a viable and buildable technology for producing carbon-neutral fuels in the immediate future, and for removing carbon in the long run."

Sources: https://www.**ecowatch.com**/carbon-capture-technology-canada-2576234738.html
https://**boingboing.net**/2018/06/08/its-becoming-much-cheaper-to.html
http://www.**sciencemag.org**/news/2018/06/cost-plunges-capturing-carbon-dioxide-air

WARM-UPS

1. CARBON CAPTURE: Students walk around the class and talk to other students about carbon capture. Change partners often and share your findings.

2. CHAT: In pairs / groups, talk about these topics or words from the article. What will the article say about them? What can you say about these words and your life?

> scientists / carbon / CO2 / the environment / power plants / atmosphere / fight / technology / industrial / liquid / hydrogen / gasoline / climate change / in the long run

Have a chat about the topics you liked. Change topics and partners frequently.

3. THE LONG RUN: Students A **strongly** believe scientists will reverse global warming in the long run; Students B **strongly** believe they won't. Change partners again and talk about your conversations.

4. ENERGY SOURCES: What do you know about these energy sources? Complete this table with your partner(s). Change partners often and share what you wrote.

	What I know	What I want to know
Hydroelectricity		
Sonoluminescence		
Antimatter		
Biomass		
Fusion power		
Fuel cells		

5. ENVIRONMENT: Spend one minute writing down all of the different words you associate with the word "environment". Share your words with your partner(s) and talk about them. Together, put the words into different categories.

6. GLOBAL WARMING: Rank these with your partner. Put the best ways to prevent global warming at the top. Change partners often and share your rankings.

- Drive less
- Go solar
- Recycle
- Reduce waste
- Use less hot water
- Plant a tree
- Eat less meat
- Turn off lights

VOCABULARY MATCHING

Paragraph 1

1.	capture	a.	Something that is not wanted; the things that are unused or left over.
2.	process	b.	Get or take something to keep and use.
3.	waste	c.	Keeping things somewhere so they can be used later.
4.	storing	d.	Damage someone or something.
5.	harm	e.	The different actions and steps that are needed to do or make something.
6.	fuel	f.	How much money you need to do something or to buy something.
7.	cost	g.	Things like coal, gas, or oil that is burned to produce heat or power for our homes, cars, etc.

Paragraph 2

8.	sucking	h.	Things like water, oil, milk, etc. that can spread over places, or flow along things.
9.	liquid	i.	Hopeful and confident about the future.
10.	combined	j.	Pulling air into your mouth; pulling air or other things into something.
11.	founder	k.	Joined; mixed.
12.	optimistic	l.	Fight; take action to reduce, destroy, or stop something or someone.
13.	combat	m.	The person who first started a company, university, organisation, etc.
14.	in the long run	n.	Far into the future.

BEFORE READING / LISTENING

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

1. TRUE / FALSE: Read the headline. Guess if a-h below are true (T) or false (F).

a. A French company is turning CO2 in the air into fuel. **T / F**
b. Carbon capture is the processing of waste CO2. **T / F**
c. The fuel made from carbon capture could be carbon neutral. **T / F**
d. The new method could cost less than $100 per ton of captured carbon. **T / F**
e. The new carbon capture process sucks air to extract CO2. **T / F**
f. The new technology will not be able to make jet fuel. **T / F**
g. A professor said carbon capture technology is 100 years old. **T / F**
h. The professor said carbon capture was a "magical cheap solution". **T / F**

2. SYNONYM MATCH: (The words in **bold** are from the news article.)

1. process	a. hopeful
2. plants	b. advance
3. storing	c. eradicating
4. step	d. factories
5. greatly	e. evaluation
6. combined	f. fix
7. optimistic	g. technique
8. analysis	h. considerably
9. solution	i. keeping
10. removing	j. amalgamated

3. PHRASE MATCH: (Sometimes more than one choice is possible.)

1. they are close to making	a. run
2. from places like power	b. ton captured
3. This could be a big	c. industrial towers
4. they have greatly	d. plants
5. cost about $1,000 per	e. with hydrogen
6. sucking air into special	f. solution
7. It is then heated and combined	g. carbon capture work
8. optimistic	h. reduced the cost
9. some magical cheap	i. step forward
10. removing carbon in the long	j. about the future

