Building Resilience to a Changing Climate:
A Technical Training in Water Sector
Utility Decision Support

Conquering Climate Change Communication Challenges

Karen Raucher, Corona Environmental Consulting
Five Americas for “Community Water and Climate Change”

- **Advocates**: 20%
- **Supporters**: 44%
- **Skeptical Supporters**: 13%
- **Closed Wallets**: 15%
- **Pessimists**: 8%

**Highest level of support for community water climate actions**: 44%

**Lowest level of support for community water climate actions**: 8%
Buy-in Requires: Engagement & Understanding
A 3 Step Plus+
Communication Strategy Development Process

1. Identify what your audience wants
2. Identify the information they need
3. Build a communication strategy that merges process #1 and #2
Build your own understanding and confidence in the materials – you need to be able to teach it!

Anticipate, Prepare and Practice for critical conversations
Create a Personalized Communication Strategy

- 5 minute teaching best practices
- 3-5 minutes working individually
- 5 minute small group share
- 5 minute large group process
A 3 Step Plus+
Communication Strategy Development Process

1. Identify what your audience wants
2. Identify the information they need
3. Build a communication strategy that merges process #1 and #2
• Who are your utility leaders/decision makers?
• What motivates them, keeps them up at night?
• Who do they report to?
What are your Utility Drivers for NOT engaging in Climate Change

➢ The impacts will not occur in our 20-year utility planning horizon.
➢ Our utility does not have water supply concerns in the next 20 years.
➢ I am not convinced the climate is changing.
What are your Utility Baseline Communication Responses

➢ The impacts will not occur in our 20-year utility planning horizon.
➢ Our utility does not have water supply concerns in the next 20 years.
➢ I am not convinced the climate is changing.

Add your own:

•

•

•

Spend three minutes filling in your personalized worksheet
Step 1: Audience

What is your clearly articulated objective with this audience in this situation?
Examples

Audience: Risk Assessment Team

Primary Objective:
• Climate science is integrated into our vulnerability assessment.
• Normalize the use of the term climate change.

Sub-objectives:
• Create understanding of the types of climate conditions that present risks to the utility mission.
• Create understanding of how you incorporate climate change and the benefits to the utility.

Other Audiences?
When articulating your communication objective:

- Think both immediate, incremental, and long-term
- Think by audience
- Think in terms of phrases and comments
- Think data driven
- Think about how to address cognitive barriers
Address the Substitution Trap

Ask and answer an easier question – without noticing
Best Practices

- Articulate the objective clearly
- Identify the information needed to answer the “objective” question
- Return to the objective frequently to see if you are still addressing the same one
- Ask what question the information you gathered is addressing
Step 1: Audience

What is your clearly articulated objective with this audience in this situation?

• 5 minutes brainstorm
• 5 minute table share
• 5 minute report out
Step 1: Audience.
What background context information do they need?
Impacts and Implications of Warmer and Shorter Winters for Water Supply

Impacts and Implications of Warmer and Drier Summers for Water Supply

Global Warming

- Warmer Seas
- Melting Glaciers
- Warmer and shorter winters
- Warmer and drier summers
- More intense rainfall events

Sea Level Rise

Warmer temperatures overall and more extreme heat waves, dry spells and drought risk

- Altered natural vegetation and agriculture/forestry practices in aquifer recharge areas
- Increased drawdown and saline intrusion in groundwaters
- Increased urban and agricultural water demands
- Increased evaporation and saline intrusion in surface waters
- Increased wildfire and invasive species risks
- Altered natural vegetation and agriculture/forestry practices in watershed areas
- Increased water temperatures during distribution and storage of treated water

Possible needs for new sources of supply

Altered groundwater quantity and quality

- Altered surface water quantity and quality
- Altered process requirements for water treatment plants

Increased risk of a wide range of distributed water quality concerns: taste, odor, DBPs, nitrification, bacteria, etc.

Impacts and Implications of More Intense Rainfall Events for Water Supply

Developed by Stratus Consulting Inc,
published in AMWA (2008)
Exercise and Discussion

• Review the cause-effect diagrams relevant to your utility (water supply, wastewater or stormwater).
• Identify the top two or three impacts you expect could pose the greatest short term challenges to your utility.
• Identify the top two or three impacts you expect will pose long term challenges to your utility.
• Prepare notes to briefly describe and discuss your selections.
• Suggested timing is 15 minutes (including a break when done); followed by discussion.
Use the language of the audience

• Politicians speak polls

• Vulnerability to mission
Other potential languages/metrics:
- Capital costs
- Impact on rates
- Impact on bond rating
- Risk management
- Bottom line
- Resiliency implication
- At the margin
- Reliability at the margin
- Basic project management
- Lowest cost design objective

- Robustness
- Adaptive capacity
- Vulnerability
The Sufficiency Challenge
Risk Assessment

• Risk Assessment:
  – What level of consequences would be significant enough in terms of the performance of specific assets or asset systems that it would be worth addressing in order to mitigate, avoid or deter such consequences?
  – How plausible?
Insights from WRF Rate Communication Guidance

• Find one or two drivers to talk about = ones that matter to the board
• Find, and Use a visual
What background context information do they need?

