## 14.2 Climate Change's Impact on the Economy

**Source:** Neil Irwin, "Climate Change's Giant Impact on the Economy," *New York Times*, 1/20/19: BU1.

**Background:** In this article from the *New York Times*, business columnist Neil Irwin analyzes the potential impact of climate change on the United States and global economy. The article draws on recently developed scientific models for climate change to make economic projections. In November 2018, a U.S. government report projected that an increasingly warmer planet would mean sharply curtail Gross Domestic Product (G.D.P.). This was followed by a January 2019 statement by influential economists calling for immediate action to curtail climate change and a tax on carbon emissions. Irwin organized the article to address four questions. After reading the excerpts, answer the four questions yourself or working with your team.

**Questions**

1. How permanent will the costs be?
2. How should we value the future compared with the present?
3. How might climate change fuel inequality?
4. Can we adapt to a warmer climate?

**1. How permanent will the costs be?** "When we think about the economic damage from a hotter planet, it's important to remember that not all costs are equivalent, even when the dollar values are similar. There is a big difference between costs that are high but manageable versus those that might come with catastrophic events like food shortages and mass refugee crises. Consider three possible ways that climate change could exact an economic cost: A once-fertile agricultural area experiences hotter weather and drought, causing its crop yields to decrease; a road destroyed by flooding because of rising seas and more frequent hurricanes must be rebuilt; an electrical utility spends hundreds of millions of dollars to build a more efficient power grid because the old one could not withstand extreme weather. The farmland's yield decline is a permanent loss of the economy's productive capacity — society is that much poorer, for the indefinite future . . . The road rebuilding might be expensive, but at least that money is going to pay people and businesses to do their work. The cost for society over all is that the resources that go to rebuilding the road are not available for something else that might be more valuable . . . By contrast, new investment in the power grid could yield long-term benefits in energy efficiency and greater reliability."

**2. How should we value the future compared with the present?** "Seeking a baseline to devise environmental regulations, the Obama administration set out to calculate a "social cost of carbon," the amount of harm each new ton of carbon emissions will cause in decades ahead. At the core of the project were sophisticated efforts to model how a hotter earth will affect thousands of different places. That's necessary because a low-lying region that already has many hot days a year is likely to face bigger problems, sooner, than a higher-altitude location that currently has a temperate climate . . . But even once you have an estimate of the cost of a hotter climate in future decades, some seemingly small assumptions can drastically alter the social cost of carbon today . . . Spending today to reduce carbon emissions tomorrow is like insurance against some of the most costly effects of a hotter planet — and part of the debate is over how much that insurance is really worth, given that the biggest benefits are far in the future."

**3. How might climate change fuel inequality?** "When a government report raises the possibility of a 10 percent hit to G.D.P. as a result of a warming climate, it can be easy to picture everyone's incomes being reduced by a tenth. In reality there is likely to be enormous variance in the economic impact, depending on where people live and what kind of jobs they have. Low-lying, flood-prone areas are at particularly high risk of becoming unlivable — or at least uninsurable. Certain industries in certain places will be dealt a huge blow, or cease to exist; many ski slopes will turn out to be too warm for regular snow, and the map of global agriculture will shift. Adaptation will probably be easier for the affluent than for the poor. Those who can afford to move to an area with more favorable impacts from a warmer climate presumably will. So the economic implications of climate change include huge shifts in geography, demographics and technology, with each affecting the other."

**4. Can we adapt to a warmer climate?** "Despite all these risks, it's important to remember that humanity tends to be remarkably adaptable. A century ago, most people lived without an automobile, a refrigerator, or the possibility of traveling by airplane. A couple of decades before that, almost no one had indoor plumbing. Changes in how people live, and the technology they use, could both mitigate the impact of climate change and ensure that the costs are less about a pure economic loss and more about rewiring the way civilization works. Most capital investments last only a decade or two to begin with; people are constantly rebuilding roads, buildings and other infrastructure. And a warmer climate could, if it plays out slowly enough, merely shift where that reinvestment happens. But a big risk is that the change happens too quickly. Adaptation that might be manageable over a generation could be impossible — and cause mass suffering or death — if it happens over a few years. Imagine major staple food crops being wiped out for a few consecutive years by drought or other extreme weather. Or a large coastal city wiped out in a single extreme storm.