



Rope Exercise: From Greenhouse to Hothouse

What Is It? An exercise that visually demonstrates and represents the scale of fossil fuel consumption and growth.

Why Do it?

- To demonstrate visually and viscerally the scale of fossil fuel consumption and growth.
 - To connect it to the concept of “lag effect.”
 - To give a clear sense of the scale of the ongoing ecological crisis.
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Time: 30 minutes – 45 minutes

Materials needed:

- A long rope (50-100 feet)
 - Volunteers to hold the rope
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Directions/Script:

1. Gather the group. Start by explaining the basics of climate and ecology.

Suggested script:

A greenhouse is a great way to grow things in a cold environment. We build them to trap heat so that life can grow, even if it is too cold to grow things outside. Space is cold. The earth is surrounded by gases (greenhouse gases) that make the planet perfect for life. But we are pumping more greenhouse gases into the atmosphere than is good for us – going from a cozy greenhouse to a hothouse. This is happening right now and fast.

2. ***For us to feel the impact of our emissions takes about 40-50 years. Close your eyes and imagine what the world was like in 1970s. Read these guide questions:***

- *How were people living?*
- *What was happening in the world?*
- *How did most of the world live?*

3. Take out the big rope and read this script:

This rope represents a timeline.

Since we first discovered oil, in the late 1800’s, we’ve basically been doubling our consumption of fossil fuels every 20 years.



There has been some fluctuation between each 20 year period, but an accurate average is that we've doubled our fossil fuel consumption need every 20 years.

4. Pick a person to hold one end of the rope. Explain:

Let's visually represent what this means. This end of the rope represents the year 1890.

Pick another person to hold the rope about 6-12 inches from the end.
Explain:

And where he/she is holding the rope represents 1910. The length of the rope between 1890-1910 represents the amount of fossil fuel consumption between those years.

5. Next, using the remaining rope, fold it over from 1910 to 1890 twice to show double the previous length in rope (about 12-24 inches) and have someone hold the rope there. Explain:

And this new point is the year 1930. And as you see, the consumption between 1910-1930 is double the length of consumption between 1890-1910.

6. Then fold double from 1930 to 1910 all over again, and have another person hold the new point. Explain:

And this is 1950.

Keep doing this doubling of the rope, until you reach today, or the length gets too cumbersome or reaches far out of the room.

7. Point to the year 1970 and explain that this was the year you had the group visualize at the beginning of the activity.
8. Read script:

To reiterate from before, it takes about 40-50 years for us to feel the impact of our current emissions. This is called the lag effect. Today, we are experiencing the impacts of our consumption 40-50 years ago (from the 70s). And all of the fossil fuels we've consumed from the 1970s through today is yet to have an impact on our climate. That is coming. This gives you a real sense of the scale and pace of the ecological crisis. We are already feeling extreme impacts of our past overconsumption of fossil fuels – from rising sea levels to extreme weather patterns created by the climate crisis. As we continue to exploit the Tar Sands, or continue to pursue mountain top removal, we are only setting up our children and grandchildren to live in a scary future.

Facilitator notes:

- A double every 20 years comes from only 7% growth per year. But because growth is exponential, it gets bigger faster than we can imagine.
- 1970 is the key point to highlight lag effect – we are feeling the impacts of that time, now.