# Climate Change

A picture containing nature

Description automatically generatedSuppose the annual cost C (in hundreds of dollars) of removing *p*% of the particulate pollution from the smokestack of a power plant is given by

Is it possible to remove all the pollution?

1. Complete the table.

Interpret the meaning of each row (ordered pair).

|  |  |
| --- | --- |
| *p* |  |
| 20 |  |
| 40 |  |
| 60 |  |
| 80 |  |
| 85 |  |
| 90 |  |
| 95 |  |

1. The rate of change between two points is defined by the slope of the line that connects the two points. Find the slope between each successive set of points. Looking at the completed tables, what conclusion can you draw about the cost of removing particulate pollution?

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1. Suppose the annual fine for removing less than 80% of the particulate pollution from the smokestack is $700,000. If you were the company’s Chief Financial Officer, would you advise the company to remove the pollution or pay the fine? Why?
2. If the company has already paid to remove 60% of the particulate pollution, would you advise the company to remove another 20% or pay the fine?
3. If you were a lawmaker, to what amount would you raise the fine to encourage power plants to comply with the pollution regulations?

Compare the cost of removing 80% and 90% of the pollution from the smokestack. Do you think the benefit of removing 90% of particulate pollution rather than 80% is worth the cost?



The potential future effects of global climate change include more frequent wildfires, longer periods of drought in some regions and an increase in the number, duration and intensity of tropical storms.

<http://climate.nasa.gov/effects>

**The Effects of Climate Change**

# Articles and Videos

Cool Careers in Science:

<https://cptv.pbslearningmedia.org/resource/biot09.biotech.car.drennan/career-profile-chemist-and-biologist-catherine-drennan/>

[Group of Friends Track Block Island’s Crumbling Shoreline — ecoRI News](https://www.ecori.org/shifting-sands/2021/6/17/group-of-friends-track-block-islands-eroding-shoreline)

<https://www.youtube.com/watch?v=DK1uKpJ49Jo>

<https://www.youtube.com/watch?v=-UM2GXbCIAw>

<https://www.youtube.com/watch?v=fZsw3j5x4KI>

<https://www.youtube.com/watch?v=XR9QDz70DaI>

<https://www.youtube.com/watch?v=7y9Cn60h7Ug>

<https://www.youtube.com/watch?v=a0heBE3IuOw>

<https://www.c2es.org/content/drought-and-climate-change/>