GAP FILL

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Scientists at the Canadian company Carbon Engineering have said they are (1) _____ to making carbon capture work. Carbon capture is the (2) _____ of capturing waste carbon dioxide (CO2) from places like power plants and then (3) _____ it so it does not harm the environment. Carbon Engineering say its scientists are close to capturing CO2 from the (4) _____ and turning it into carbon-neutral fuel. This could be a big (5) _____ forward in the fight against global warming. The scientists also said they have greatly reduced the (6) _____ of carbon capture, to as (7) _____ as $94 per ton of CO2 captured. Many scientists believed carbon capture would cost about $1,000 per ton (8) _____.

process

cost

atmosphere

captured

close

low

storing

step

The technology works by (9) _____ air into special industrial towers. The CO2 is mixed with an alkaline (10) _____ and frozen. It is then heated and combined with hydrogen. This produces liquid fuels (11) _____ gasoline and jet fuel. The founder of Carbon Engineering, Professor David Keith, was (12) _____ about the future of this process. He believes his company could help to (13) _____ climate change. He said: "After 100 years of practical engineering and cost analysis, we can (14) _____ say that while air capture is not some magical cheap (15) _____, it is a viable and buildable technology for producing carbon-neutral fuels in the immediate future, and for removing carbon in the long (16) _____."

optimistic

liquid

solution

combat

like

run

sucking

confidently

LISTENING – Guess the answers. Listen to check.

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

1) Carbon Engineering have said they are close to making carbon _____
   a. captures works
   b. capture work
   c. captures work
   d. capture works
2) Carbon capture is the process of capturing _____ dioxide
   a. wasted carbon
   b. wastes carbon
   c. wastage carbon
   d. waste carbon
3) close to capturing CO2 from the atmosphere and turning it into _____
   a. carbon-new-trail fuel
   b. carbon-nutrient fuel
   c. carbon-natural fuel
   d. carbon-neutral fuel
4) scientists also said they have greatly reduced the cost of carbon capture, _____ $94
   a. tours lowers
   b. to as lowers
   c. to as low as
   d. to us allows
5) Many scientists believed carbon capture would cost about $1,000 _____
   a. per ton captured
   b. par ton captured
   c. pre ton captured
   d. pro ton captured
6) The technology works by sucking air into _____ towers
   a. specially industrial
   b. special industrial
   c. special industrially
   d. specially industrially
7) He believes his company could help to _____ change
   a. combative climate
   b. combat climate
   c. combating climate
   d. combated climate
8) After 100 years of practical engineering and cost analysis, we can _____ that
   a. confident and say
   b. confident to say
   c. confidently say
   d. confidence to say
9) while air capture is not some magical _____
   a. chip solution
   b. cheap solution
   c. sheet solution
   d. cheat solution
10) producing carbon-neutral fuels in the immediate future, and for removing carbon ____
   a. in the long runner
   b. in the long run
   c. in the long runs
   d. in the long running

LISTENING – Listen and fill in the gaps

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Scientists at the Canadian company Carbon Engineering have said they are (1) _____ carbon capture work. Carbon capture is the process of capturing waste carbon dioxide (CO2) from (2) _____ plants and then storing it so it does not harm the environment. Carbon Engineering say its scientists (3) _____ capturing CO2 from the atmosphere and turning it into carbon-neutral fuel. This could be a big (4) _____ the fight against global warming. The scientists also said they have greatly (5) _____ of carbon capture, to as low as $94 per ton of CO2 captured. Many scientists believed carbon capture would cost about $1,000 (6) _____.

The technology (7) _____ air into special industrial towers. The CO2 is mixed with an alkaline (8) _____. It is then heated and combined with hydrogen. This produces (9) _____ gasoline and jet fuel. The founder of Carbon Engineering, Professor David Keith, was optimistic about the future of this process. He believes his company could (10) _____ climate change. He said: "After 100 years of practical engineering and cost analysis, we can confidently say that while air capture is not (11) _____ solution, it is a viable and buildable technology for producing carbon-neutral fuels in the immediate future, and for removing carbon (12) _____."

