

**The communication
dimension of wind energy:
Challenges and opportunities**

OPPORTUNITIES

1.

Public Has High Regard for Science and Scientists..

<i>Science's effect on society</i>	<u>Public</u> %
Mostly positive	84
Mostly negative	6
Other/DK	10
<i>Contribute "a lot" to society's well-being...</i>	
Members of military	84
Teachers	77
Scientists	70
Medical doctors	69
Engineers	64
Clergy	40
Journalists	38
Artists	31
Lawyers	23
Business executives	21

2.

Public Sees Government Funding of Research as “Essential”

<i>Which comes closer to your view...</i>	<u>Public</u> %
Gov't investment in research is essential for scientific progress	60
Private investment ensures enough progress w/out gov't investment	29
Don't know	11

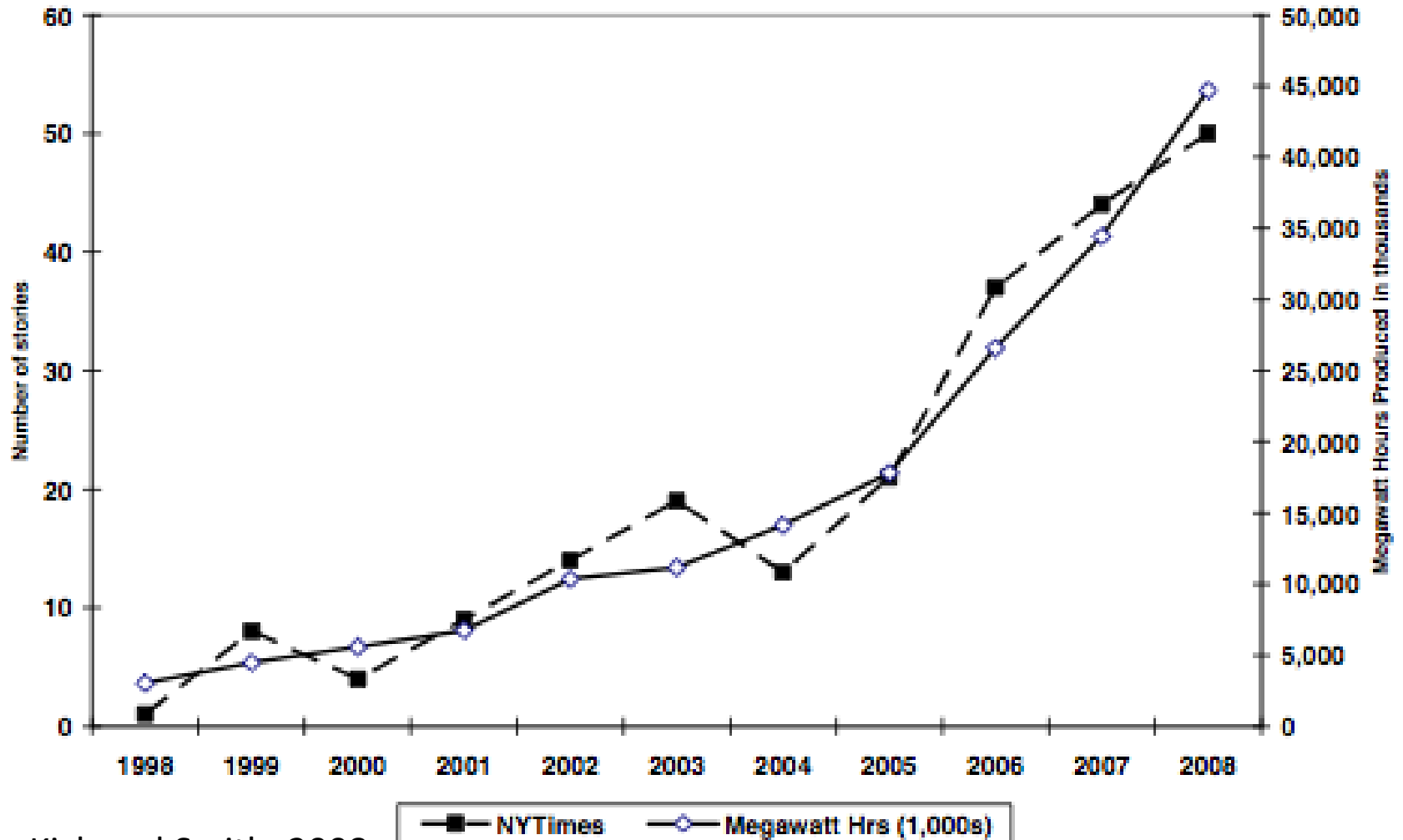
3. Political will; government support



4.

Growth of media coverage parallels growth of industry

Figure 1. The Growth of Wind Power and Media Coverage of Wind Power



Other audience characteristics

- A public relatively informed about wind energy
- People see the advantages of wind power as being more important than the disadvantages
- Considerable public support driven by altruistic motives

<i>Wind turbines:</i>	Initial Question		Later Question	
	b	s.e.	b	s.e.
Reduce imported energy	.26***	0.07	.27***	0.07
Increase tourism	.01	0.04	.01	0.04
Emit no greenhouse gas	.39***	0.07	.07	0.07
Symbol of renewables	.18***	0.05	.18***	0.06
Emit no pollution	.05	0.08	.22**	0.09
Kill birds	-.06	0.04	-.01	0.04
Noisy	.10**	0.04	-.08	0.05
Gov't giveaways	.01	0.04	.02	0.04
Ugly, spoil scenery	-.07*	0.04	-.05	0.04
Lower property values	-.0	0.04	-.12***	0.04
More expensive	.05	0.04	-.14***	0.04
Age	0.04**	0.02	0.01	0.02
Education	0.01	0.02	0.03*	0.02
Female	-0.08	0.06	-0.24***	0.07
Black	-0.34**	0.14	0.03	0.15
Asian	0.26*	0.15	-0.02	0.17
Other Race	0.26	0.2	0.43**	0.20
Hispanic	-0.11	0.15	0.08	0.15
Evangelical	-0.10	0.13	0.22	0.14
Christian	0.20**	0.1	0.01	0.11
Catholic	0.04	0.08	0.14*	0.08
Jewish	-0.10	0.19	0.21	0.18
Atheist	0.04	0.09	0.05	0.09
Knowledge index	0.03	0.02	-0.02	0.02
Ideology (conservative)	0.01	0.04	-0.09*	0.05
Party Id (Republican)	-0.01	0.02	0.02	0.02
Constant	0.31	0.31	1.7	0.30
Adjusted R-square	0.39		0.29	
Sample n	610		610	

* p < .10; ** p < .05; *** p < .01

CHALLENGES

1.

