**FACULTAD DE INGENIERIA**

**NAME:**

**DATE: August 2020**

**PROGRAM:**

**A Reading Comprehension Mock-Exam**

**Forests are crucial for limiting climate change to 1.5 degrees**

Circle the best option to complete each exercise in sections 1 – 5

|  |  |
| --- | --- |
| 1. **Predicting (5)**   According to the cues provided, what is the text about?   1. The University of Exeter is conducting research on bioenergy. 2. Producing bioenergy to limit climate change requires a radical change in land use. 3. It will be complex to meet the climate change targets from the Paris agreement. 4. Protecting forests is essential for keeping climate change under control. | August 7, 2018  Resultado de imagen para forests cartoon |

Trying to tackle climate change by replacing forests with crops for bioenergy power stations that capture carbon dioxide (CO2) could instead increase the amount of CO2 in the atmosphere, scientists say. Bioenergy with Carbon Capture and Storage (BECCS) power stations are designed to produce energy and store the resulting CO2 in bedrock deep underground. But a study led by the University of Exeter suggests that converting large land areas to growing crops as biomass for BECCS would release so much CO2 that protecting and regenerating forests seems a better option in many places.

"The vast majority of current Intergovernmental Panel on Climate Change (IPCC) scenarios for how we can limit global warming to less than 2°C include BECCS," said lead author Dr Anna Harper, from the University of Exeter. "But the land required to grow biomass in these scenarios would be twice the size of India." This motivated the research team to look at the wider consequences of such a radical change in global land use. The researchers used a cutting-edge computer model of global vegetation and soil and presented it with scenarios of land-use change consistent with stabilizing the climate at less than 1.5°C and 2°C of global warming.

The results warn that using BECCS on such a large scale could lead to a net increase of carbon in the atmosphere, especially where the crops are assumed to replace existing forests. Co-author Dr Tom Powell, from the University of Exeter, explained: "In some places BECCS will be effective, but we have found that in many places protecting or regenerating forests is much more sensible."

How well BECCS works depends on factors such as the choice of biomass, the fate of initial above-ground biomass and the fossil-fuel emissions offset in the energy system -- so future improvements could make it a better option. Professor Chris Huntingford, of the UK Centre for Ecology and Hydrology, said: "Our paper illustrates that the manipulation of land can help offset carbon dioxide emissions, but only if applied for certain quite specific locations." Dr Harper concluded: "To meet the climate change targets from the Paris agreement, we need to both drastically reduce emissions and employ a mix of technologies to remove carbon dioxide from the atmosphere. There is not a simple way out."

The team involved in the new study included researchers from the Centre for Ecology and Hydrology and the Meteorological Office (the United Kingdom's national weather service). Drawing together expertise to create solutions to the global changes that humans are now causing is a key focus of the University of Exeter's new Global Systems Institute. The Global Systems Institute brings together researchers, students, citizens and partners to solve global challenges, and help create a flourishing future world together, through transformative research and education.

https://www.sciencedaily.com

1. **Skimming (30)**

Choose from the list A-F the main idea for paragraphs 1-6. There is one extra letter that you do not need to use.

1. Dealing with climate change with BECCS needs a huge land-use change worldwide.
2. BECCS is efficient when it is located in specific places.
3. Growing crops for bioenergy might increase CO2 emissions in the atmosphere.
4. In many places, protecting forests is more reasonable than planting crops for bioenergy.
5. Miscanthus is a tall grass used by BECCS power stations.
6. The Global Systems Institute is an interdisciplinary center that works out solutions to global problems.