COMPREHENSION QUESTIONS

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

1. Where is the carbon capture company from?

2. Where is CO2 usually captured from?

3. What could this technology help in the fight against?

4. How much do scientists think they can capture a ton of carbon for?

5. How much did scientists used to think a ton of captured CO2 cost?

6. What is air sucked into?

7. What is the CO2 mixed with?

8. What fuels can the process produce?

9. What kind of solution did a professor say carbon change was not?

10. When did the professor say carbon-neutral fuels could be produced?

MULTIPLE CHOICE - QUIZ

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

1) Where is the carbon capture company from?
a) France
b) Canada
c) Brazil
d) New Zealand

2) Where is CO2 usually captured from?
a) car engines
b) the stratosphere
c) the sea
d) power plants

3) What could this technology help in the fight against?
a) companies
b) costs
c) global warming
d) government regulations

4) How much do scientists think they can capture a ton of carbon for?
a) $94
b) $104
c) $114
d) $124

5) How much did scientists used to think a ton of captured CO2 cost?
a) $10,000
b) $1,000
c) $100
d) $1.100

6) What is air sucked into?
a) special industrial towers
b) the atmosphere
c) the stratosphere
d) cooling machines

7) What is the CO2 mixed with?
a) nitrogen
b) salt
c) alkaline
d) acid

8) What fuels can the process produce?
a) gasoline and jet fuel
b) kerosene and rocket fuel
c) diesel and kerosene
d) oil and coal

9) What kind of solution did a professor say carbon change was not?
a) a practical solution
b) a quick-fix solution
c) an easy solution
d) a magical, cheap solution

10) When did the professor say carbon-neutral fuels could be produced?
a) the long run
b) any time soon
c) the immediate future
d) once in a blue moon

ROLE PLAY

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Role A – Go Solar

You think going solar is the best way to stop global warming. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective of these (and why): reducing waste, planting trees or eating less meat.

Role B – Reduce Waste

You think reducing waste is the best way to stop global warming. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective of these (and why): going solar, planting trees or eating less meat.

Role C – Plant Trees

You think planting trees is the best way to stop global warming. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective of these (and why): reducing waste, going solar or eating less meat.

Role D – Eat Less Meat

You think eating less meat is the best way to stop global warming. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective of these (and why): reducing waste, planting trees or going solar.

AFTER READING / LISTENING

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

1. WORD SEARCH: Look in your dictionary / computer to find collocates, other meanings, information, synonyms … for the words 'carbon' and 'capture'.

carbon	**capture**

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning…?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

• making • places • harm • step • greatly • believed	• special • frozen • founder • combat • 100 • run

CARBON CAPTURE SURVEY

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Write five GOOD questions about carbon capture in the table. Do this in pairs. Each student must write the questions on his / her own paper.
When you have finished, interview other students. Write down their answers.

	STUDENT 1 _____	STUDENT 2 _____	STUDENT 3 _____
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

CARBON CAPTURE DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

1. What did you think when you read the headline?
2. What images are in your mind when you hear the word 'carbon'?
3. What is carbon?
4. How exciting is carbon capture?
5. What does your country do to cut CO2?
6. What things produce CO2?
7. What can we do to fight global warming?
8. What is a carbon-neutral fuel?
9. How useful is a carbon-neutral fuel?
10. What will happen when fossil fuels run out?

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CARBON CAPTURE DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)

11. Did you like reading this article? Why/not?
12. What do you think of when you hear the word 'capture'?
13. What do you think about what you read?
14. What harm does carbon dioxide do the environment?
15. What do you do to cut CO2?
16. How useful do you think this process could be?
17. How optimistic are you about our planet's future?
18. What other carbon-neutral energy sources are there?
19. Will Earth ever recover from human activity?
20. What questions would you like to ask the scientists?

DISCUSSION (Write your own questions)

STUDENT A's QUESTIONS (Do not show these to student B)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

DISCUSSION (Write your own questions)

STUDENT B's QUESTIONS (Do not show these to student A)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

LANGUAGE - CLOZE

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Scientists at the Canadian company Carbon Engineering have said they are (1) _____ to making carbon capture work. Carbon capture is the process (2) _____ capturing waste carbon dioxide (CO2) from places like power plants and then storing it (3) _____ it does not harm the environment. Carbon Engineering say its scientists are close to capturing CO2 from the atmosphere and (4) _____ it into carbon-neutral fuel. This could be a big step forward in the fight against global warming. The scientists also said they have (5) _____ reduced the cost of carbon capture, to as (6) _____ as $94 per ton of CO2 captured. Many scientists believed carbon capture would cost about $1,000 per ton captured.

The technology works (7) _____ sucking air into special industrial towers. The CO2 is mixed with an alkaline liquid and frozen. It (8) _____ then heated and combined with hydrogen. This produces liquid fuels (9) _____ gasoline and jet fuel. The founder of Carbon Engineering, Professor David Keith, was optimistic about the future of this process. He believes his company could (10) _____ to combat climate change. He said: "After 100 years of practical engineering and cost analysis, we can confidently say that (11) _____ air capture is not some magical cheap solution, it is a viable and buildable technology for producing carbon-neutral fuels in the immediate future, and for removing carbon in the long (12) _____."

