

NNOCCI National Network for Ocean and Climate Change Interpretation

Framing with Explanatory Metaphors

An Explanatory Metaphor is a simple, concrete, and memorable comparison that quickly and effectively explains an abstract or complex topic. Explanatory Metaphors developed by FrameWorks have been tested extensively to ensure that they build public understanding about how a problem, process, or issue works, and that they reliably lead to stronger support for research-based policy positions.

Checklist for framing effectively with Explanatory Metaphors:

- ✓ *Use an Explanatory Metaphor if it's available.* Language is built on metaphor. If you are talking about a complex, abstract topic for which a tested Explanatory Metaphor exists, then use it – if even briefly – every time it's called for. It is important to pack more (and more powerful) explanation into communications on complex issues. Otherwise, the public will fill in the blanks with habitual but unproductive ways of thinking about the issue.
- ✓ *Rely on Explanatory Metaphors that have been thoroughly tested for their frame effects.* Metaphors powerful: they shape understanding and opinions. Don't leave this to chance when you don't have to. Whenever possible, use Explanatory Metaphors that have been carefully developed to faithfully represent the major concept you're trying to explain, and rigorously tested to ensure that they reliably direct public understanding in a productive way. If a tested metaphor is not available, FrameWorks recommends that framing explanations with a well-crafted Explanatory Chain, rather than taking a risk with a novel metaphor that might have unintended effects.
- ✓ *Introduce the relevant Explanatory Metaphor before moving into details and data on impacts.* Oftentimes, communicators rely on deeply ingrained habits of persuasion, such as appealing to impacts, before detailing or describing how the problem works. (For scientists, this manifests in appealing to previous research before talking about their own findings). A more effective Order involves establishing *why this matters* (with Values) and *how this works* (with Explanatory Metaphors) before introducing more specific information. When communicators proactively establish a productive frame for the general public, the impact of the communication that follows is enhanced. When these framing strategies are modeled in communications aimed at peers and colleagues, the impact of the frames is amplified through dissemination.
- ✓ *Embed Explanatory Metaphors into a variety of communications.* Explanatory metaphors are effective across a variety of communications contexts. You can help more audiences to understand how the issue works by embedding explanatory metaphors into multiple contexts from oral presentations, to teaching materials, interpretive signs, publications, activities, and films.
- ✓ *Extend your Explanatory Metaphor through other frame elements, especially Tone and Visuals.* Maintain a reasonable, explanatory Tone; using metaphors to frame an issue is usually an exercise in translating science or social science. Use Visuals that extend the metaphor; they are concrete images to begin with, so this is often a relatively easy way to add to the impact of the overall framing.

- ✓ *Use Explanatory Metaphors consistently, as the cornerstone of an explanatory approach and a long-term issue-evolution strategy.* When communicators use effective metaphors to teach underlying mechanisms, they can increase support and decrease polarization. Consistent and regular use of the metaphor by many communicators within the field will lead to a long-term shift in public thinking about the issue.

USING THE “HEAT TRAPPING BLANKET” METAPHOR TO TALK ABOUT CLIMATE CHANGE

This tested Explanatory Metaphor is an important cornerstone of any strategic communication on the science of climate change. It explains the basic mechanism of climate change in simple terms that are easily grasped and remembered.

Heat-Trapping Blanket: Climate change is caused, in part, by the man-made blanket of carbon dioxide that is building up around the Earth and trapping in heat. The heat-trapping blanket is thickened by burning large quantities of fossil fuels such as coal, oil and natural gas. By burning these fossil fuels, we release carbon dioxide into the air where it builds up and traps heat that would otherwise escape. This blanket effect leads to the warming of the planet, and the atmospheric balance that keeps the climate stable is disrupted.

Checklist for using *Heat Trapping Blanket*:

- ✓ Fossil fuels like gas, oil, and coal are the major underlying cause. (Don't start the cause-and-effect chain with 'humans' or 'carbon dioxide.' Always frame the problem in terms that lead clearly to a reasonable, easy-to-think Solution.)
- ✓ The blanket is made of the heat-trapping gas carbon dioxide. The build-up is creating a blanket effect. (Don't mix metaphors by substituting the terms 'greenhouse gas' or 'carbon pollution,' or by pulling in other comparisons on the fly.)
- ✓ Always describe an impact of climate change, so that you don't leave the impression that the climate/ocean being a little bit warmer is a good thing. (The impact should be science based, though you don't have to explicitly say, “scientists have found...”)
- ✓ Use a matter-of-fact tone, so you don't leave the impression that this is a big, scary, depressing crisis that can't be solved.
- ✓ Be concise: Explain *Heat Trapping Blanket* in 60 seconds or less.

Examples of how this Explanatory Metaphor might be used in interpretation:

a) Climate change is affecting the creatures you see here. When we burn fossil fuels like coal and gas, we pump more and more carbon dioxide into the atmosphere, and this build-up creates a blanket effect, trapping in heat around the world. The ocean absorbs much of that excess heat, making it warmer, too. This has already had an impact on [species in exhibit].../ If nothing is done to halt this process, scientists tell us that the impact on [species in exhibit] will be that...

b) When we burn fossil fuels for our own energy use, it changes the ocean temperature enough to disrupt where tunas can breed. Burning fossil fuels emits excess carbon dioxide into our atmosphere. Our atmosphere is made up of a mixture of gases that act as a blanket of insulation that keeps some of the sun's heat in and ventilates the rest out. But as we add more carbon dioxide to the atmosphere, the blanket gets thicker, trapping more heat in than it should. The ocean absorbs much of that excess heat, making it warmer, too. At the current rate we are

burning fossil fuels, the Gulf of Mexico, one of bluefin tuna's breeding grounds, is predicted to get up to 4.5 degrees F warmer by the end of the century, which is a serious change in temperature. Scientists are concerned that this will disrupt the tuna's breeding, with serious consequences for the tuna and all the other species that are part of their ecosystem.

c.) Since we get most of our energy from burning fossil fuels, we are producing huge amounts of CO₂. In the atmosphere, this CO₂ acts like a heat trapping blanket, trapping in some of the Earth's heat that would otherwise escape to space. As we burn more and more fossil fuel we are trapping more and more heat so our planet is warming. This warms the oceans, causing the water to expand and the ice sheets at the poles to melt, increasing the volume of the ocean. This causes sea level to rise around the world. Higher sea level can mean trouble for beaches and other coastal communities like this one.