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4

Paragraph 5

1. **Scanning (10)**
2. ***What does BECCS mean?***
3. Basic Engineering Common Core
4. Bioenergy with Carbon Capture & Storage
5. Behavior Energy and Climate Change
6. Broad Education Cooperative Corporation Systems
7. ***What happens to the CO2 produced at BECCS power stations?***
8. It is stored in bedrock deep underground
9. It is released into the atmosphere
10. It is absorbed by nearby forests
11. It is used as fertilizer
12. ***Where was the current study carried out?***
13. The University of Manchester
14. The University of Exeter
15. The University of Arizona
16. The University of Edinburgh
17. ***What does IPCC mean?***
18. Integrated Pollution Prevention & Control
19. Independent Police Complaints Commission
20. Internet Protocol Contact Center
21. Intergovernmental Panel on Climate Change
22. ***What do the majority of current IPCC scenarios include in order to limit global warming?***
23. CO2
24. PPM
25. BECCS
26. UNFCCC
27. ***When can the use of BECCS increase carbon in the atmosphere?***
28. When carbon is not stored deep enough
29. When the crops for bioenergy replace existing forests
30. When BECCS power stations are located in the desert
31. When there is not enough oxygen in the atmosphere
32. ***What factors influence the effectiveness of BECCS*?**
33. The choice of biomass
34. The fate of initial above-ground biomass
35. The fossil fuel emissions offset in the energy system
36. All of the above
37. ***What is needed to meet the climate change targets from the Paris agreement?***
38. To get subsidies to update motor vehicles and industries
39. To reduce emissions and remove CO2 from the atmosphere
40. To become more environmentally aware
41. To reduce energy consumption
42. ***What is the Global Systems Institute?***
43. The University of Manchester’s Institute
44. The University of Exeter’s Institute
45. The University of Arizona’s Institute
46. The University of Edinburgh’s Institute
47. ***The text does NOT mention:***
48. What the study consists in
49. Who is conducting the research
50. What types of crops are used as biomass for BECCS
51. Why it is a better option to protect forests than growing crops for BECCS
52. **Inferencing (25)**
53. ***What is climate change?***
54. A change in global climate patterns
55. A gradual increase in the overall temperature of the earth's atmosphere
56. The trapping of the sun's warmth in the earth's atmosphere
57. All of the above
58. ***What is bioenergy?***
59. Non-renewable energy such as coal, oil and gas
60. Electricity produced by moving water
61. Renewable energy created from natural, biological sources
62. Energy harnessed from the Sun
63. ***What is bioenergy made of?***
64. Biomass
65. Sunlight
66. Wind
67. Moving water
68. ***What does “the resulting CO2” in lines 3-4 imply?***
69. Bioenergy is clean power
70. Bioenergy pollutes as much as fossil fuels do
71. Bioenergy pollutes as much as solar power does
72. Bioenergy releases CO2 in the atmosphere
73. ***Why does protecting or regenerating forests seem better than replacing them with crops for bioenergy?***
74. Forests provide shelter to a variety of animals
75. Land-use change produces CO2
76. Crops for bioenergy are difficult to grow
77. Forests are beautiful
78. ***What does “...land required to grow biomass... would be twice the size of India.” mean?***
79. A huge area is required to grow biomass
80. A large area is required to grow biomass
81. A moderate area is required to grow biomass
82. A small area is required to grow biomass
83. ***Where will BECCS be effective?***
84. Woodland
85. Grassland
86. Mountainous region
87. Desert
88. ***What instance of crops is used by BECCS power stations?***
89. Corn
90. Soya bean
91. Miscanthus
92. Wheat
93. ***What are the climate change targets from the Paris agreement?***
94. To reduce energy consumption
95. To reduce, reuse and recycle
96. To eat less meat
97. To fight climate change and adapt to its effects
98. ***What is the message of the text?***
99. Protecting forests is much more sensible to slow down climate change
100. Using BECCS on a large scale could increase CO2
101. The researchers used a cutting-edge computer model of global vegetation and soil
102. The Global Systems Institute belongs to the University of Exeter
103. **Vocabulary (10)**
104. ***The noun “forests” in the title can be described as:***
105. areas planted with crops or pasture
106. pieces of land consisting of marshes.
107. areas covered with trees and undergrowth
108. areas often covered with sand or rocks and little vegetations
109. ***The verb “tackle” in line 1can be explained as:***
110. deal with
111. encourage
112. support
113. celebrate
114. ***The noun “crops” in line 5 can be interpreted as:***
115. animals
116. people
117. minerals
118. plants
119. ***The noun “scenarios” in line 7 can be replaced by:***
120. countries
121. situations
122. regions
123. locations
124. ***The adverb “twice” in line 9 can be understood as:***
125. two times
126. three times
127. four times
128. many times
129. ***The verb “warn” in line 14 can be explained as:***
130. show something to someone
131. congratulate someone on something
132. explain something to someone
133. tell someone that something might be dangerous
134. ***The adjective “sensible” in line 17 can be replaced by:***
135. fashionable
136. interesting
137. reasonable
138. beautiful
139. ***The verb “offset” in line 21 can be described as:***
140. increase
141. release
142. compensate
143. improve

1. ***The adverb “drastically” in line 23 can be understood as:***
2. significantly
3. quickly
4. fairly
5. moderately
6. ***The noun “team” in lines 25 can be explained as:***
7. a group of people travelling together
8. a group of people working together
9. a group of people attending a lesson
10. a group of people living in a house
11. **Reference (20)**

*Write the referent word(s) at the end of each sentence.*

1. What does the relative pronoun “that” in line 1 point to?
2. Find a synonym for the word “research” in line 4.
3. What does the subject pronoun “we” in line 7 indicate?
4. What does the object pronoun “it” in line 11 refer to?
5. Find a synonym for the word “findings” in line 14.
6. What does the subject pronoun “we” in line 16 stand for?
7. What does the object pronoun “it” in line 19 point to?
8. What does the possessive adjective “our” in line 20 refer to?
9. What does the subject pronoun “we” in line 23 denote?
10. Find a synonym for the word “problems” in line 29?