Emergent anti-wind energy advocacy groups

ALL THE PAIN FOR ZERO GAIN

PAINFUL FACTS ABOUT WIND ENERGY



WIND TURBINES KILL EAGLES



THEY ALSO KILL BATS



THEY ARE BUILT IN AREAS OF OUTSTANDING NATURAL BEAUTY



THEY ARE NOISY



THEY REQUIRE PERMANENT FOSSIL FUEL BACK UP



THEY USE PRECIOUS RARE EARTH MINERALS



THEY LEAD TO FOREST CLEARING



1 EXPENSIVE 'GREEN' JOB LEADS TO 3.7 JOB LOSSES



'GREEN' TAXES CONTRIBUTE TO FUEL POVERTY

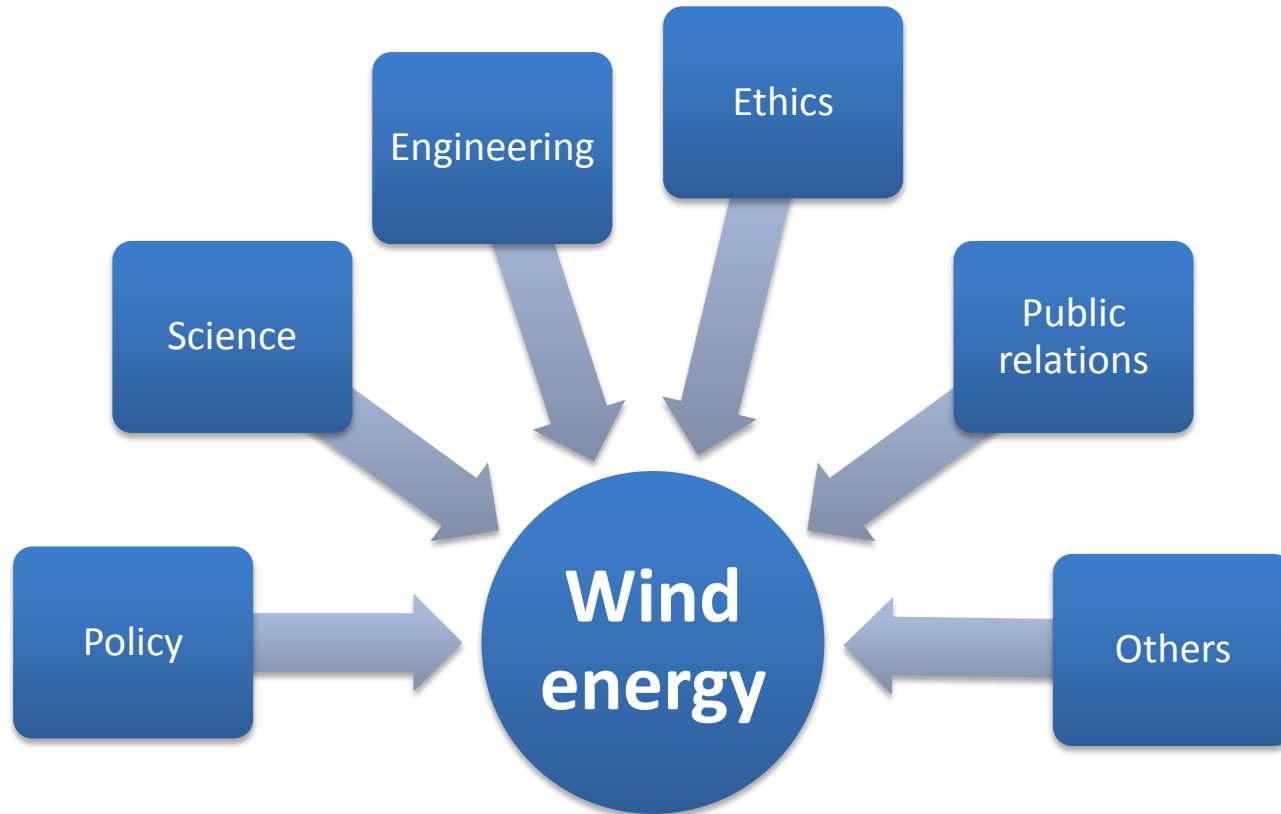
FOR APPROXIMATELY*

0% OF WORLD ENERGY

*TO THE NEAREST WHOLE NUMBER

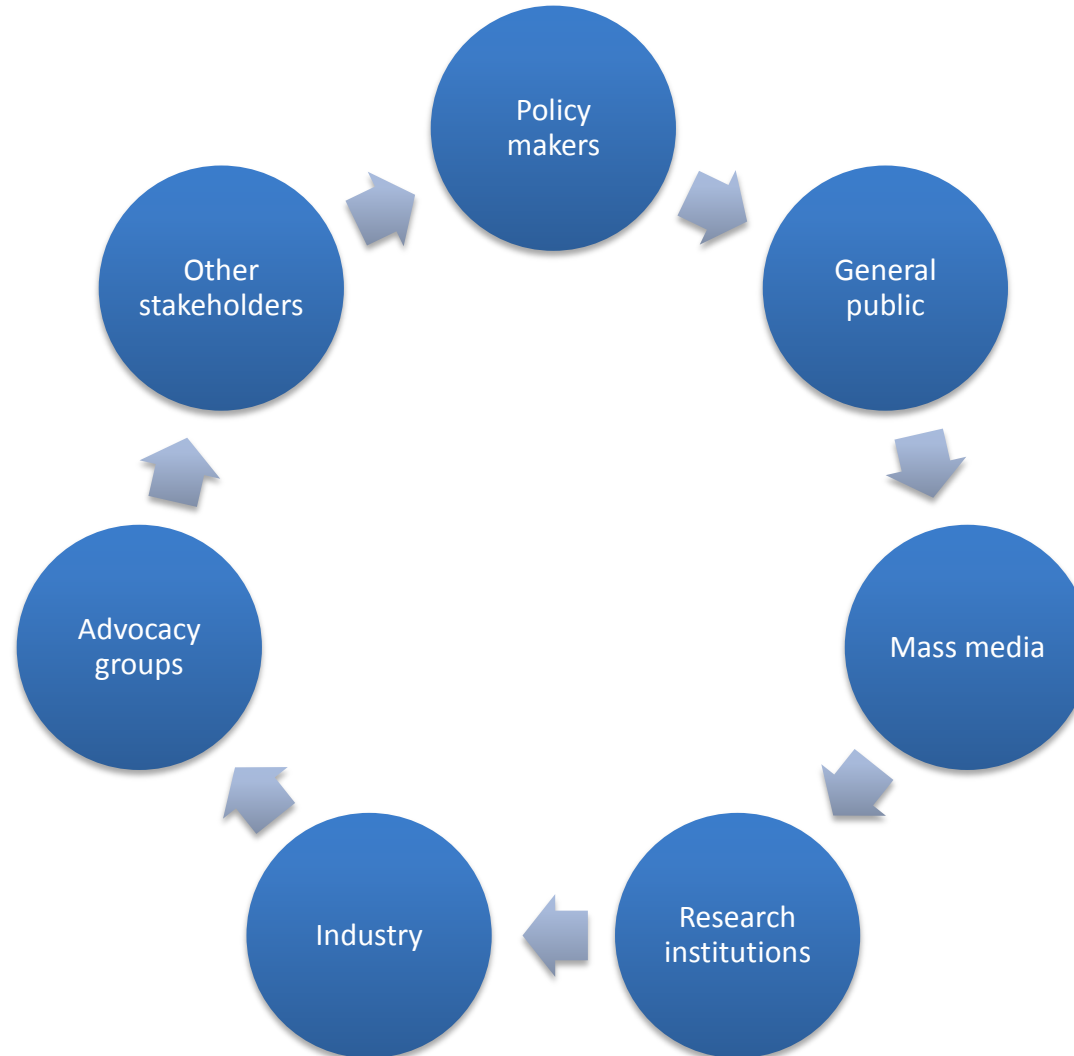
2.

A multi-faceted technical issue that is difficult to explain



3.

Different audience segments will require agility in communication strategy



4.

Problems for Science: Lack of Public Knowledge, Sloppy News Coverage

<i>Scientists' views of problems for science...</i>	<u>Major problem</u> %	<u>Minor/Not a Problem</u> %
Public does not know very much about science	85	15
News does not distinguish between well-founded findings and those that are not	76	24
News media oversimplify scientific findings	48	51
Public expects solutions to problems too quickly	49	51

Figures read across.

5.

Scientists/Engineers vs. journalists: A clash of cultures

“When a reporter approaches, I generally find myself wishing for a martini.”

