Nudging Our Way towards Energy Efficiency:

Psychology, Behavior, and the Environment

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Rational Information Processing Assumption:

Science → Action

No Action → Information Deficit

IPCC
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
WMO UNEP

- New York Times Editorial, April 1, 2014:
  "Perhaps now the the American public will, at last, fully accept that global warming is a danger now and an even graver threat to future generations."

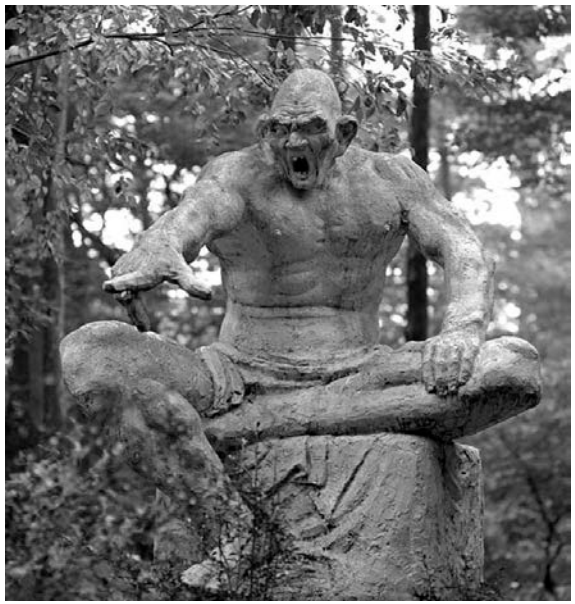
Homo sapiens

- Not primarily a creature of rational deliberation

- Instead, a creature of habit
  - Learn best from experience

- Use associations, emotions, social observation, and rules to guide actions

- Many goals, often conflicting



Climate Change as the “perfect storm”

- Inaction is the status-quo
  - Vested interests in status-quo
    - “Merchants of doubt”

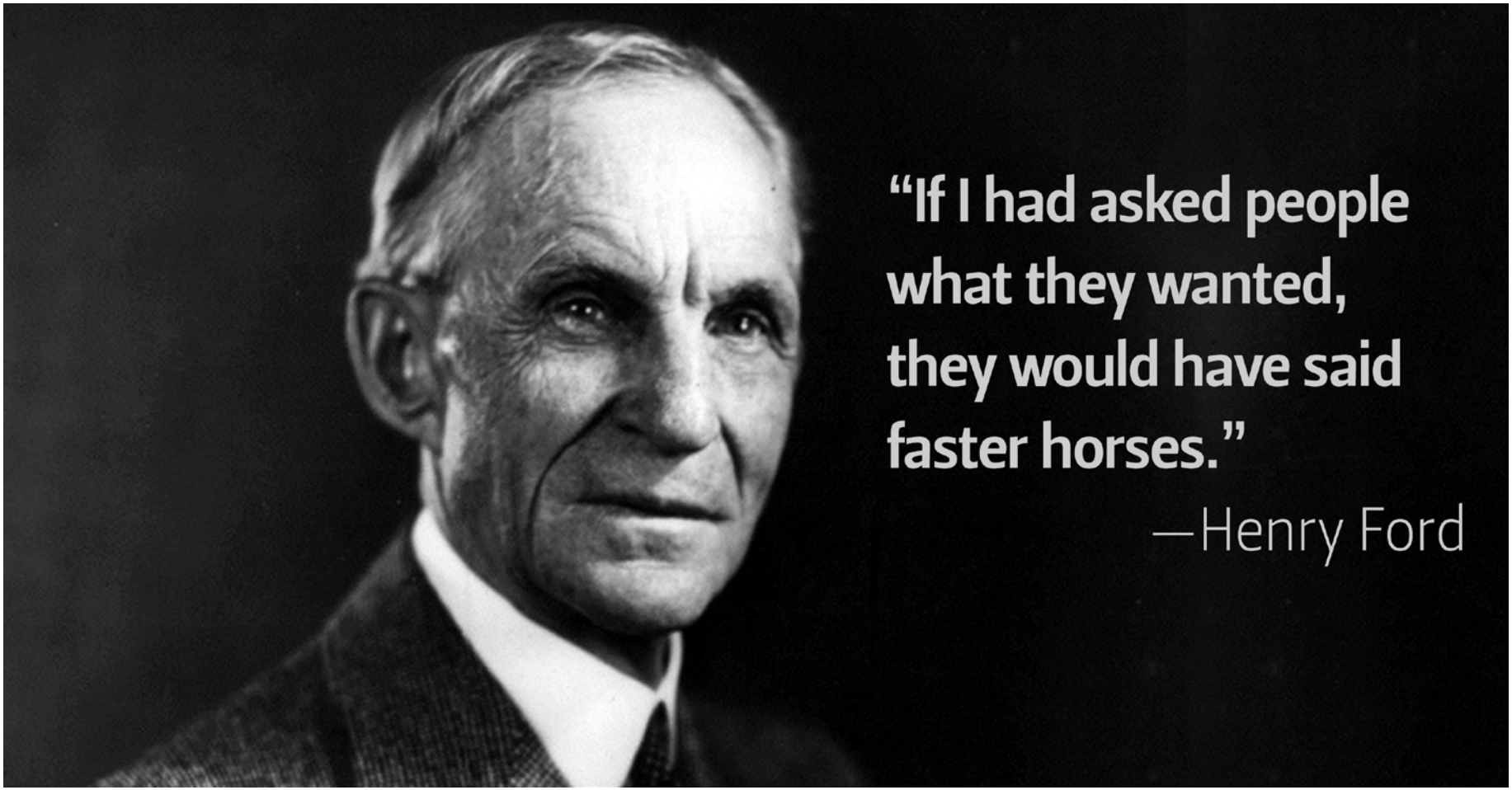
- (Effective) action is complicated
  - Problem is massive
  - Collective action required
  - Many uncertainties
    - climate science, technology, political, and social
  - No *silver bullet*, only *silver buckshot*

Status-quo bias

Fundamental challenge!