Put the correct words from the table below in the above article.

1.	(a)	close	(b)	closing	(c)	closet	(d)	closed
2.	(a)	by	(b)	in	(c)	of	(d)	at
3.	(a)	such	(b)	to	(c)	so	(d)	that
4.	(a)	turn	(b)	turned	(c)	turns	(d)	turning
5.	(a)	grated	(b)	grate	(c)	greatly	(d)	grateful
6.	(a)	small	(b)	low	(c)	reduce	(d)	cut
7.	(a)	of	(b)	by	(c)	for	(d)	from
8.	(a)	be	(b)	is	(c)	does	(d)	has
9.	(a)	such	(b)	similar	(c)	like	(d)	as
10.	(a)	helps	(b)	helper	(c)	helping	(d)	help
11.	(a)	whenever	(b)	which	(c)	was	(d)	while
12.	(a)	marathon	(b)	jog	(c)	sprint	(d)	run

SPELLING

Paragraph 1

1. Carbon capture is the erpssco
2. sweta carbon dioxide
3. harm the nmitnnvreoe
4. its nsicteisst are close
5. This could be a big step oafrdrw
6. greatly cddueer the cost

Paragraph 2

7. special iulrntasdi towers
8. mixed with an alkaline uqilid
9. fuels like oailsgen and jet fuel
10. Professor David Keith was ittoiscipm
11. 100 years of paatrccil engineering
12. not some magical cheap soilonut

PUT THE TEXT BACK TOGETHER

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Number these lines in the correct order.

( ) to capturing CO2 from the atmosphere and turning it into carbon-neutral fuel. This could be a big step

( ) then storing it so it does not harm the environment. Carbon Engineering say its scientists are close

(***1***) Scientists at the Canadian company Carbon Engineering have said they are close to making carbon capture

( ) for producing carbon-neutral fuels in the immediate future, and for removing carbon in the long run."

( ) 100 years of practical engineering and cost analysis, we can confidently

( ) say that while air capture is not some magical cheap solution, it is a viable and buildable technology

( ) forward in the fight against global warming. The scientists also said they have greatly

( ) The technology works by sucking air into special industrial towers. The CO2 is mixed with an

( ) of this process. He believes his company could help to combat climate change. He said: "After

( ) and jet fuel. The founder of Carbon Engineering, Professor David Keith, was optimistic about the future

( ) scientists believed carbon capture would cost about $1,000 per ton captured.

( ) reduced the cost of carbon capture, to as low as $94 per ton of CO2 captured. Many

( ) work. Carbon capture is the process of capturing waste carbon dioxide (CO2) from places like power plants and

( ) alkaline liquid and frozen. It is then heated and combined with hydrogen. This produces liquid fuels like gasoline

PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

1. making carbon are work . to capture close They

2. it doesn't it environment . harm Storing the so

3. close are to scientists Its CO2 . capturing

4. the greatly cost . reduced have they Scientists said

5. capture ton . about would per cost $1,000 Carbon

6. an alkaline with The is mixed liquid . CO2

7. this of process . Optimistic future the about

8. company could climate combat to help change . His

9. capture cheap solution . is not magical Air some

10. future . in fuels Producing immediate carbon-neutral the

CIRCLE THE CORRECT WORD (20 PAIRS)

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Scientists at the Canadian company Carbon Engineering have said they are *close / closing* to making carbon capture work. Carbon capture is the process *of / by* capturing waste carbon dioxide (CO2) from *place / places* like power plants and then storing it so it does not *harm / harmful* the environment. Carbon Engineering say its scientists are close *for / to* capturing CO2 from the atmosphere and *turning / tuning* it into carbon-neutral fuel. This could be a big *walk / step* forward in the fight against global warming. The scientists also said they have *greatly / grated* reduced the cost of carbon capture, to as *lower / low* as $94 per ton of CO2 captured. Many scientists *believed / belief* carbon capture would cost about $1,000 per ton captured.

The technology works by *soaking / sucking* air into special industrial towers. The CO2 is mixed *of / with* an alkaline liquid and frozen. It is then *hated / heated* and combined with hydrogen. This produces liquid fuels *such / like* gasoline and jet fuel. The founder of Carbon Engineering, Professor David Keith, was *optimistic / optimism* about the future of this process. He believes his company could help to *combat / combative* climate change. He said: "After 100 years *of / off* practical engineering and cost analysis, we can confidently say that while air capture is not *same / some* magical cheap solution, it is a *viable / fable* and buildable technology for producing carbon-neutral fuels in the immediate future, and for removing carbon in the long *walk / run*."