-- Jonas Salk, Nobel Prize winner

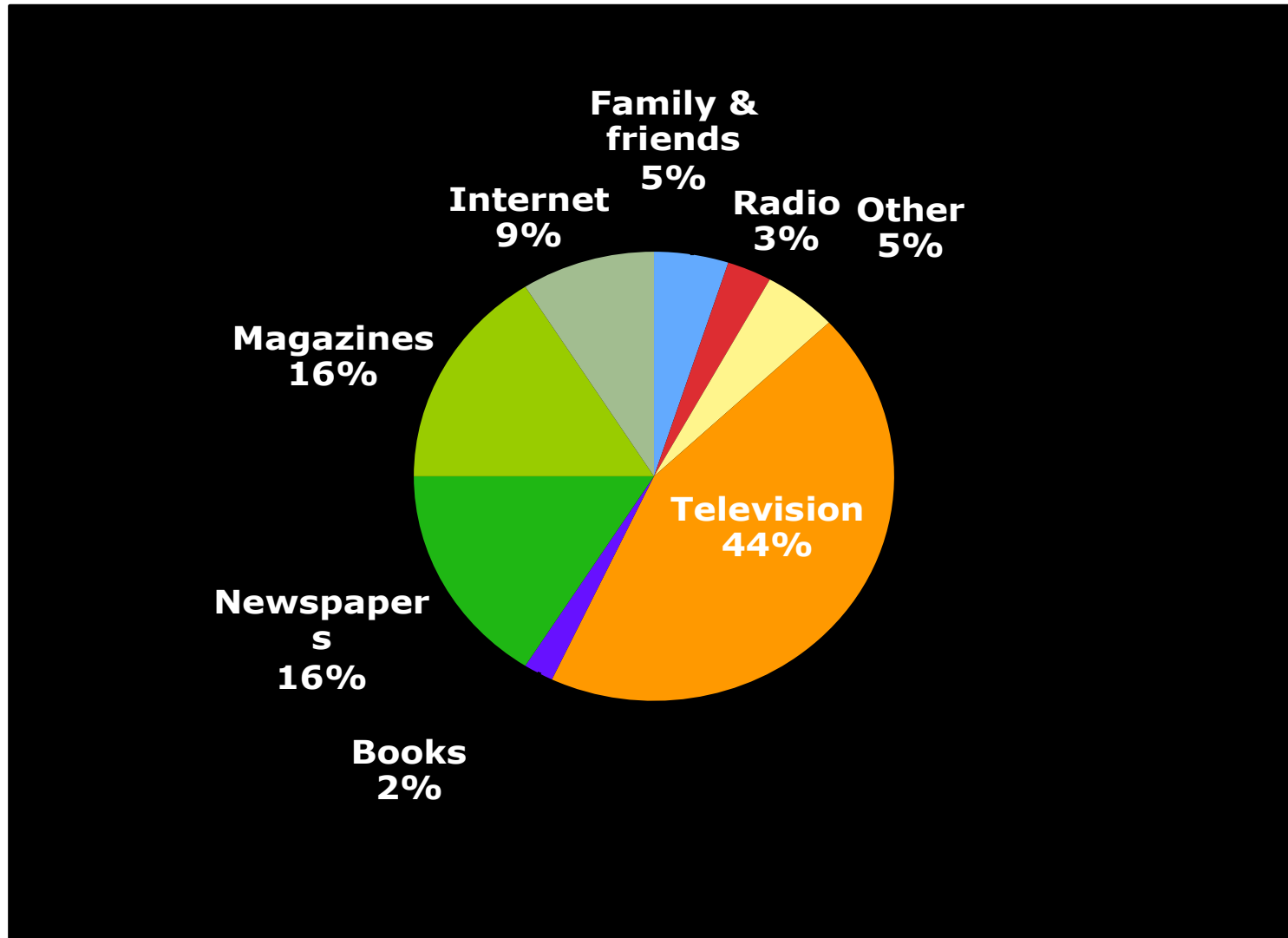
“It seems as if the whole scientific establishment has absent-mindedly misplaced English somewhere between high school graduation and the awarding of the Ph.D.”

-- Katie Coe, TV science beat reporter, 2003

Why you should bother talking to reporters

1. The media are still the major sources of science and risk information

Sources of science and technology information, US



NSF, Survey of public attitudes toward and understanding of science and technology, 2007

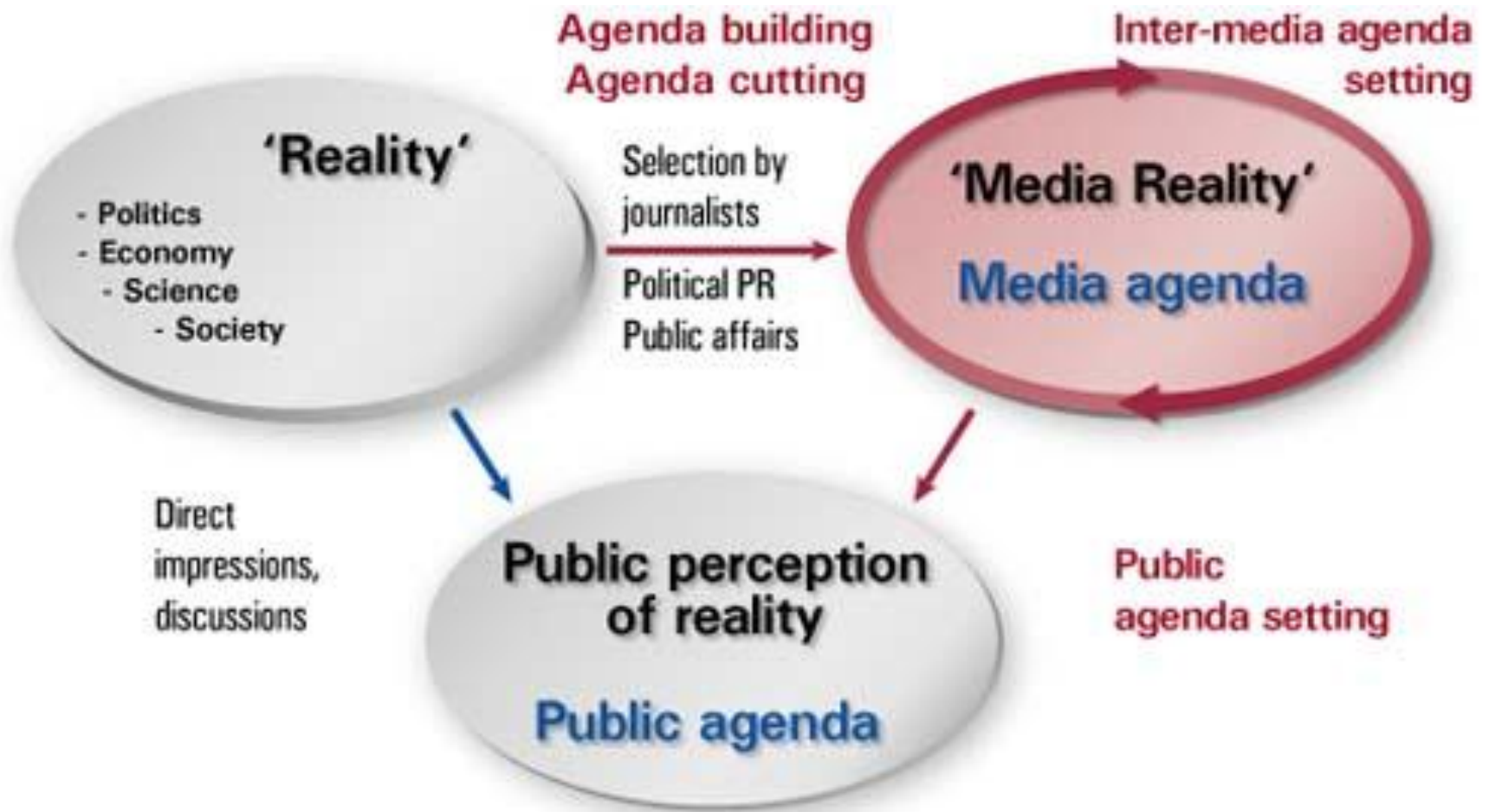
Why you should bother talking to reporters