"if you build it, they may ***not*** come"

Status-quo bias and lack of imagination



What to do?

- Solutions can be found in the “diagnosis”
  - ***Why*** is there status-quo bias?
    - Typically, safety in “the known”
      - **Not the case for climate change!!!**

- Argument for scaring people into action?

“The Day After Tomorrow”

What to do?

- Solutions can be found in the “diagnosis”
  - ***Why*** is there status-quo bias?
    - Typically, safety in “the known”
      - **Not the case for climate change!!!**

- Argument for scaring people into action?
  - **NO!**
  - Fear is aversive
    - Single action bias

What to do instead?

- Provide solutions!
  - Feasible and effective, involve *everyone*
- Focus on behavior change
  - Necessary component of technological, economic, and regulatory innovation
- Provide metrics to measure progress
  - GHG footprint, benchmarking, social comparisons
- Make it simple(r)
  - Energy efficient defaults

All hands on deck…

- General public
- Private sector
  - CEOs, corporate board members
  - Corporate strategy and operations
- Architects/infrastructure designers
- Politicians, diplomats, civil servants
- Scientists, engineers, and social scientists
- Writers, directors
- ……

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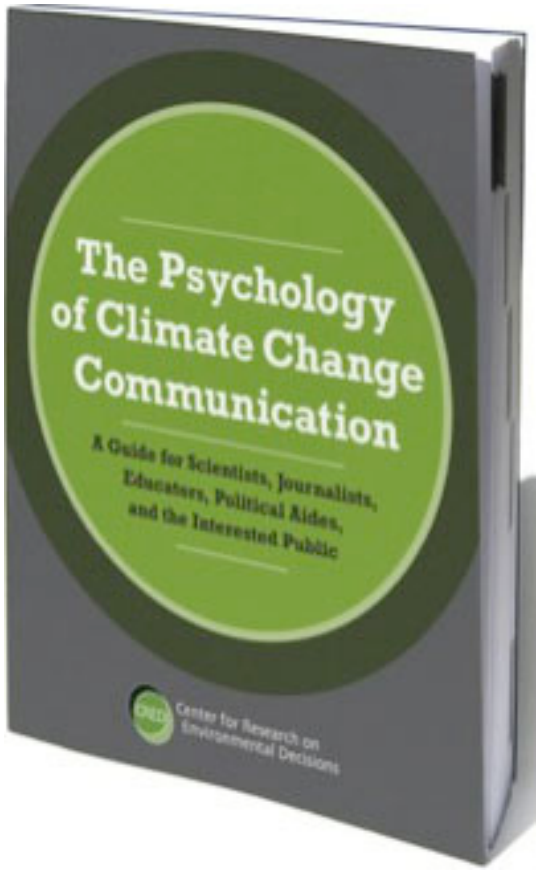
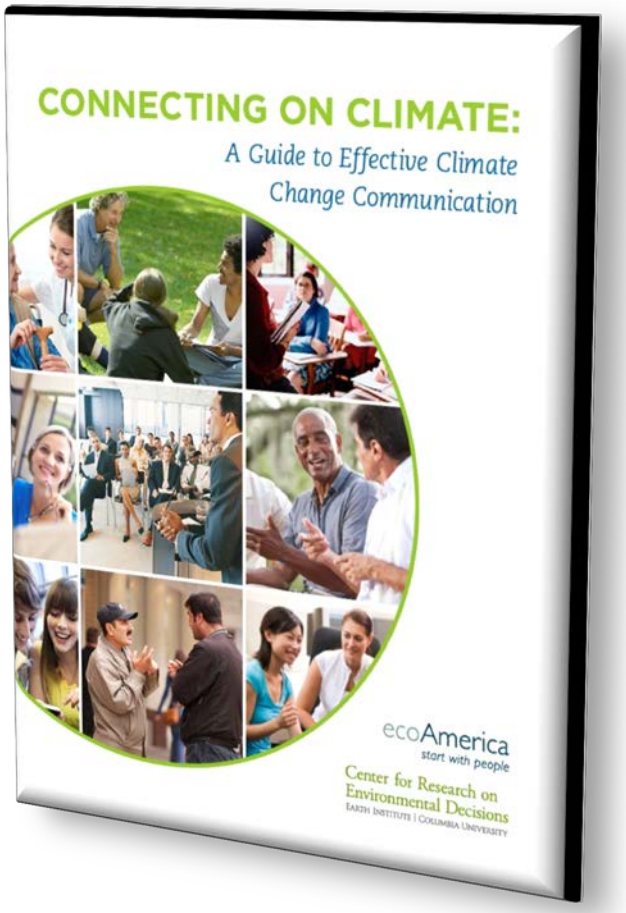
CRED CC Communication Guides





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Energy Efficiency

- PROS
  - Win, win, win solution
  - Nobody likes energy waste
- CONS
  - Requires sustained attention
  - Costs upfront and certain, benefits small, in dribbles, delayed in time, uncertain

What is happening at Navy?

- SECNAV Mabus 2020 energy goals
- "Energy Culture Change"
  - Awareness
    - Finite attention, many competing goals
  - Motivation
    - Align goals
      - Energy waste reduces mission capability
      - Energy waste costs lives
    - Align incentives
  - Action/implementation
    - Make it simple(r)
      - Energy efficient defaults in procurement, onshore installations, ships
    - Provide feedback
      - Metering, social comparisons
    - "It takes a village"/ systems perspective
      - Buy-in from above and below, facilities managers, cleaning staff, etc.