Talk about the connection between each pair of words in italics, and why the correct word is correct.

INSERT THE VOWELS (a, e, i, o, u)

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

S c_ _ n t_s t s _t t h_ C_n_d_ _ n c_m p_n y C_r b_n E n g_n_ _ r_n g h_v_ s_ _ d t h_y _r_ c l_s_ t_ m_k_n g c_r b_n c_p t_r_ w_r k . C_r b_n c_p t_r_ _s t h_ p r_c_s s _f c_p t_r_n g w_s t_ c_r b_n d_ _ x_d_ (C O 2) f r_m p l_c_s l_k_ p_w_r p l_n t s _n d t h_n s t_r_n g _t s_ _t d_ _ s n_t h_r m t h_ _n v_r_n m_n t . C_r b_n E n g_n_ _ r_n g s_y _t s s c_ _ n t_s t s _r_ c l_s_ t_ c_p t_r_n g C O 2 f r_m t h_ _t m_s p h_r_ _n d t_r n_n g _t _n t_ c_r b_n - n_ _ t r_l f_ _ l . T h_s c_ _ l d b_ _ b_g s t_p f_r w_r d _n t h_ f_g h t _g_ _ n s t g l_b_l w_r m_n g . T h_ s c_ _ n t_s t s _l s_ s_ _ d t h_y h_v_ g r_ _ t l y r_d_c_d t h_ c_s t _f c_r b_n c_p t_r_, t_ _s l_w _s $ 9 4 p_r t_n _f C O 2 c_p t_r_d . M_n y s c_ _ n t_s t s b_l_ _ v_d c_r b_n c_p t_r_ w_ _ l d c_s t _b_ _ t $ 1 , 0 0 0 p_r t_n c_p t_r_d .

T h_ t_c h n_l_g y w_r k s b y s_c k_n g _ _ r _n t_ s p_c_ _ l _n d_s t r_ _ l t_w_r s . T h_ C O 2 _s m_x_d w_t h _n _l k_l_n_ l_q_ _ d _n d f r_z_n . I t _s t h_n h_ _ t_d _n d c_m b_n_d w_t h h y d r_g_n . T h_s p r_d_c_s l_q_ _ d f_ _ l s l_k_ g_s_l_n_ _n d j_t f_ _ l . T h_ f_ _ n d_r _f C_r b_n E n g_n_ _ r_n g , P r_f_s s_r D_v_d K_ _ t h , w_s _p t_m_s t_c _b_ _ t t h_ f_t_r_ _f t h_s p r_c_s s . H_ b_l_ _ v_s h_s c_m p_n y c_ _ l d h_l p t_ c_m b_t c l_m_t_ c h_n g_. H_ s_ _ d : " A f t_r 1 0 0 y_ _ r s _f p r_c t_c_l _n g_n_ _ r_n g _n d c_s t _n_l y s_s , w_ c_n c_n f_d_n t l y s_y t h_t w h_l_ _ _ r c_p t_r_ _s n_t s_m_ m_g_c_l c h_ _ p s_l_t_ _ n , _t _s _ v_ _ b l_ _n d b_ _ l d_b l_ t_c h n_l_g y f_r p r_d_c_n g c_r b_n - n_ _ t r_l f_ _ l s _n t h_ _m m_d_ _ t_ f_t_r_, _n d f_r r_m_v_n g c_r b_n _n t h_ l_n g r_n . "

PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

scientists at the canadian company carbon engineering have said they are close to making carbon capture work carbon capture is the process of capturing waste carbon dioxide co2 from places like power plants and then storing it so it does not harm the environment carbon engineering say its scientists are close to capturing co2 from the atmosphere and turning it into carbonneutral fuel this could be a big step forward in the fight against global warming the scientists also said they have greatly reduced the cost of carbon capture to as low as 94 per ton of co2 captured many scientists believed carbon capture would cost about 1000 per ton captured

the technology works by sucking air into special industrial towers the co2 is mixed with an alkaline liquid and frozen it is then heated and combined with hydrogen this produces liquid fuels like gasoline and jet fuel the founder of carbon engineering professor david keith was optimistic about the future of this process he believes his company could help to combat climate change he said after 100 years of practical engineering and cost analysis we can confidently say that while air capture is not some magical cheap solution it is a viable and buildable technology for producing carbonneutral fuels in the immediate future and for removing carbon in the long run"