2. Public sentiment still drives

- regulatory policies
- level of government spending on science

Why you should bother talking to reporters

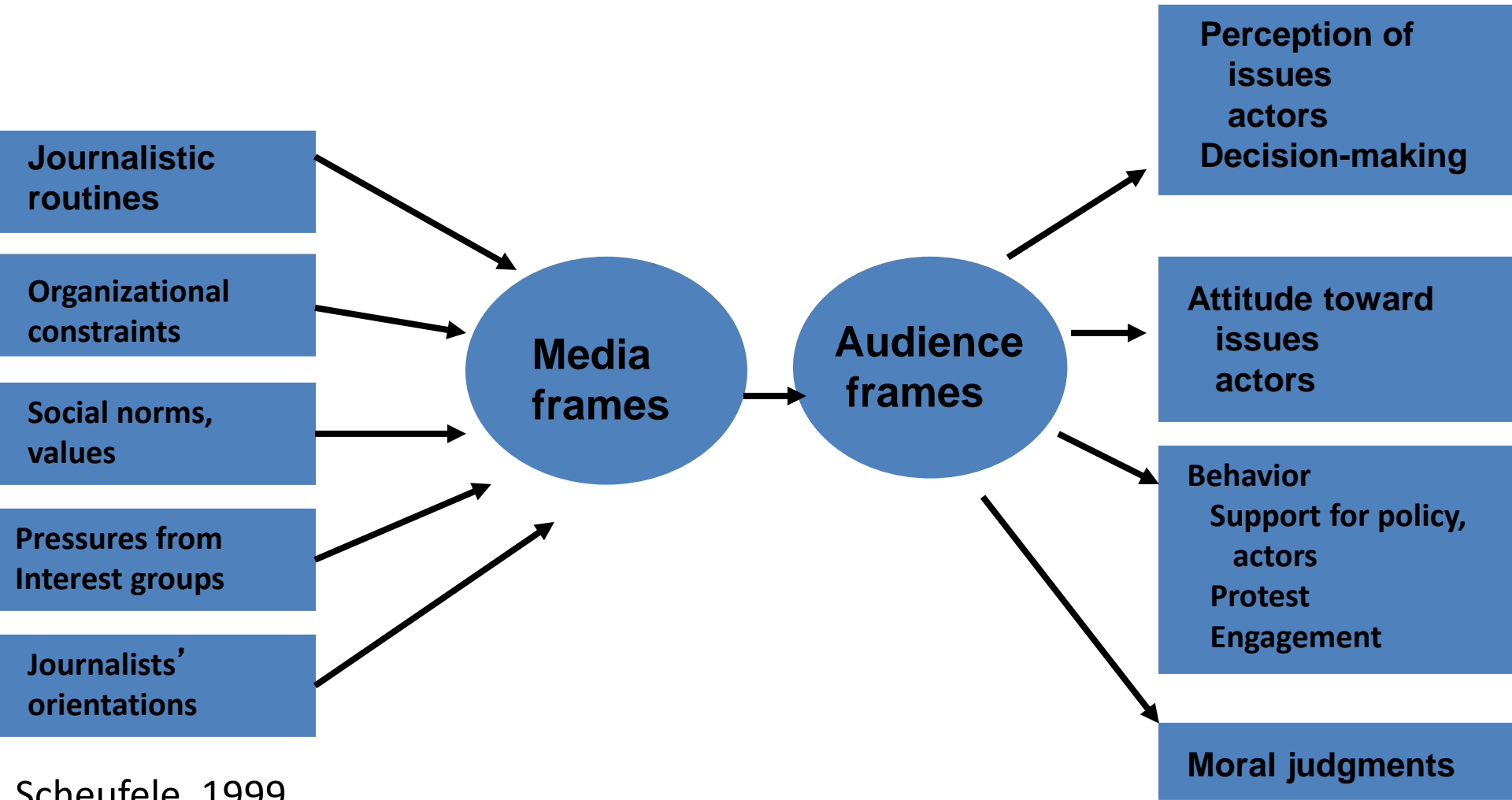
3. Media agenda influences public agenda



McCombs and Shaw, 1972

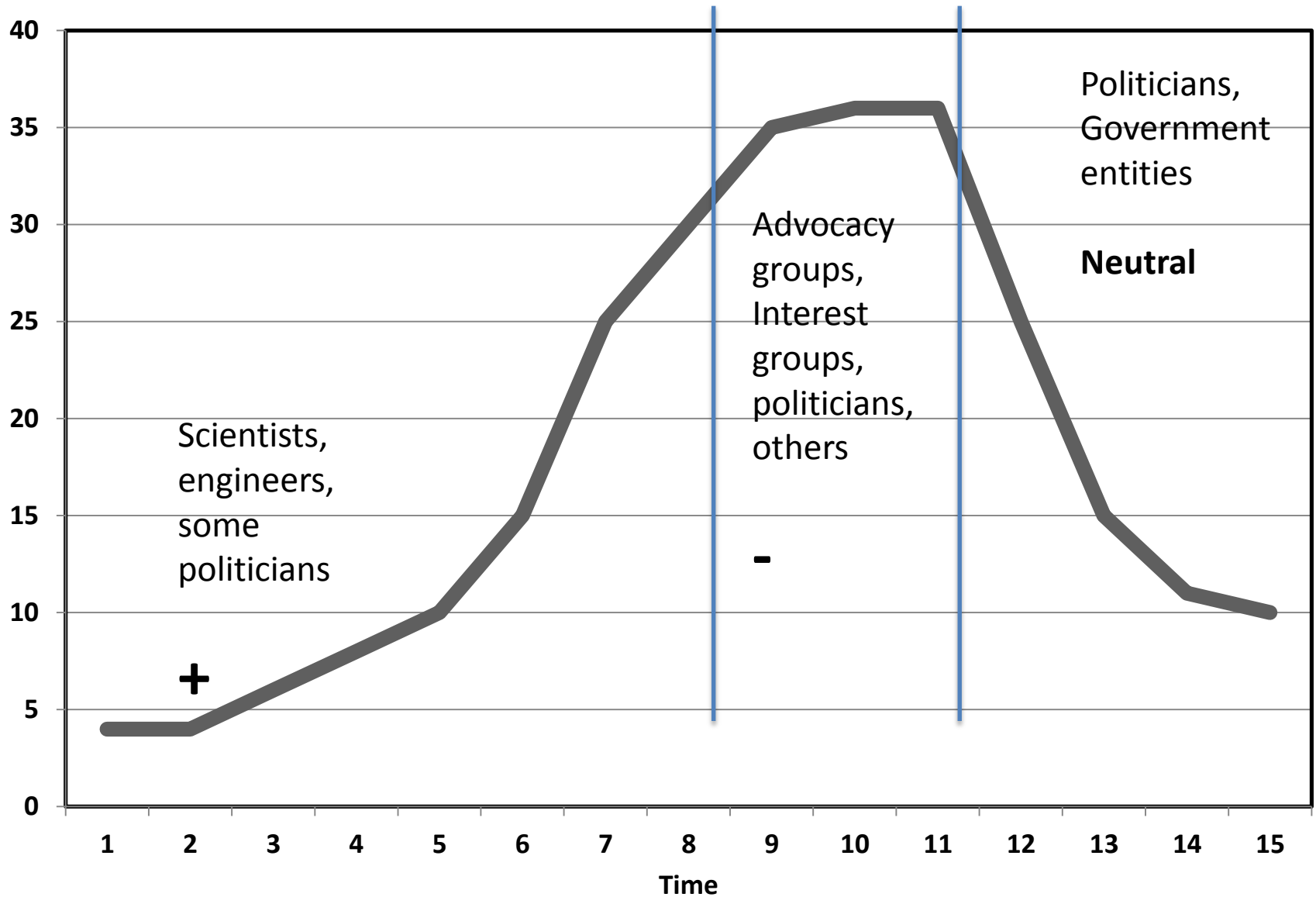
Why you should bother talking to reporters

4. Media frames shape audience
understanding of issues

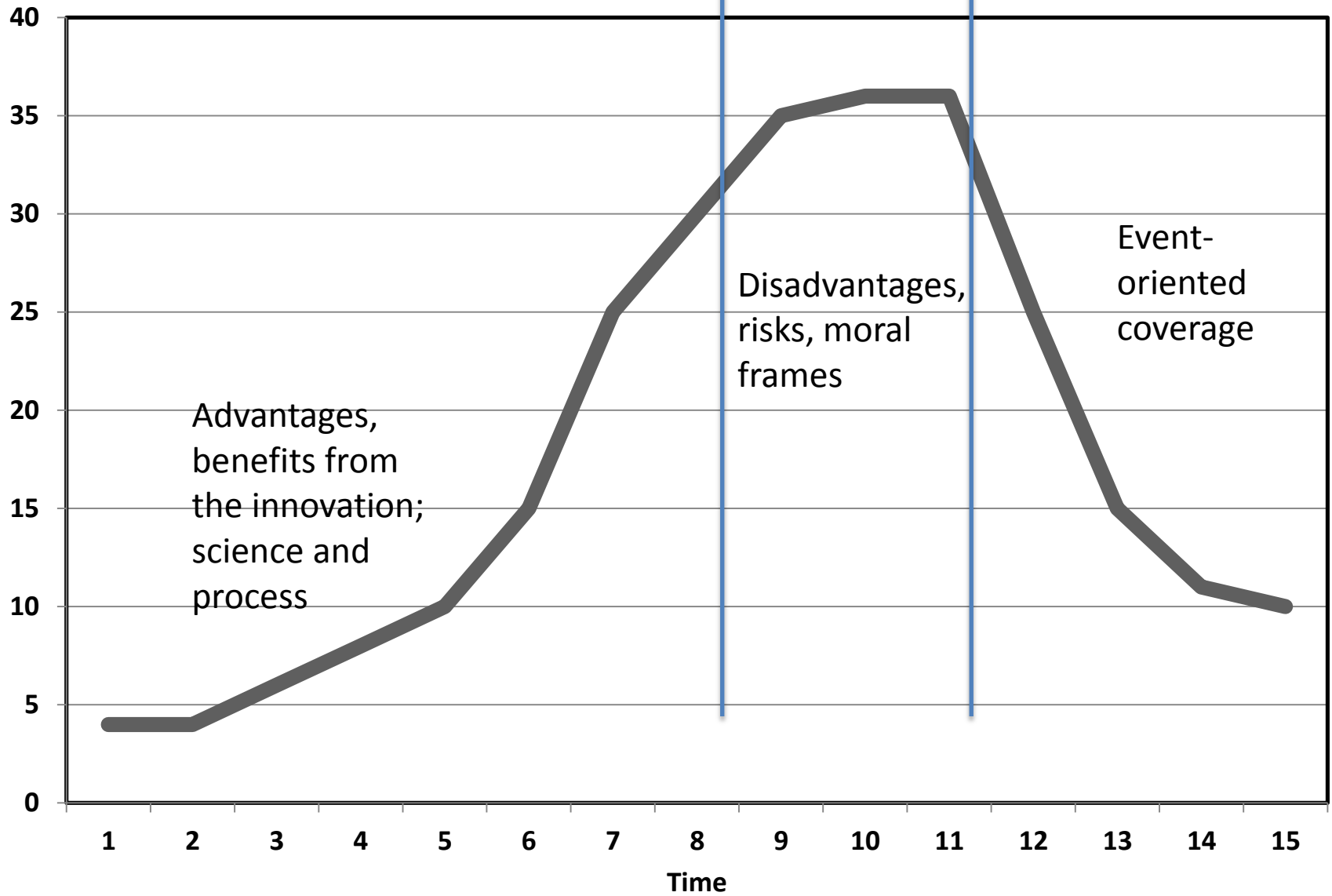


Scheufele, 1999

Life span of a relatively newsworthy event: Sources, Valence



Life span of a relatively newsworthy event: Themes



Communication research areas related to wind energy

- Understanding public perception of wind energy
- Assessing media performance (quality of information) in covering wind energy
- Redefining “fair and balanced” in the reporting on wind energy
- Testing communication factors that have a bearing on the amplification or attenuation of perceived risks

Communication research areas related to wind energy

- Characterizing the psychometric attributes of risk perception concerning the expansion of wind energy
- Applying the mental models approach to determine what the public should know

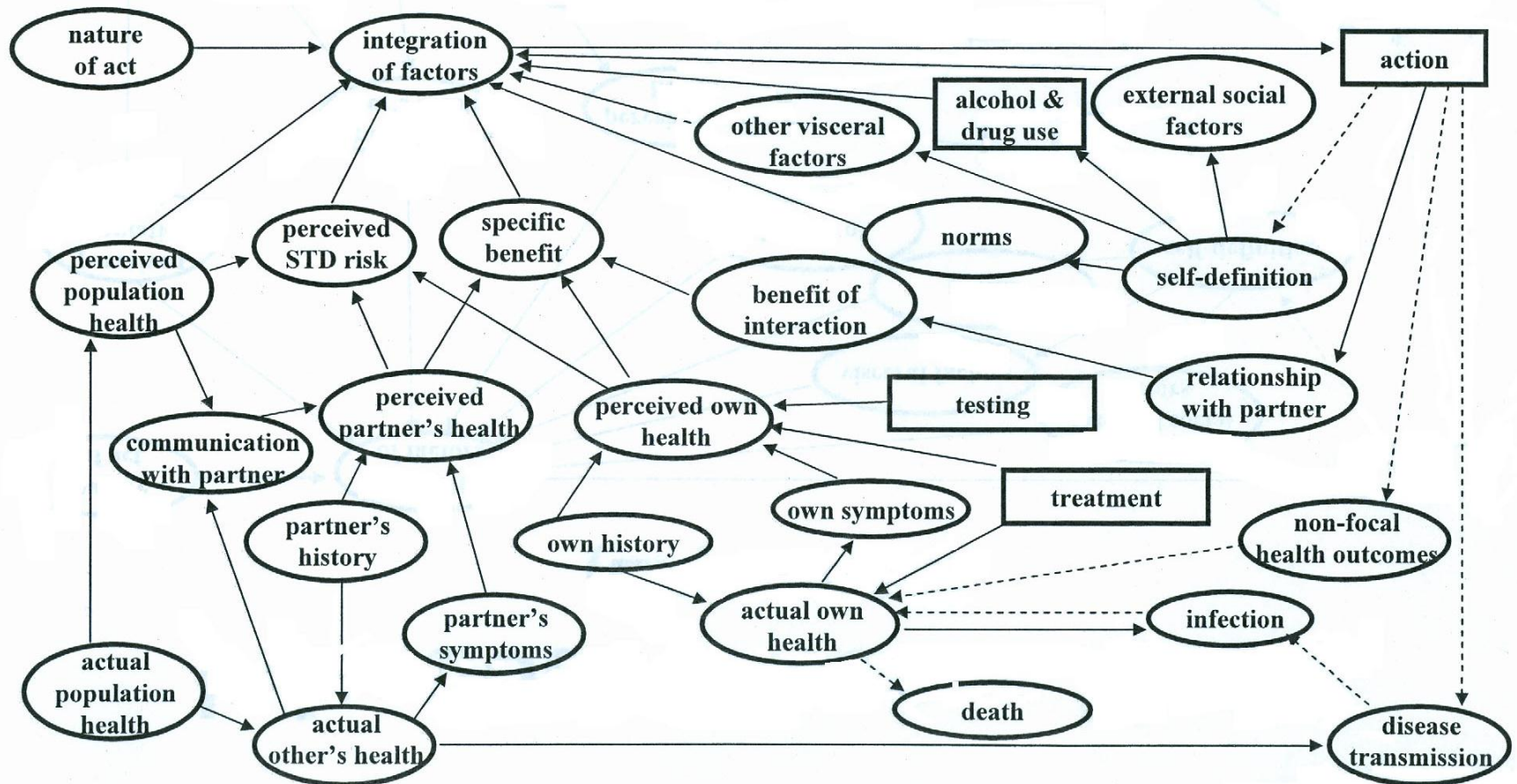
Mental models approach

- **Normative:** What should people know?
 - The expert model
 - Method: Interdisciplinary literature review and interview of an expert panel
- **Descriptive:** What do people already know?
 - The lay person model
 - Method: Qualitative interviews and quantitative survey
- **Prescriptive:** What do people still need to know?
 - Identify knowledge gaps and misconceptions
 - Method: Compare expert and lay person model
- **Evaluation:** Does the intervention work?
 - Method: Randomized control study