PUT A SLASH (/) WHERE THE SPACES ARE

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

ScientistsattheCanadiancompanyCarbonEngineeringhavesaidtheyareclosetomakingcarboncapturework.Carboncaptureistheprocessofcapturingwastecarbondioxide(CO2)fromplaceslikepowerplantsandthenstoringitsoitdoesnotharmtheenvironment.CarbonEngineeringsaysitsscientistsareclosetocapturingCO2fromtheatmosphereandturningitintocarbon-neutralfuel.Thiscouldbeabigstepforwardinthefightagainstglobalwarming.Thescientistsalsosaidtheyhavegreatlyreducedthecostofcarboncapture,toaslowas$94pertonofCO2captured.Manyscientistsbelievedcarboncapturewouldcostabout$1,000pertoncaptured.Thetechnologyworksbysuckingairintospecialindustrialtowers.TheCO2ismixedwithanalkalineliquidandfrozen.Itisthenheatedandcombinedwithhydrogen.Thisproducesliquidfuelslikegasolineandjetfuel.ThefounderofCarbonEngineering,ProfessorDavidKeith,wasoptimisticaboutthefutureofthisprocess.Hebelieveshiscompanycouldhelptocombatclimatechange.Hesaid:"After100yearsofpracticalengineeringandcostanalysis,wecanconfidentlysaythatwhileaircaptureisnotsomemagicalcheapsolution,itisaviableandbuildabletechnologyforproducingcarbon-neutralfuelsintheimmediatefuture,andforremovingcarboninthelongrun."

FREE WRITING

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Write about **carbon capture** for 10 minutes. Comment on your partner's paper.

ACADEMIC WRITING

From https://breakingnewsenglish.com/1806/180611-carbon-capture.html

Scientists will reverse global warming. Discuss.

HOMEWORK

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

2. INTERNET: Search the Internet and find out more about this news story. Share what you discover with your partner(s) in the next lesson.

3. CARBON CAPTURE: Make a poster about carbon capture. Show your work to your classmates in the next lesson. Did you all have similar things?

4. NO FOSSIL FUELS: Write a magazine article about ending the use of fossil fuels. Include imaginary interviews with people who are for and against this.

Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner(s).

5. WHAT HAPPENED NEXT? Write a newspaper article about the next stage in this news story. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.

6. LETTER: Write a letter to an expert on carbon capture. Ask him/her three questions about it. Give him/her three of your ideas on how to help fight climate change. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

VOCABULARY (p.4)

1.	b	2.	e	3.	a	4.	c	5.	d	6.	g	7.	f
8.	j	9.	h	10.	k	11.	m	12.	i	13.	l	14.	n

TRUE / FALSE (p.5)

a	F	b	T	c	T	d	T	e	T	f	F	g	F	h	F

SYNONYM MATCH (p.5)

1.	**process**	a.	technique
2.	**plants**	b.	factories
3.	**storing**	c.	keeping
4.	**step**	d.	advance
5.	**greatly**	e.	considerably
6.	**combined**	f.	amalgamated
7.	**optimistic**	g.	hopeful
8.	**analysis**	h.	evaluation
9.	**solution**	i.	fix
10.	**removing**	j.	eradicating

COMPREHENSION QUESTIONS (p.9)

1. Canada
2. Power plants
3. Global warming
4. $94
5. $1,000
6. Special industrial towers
7. An alkaline liquid
8. Gasoline and jet fuel
9. A magical, cheap solution
10. In the immediate future

WORDS IN THE RIGHT ORDER (p.20)

1. They are close to making carbon capture work.
2. Storing it so it doesn't harm the environment.
3. Its scientists are close to capturing CO2.
4. Scientists said they have greatly reduced the cost.
5. Carbon capture would cost about $1,000 per ton.
6. The CO2 is mixed with an alkaline liquid.
7. Optimistic about the future of this process.
8. His company could help to combat climate change.
9. Air capture is not some magical cheap solution.
10. Producing carbon-neutral fuels in the immediate future.

MULTIPLE CHOICE - QUIZ (p.10)

1.	b	2.	d	3.	c	4.	a	5.	b	6.	a	7.	c	8.	a	9.	d	10.	c

ALL OTHER EXERCISES

Please check for yourself by looking at the Article on page 2.
(It's good for your English ;-)