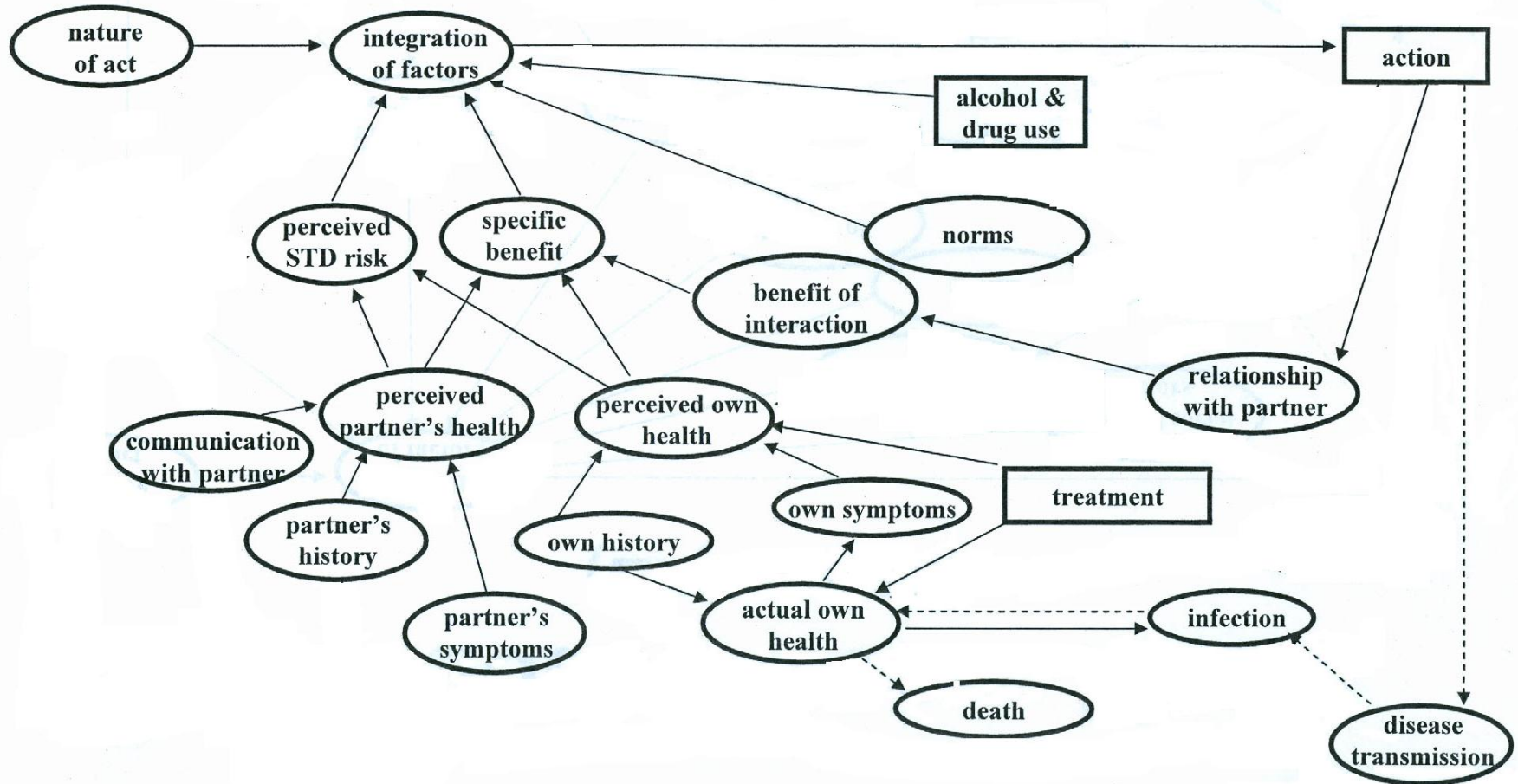
Mental models approach

- What are the three most important things you would like your audience to know?
- What are the three most important things your audience would like to know?
- What are the three most important things your audience is most likely to get wrong unless they are emphasized?

Example: Expert's "mental map"



Example: Audience member's "mental map"



Message Map
Stakeholder:
Question/Concern

Key Message/Fact 1.

Key Message/Fact
2.

Key Message/Fact 3.

Keywords:
Supporting
Fact 1.1

Keywords:
Supporting
Fact 2.1

Keywords:
Supporting
Fact 3.1

Keywords:
Supporting
Fact 1.2

Keywords:
Supporting
Fact 2.2

Keywords:
Supporting
Fact 3.2

Keywords:
Supporting
Fact 1.3

Keywords:
Supporting
Fact 2.3

Keywords:
Supporting
Fact 3.3

**Ongoing study:
Cartoons as a vehicle for
debunking myths about
wind energy**

Wind turbines are noisy.





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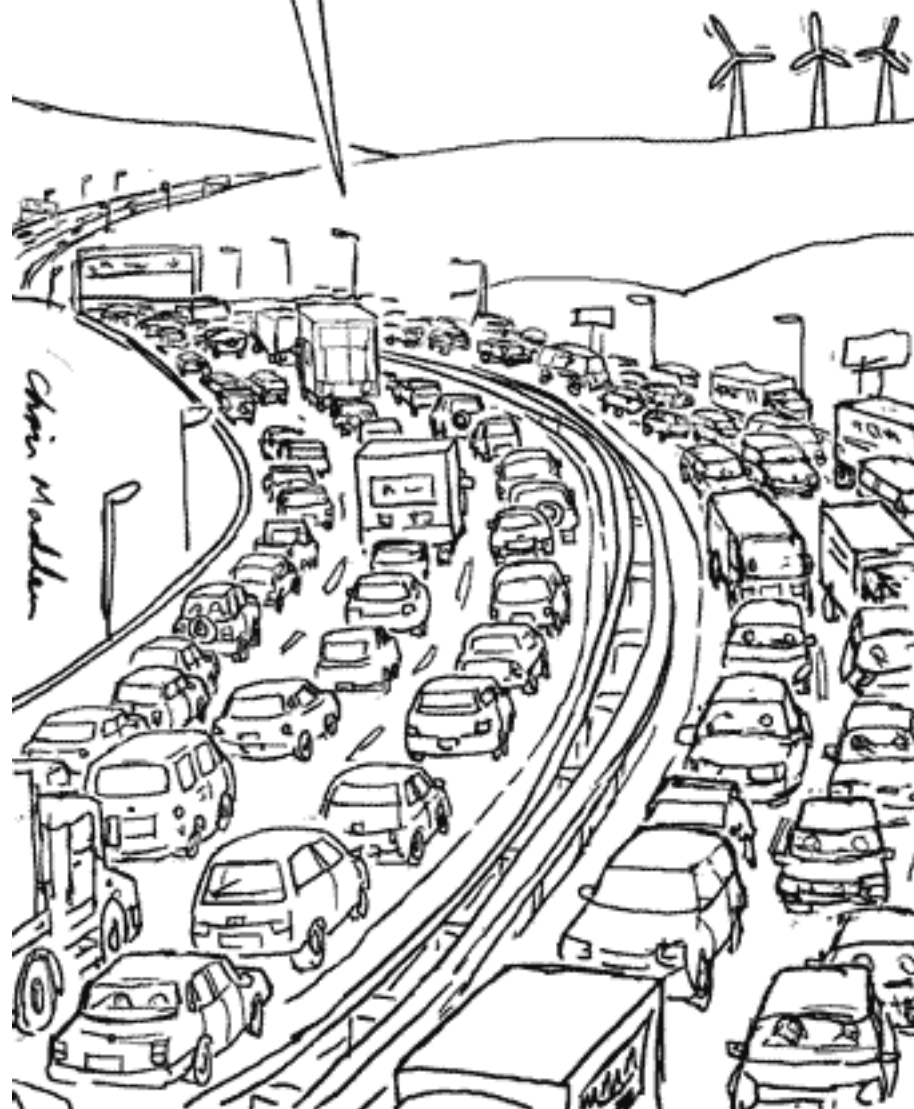
Wind turbines are ugly.



THOSE
WIND TURBINES
ARE SUCH
EYESORES.



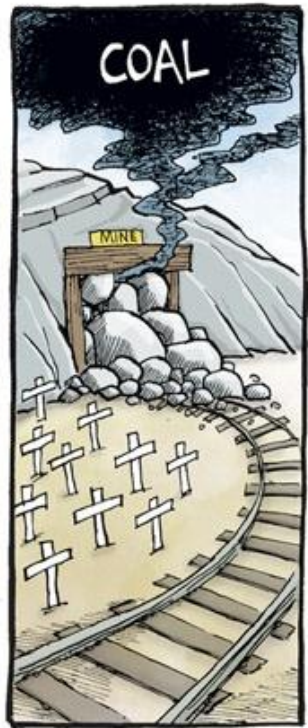
JUST LOOK AT
THOSE EYESORES!



Wind projects harm property values.



ARGUMENTS AGAINST-

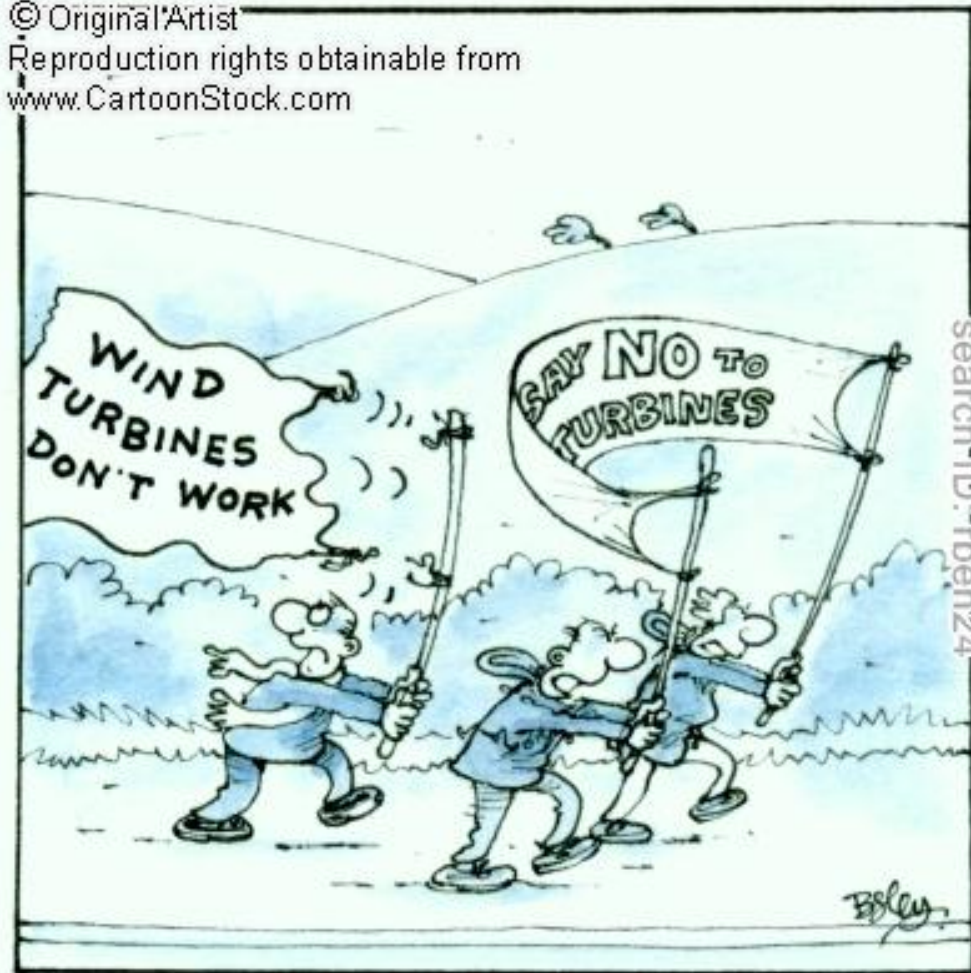


Wind energy is inefficient.



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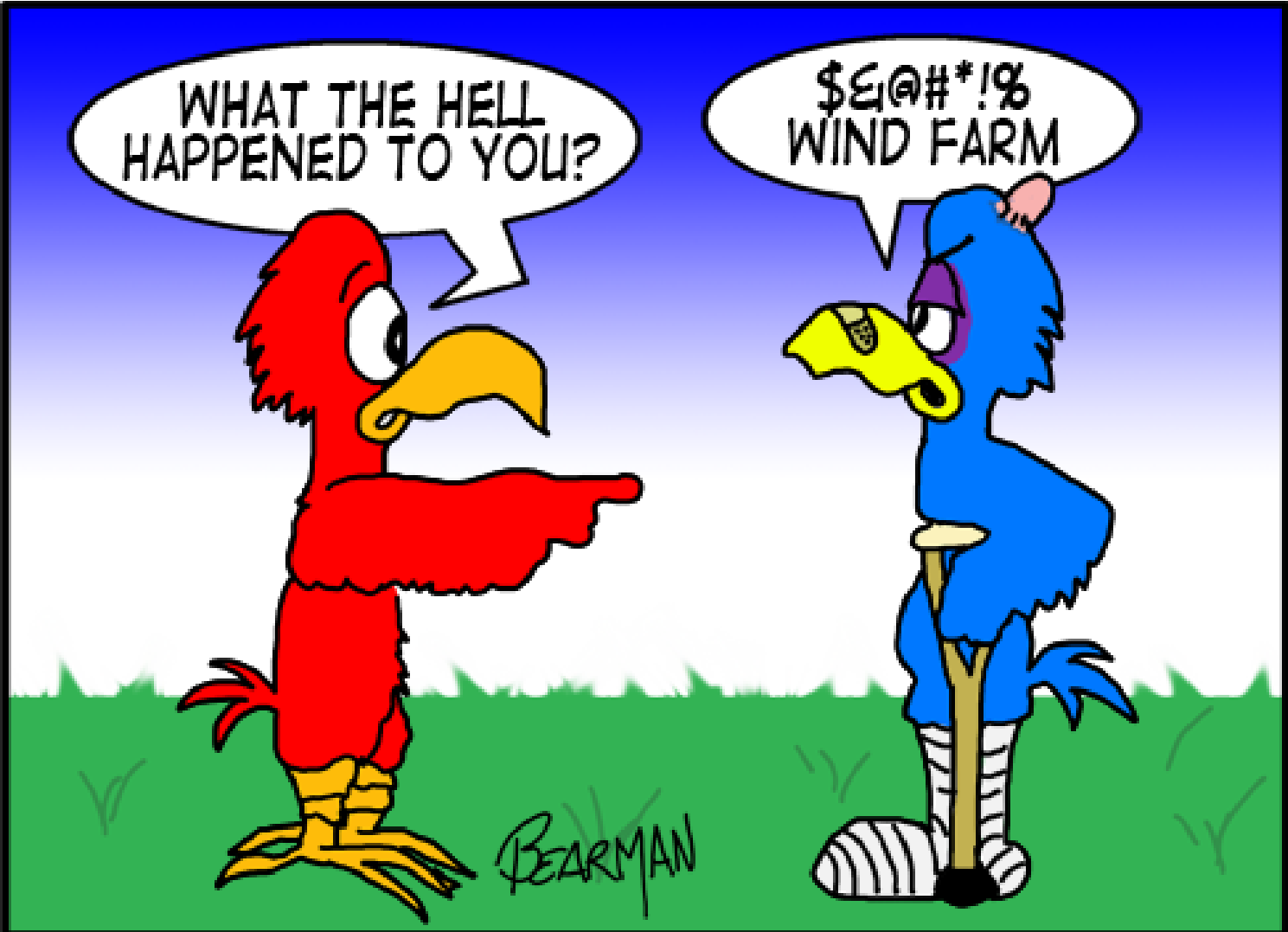


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Wind turbines kill bats and birds.

WHAT THE HELL
HAPPENED TO YOU?

\$£@#*!%
WIND FARM



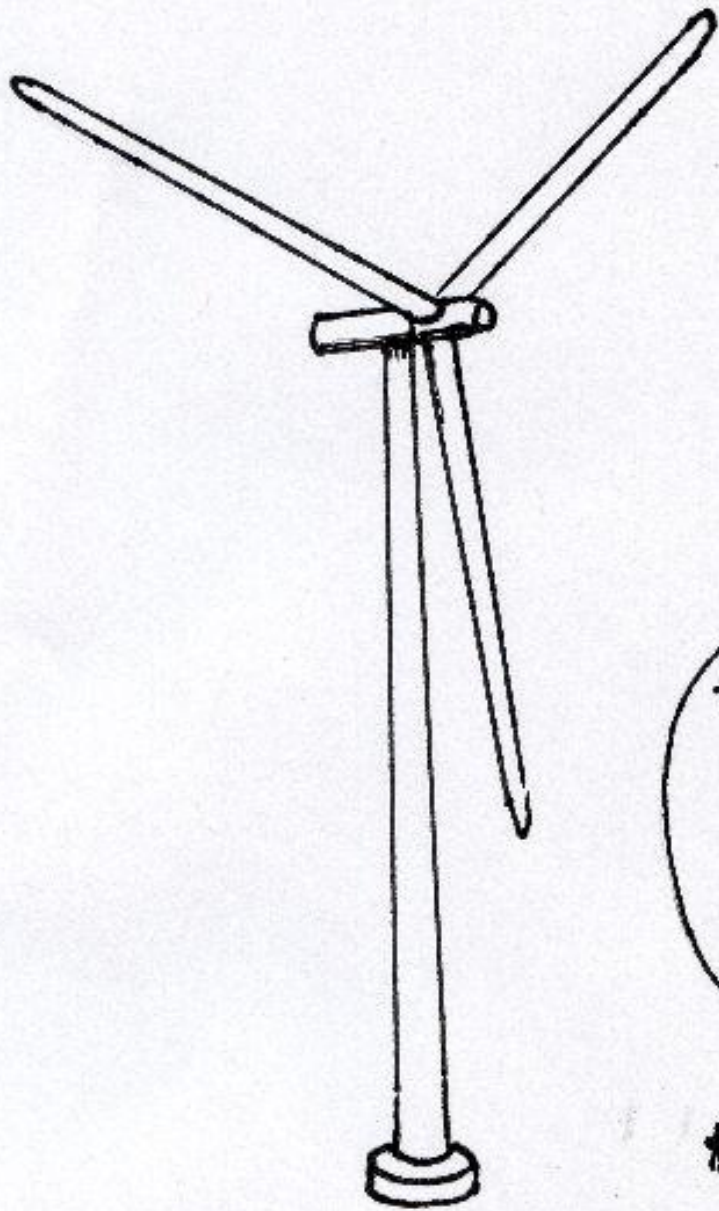


DIRTY ENERGY



CLEAN ENERGY

Wind energy provides only a small amount of electricity.



THEY SAY IT
HAS THE
POWER TO
LIGHT OVER
30,000
BULBS!



O'KEEFE



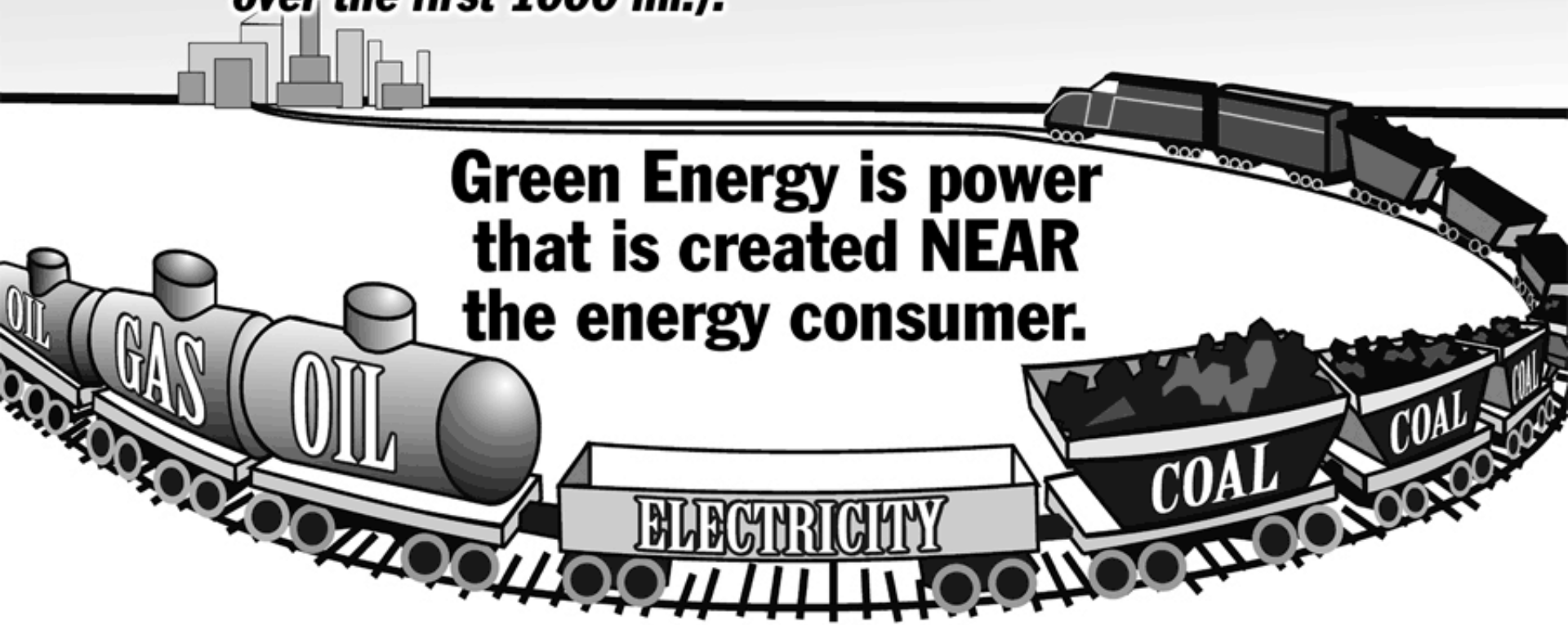
“I cook everything with an alternative energy source, so it may take a while.”

Wind energy is not green energy.

Wind Turbines Fail as Green Energy!

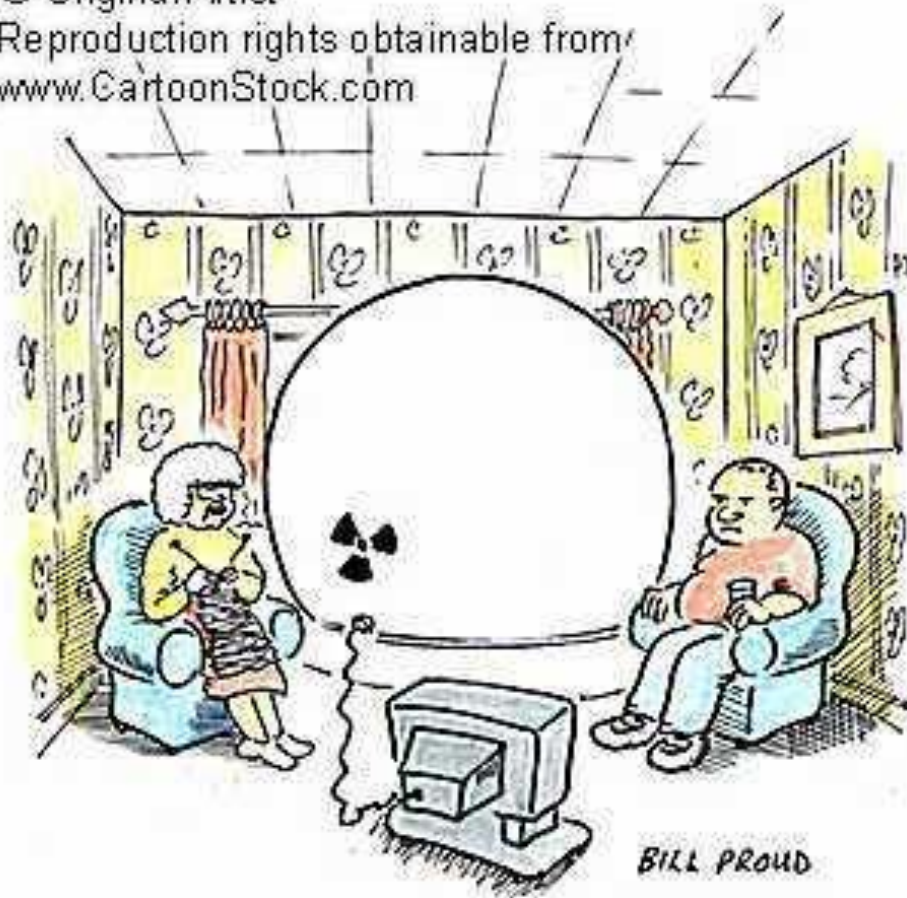
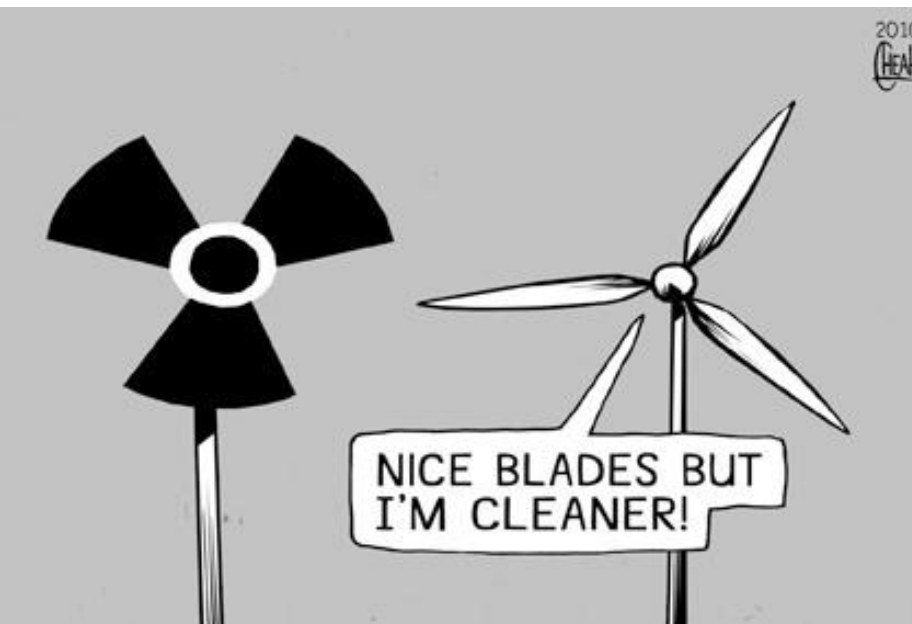
SOME KINDS OF ENERGY DON'T TRAVEL WELL.

Long lines necessary to transmit mountain wind energy to big cities create resistance which reduces power and adds significant costs to the electricity (about 19% over the first 1000 mi.).



**Green Energy is power
that is created NEAR
the energy consumer.**

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"I still think a wind turbine would have been less obtrusive, dear."

**Your achievement =
good works you have done x
how well you have
communicated them.**