What QCC questions will you address?

• To engage in your reasoned discourse?
  
  Bring ideas on what you will share.
  
  • 3 minutes with your notes
  • 5 minute table discussion
  • 5 minute report out
Step 1: Audience

What is the emotional state of the utility regarding climate change? How can you shift?
Establish the current “emotional” state of the planning process.
Create a Culture of Learning:
- An intellectual activity – a search for truth rather than contest
- An airing of the ideas that create tension
- Creates an emotional commitment to the outcomes
- Openness
- Candor – the willingness to speak the unspeakable
- Informality
- Share conflicting ideas
- Closure

Source: Ran Charan, Conquering a Culture of Indecision
A 3 Step Plus+
Communication Strategy Development Process

1. Identify what your audience wants to hear
2. Identify the information you will share
3. Build a communication strategy that merges process #1 and #2
Step 2: Information

What information will you share to:

• Create engagement by meeting audience needs

• Provide sufficient context filler to create audience specific understanding (or sufficiency?)

• Provide new information that moves the conversation forward
### Audience specific objective:

Addresses: QCC, information filler need, new information need, other

<table>
<thead>
<tr>
<th>Information #1:</th>
<th>Information #2:</th>
<th>Information #3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Support #1.1</td>
<td>• Support #2.1</td>
<td>• Support #3.1</td>
</tr>
<tr>
<td>• Support #1.2</td>
<td>• Support #2.2</td>
<td>• Support #3.2</td>
</tr>
<tr>
<td>• Support #1.3</td>
<td>• Support #2.3</td>
<td>• Support #3.3</td>
</tr>
</tbody>
</table>
### Key Message Map 1

#### West Nile Virus Map

<table>
<thead>
<tr>
<th>Key Message</th>
<th>Supporting Fact 1.1</th>
<th>Supporting Fact 1.2</th>
<th>Supporting Fact 1.3</th>
<th>Supporting Fact 2.1</th>
<th>Supporting Fact 2.2</th>
<th>Supporting Fact 2.3</th>
<th>Supporting Fact 3.1</th>
<th>Supporting Fact 3.2</th>
<th>Supporting Fact 3.3</th>
<th>Supporting Fact 3.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Remove Standing Water&quot;</td>
<td>Unattended swimming pools</td>
<td>Flower Pots/Bird Baths</td>
<td>Cups/Cat/ Dog Dishes</td>
<td>Long Sleeves</td>
<td>Long Pants</td>
<td>Dusk and Dawn</td>
<td>DEET</td>
<td>23%</td>
<td>Medical Research</td>
<td></td>
</tr>
</tbody>
</table>

### Supporting Facts

1. **Supporting Fact 1.1**: Unattended swimming pools
2. **Supporting Fact 1.2**: Flower Pots/Bird Baths
3. **Supporting Fact 1.3**: Cups/Cat/ Dog Dishes
4. **Supporting Fact 2.1**: Long Sleeves
5. **Supporting Fact 2.2**: Long Pants
6. **Supporting Fact 2.3**: Dusk and Dawn
7. **Supporting Fact 3.1**: DEET
8. **Supporting Fact 3.2**: 23%
9. **Supporting Fact 3.3**: Medical Research
10. **Supporting Fact 3.4**: Medical Research
In order to cost-effectively and efficiently meet community needs as the Atlantic Ocean rises, MDSW needs to be the caboose on the climate adaptation train. 

One thing is clear, higher average global temperatures will result in higher sea levels. In fact, sea levels are already rising in Miami-Dade. 

An adaptive management approach to the problem of sea level rise ensures that MDSW’s response is timely, based on the best available science, and is financially, socially and environmentally responsible. 

In order to ensure reliable service, MDSW treatment facility are sited near our customers, until our customers move we cannot move our treatment facilities. MSWD needs to be the caboose on the sea level adaptation train.
Step 2: Information

What new information do you think is needed to support understanding?

What decision support tools and information do you recommend the utility embrace?
Finding The Sustainable Path in Adaptation Planning

From: WERF (2009)

Climate Changes → Resulting Impacts → NEAR TERM RISKS

- Weak
  - Short
  - Long

- Strong
  - Short
  - Long

LONGER TERM RISKS

- Weak
  - Short
  - Long

ASSET REMAINING LIFE

- Short
  - Do nothing right now, but increase trend monitoring to detect onset of gradual threats and research long term adaptation options
  - Do nothing and accept the risk to the asset during remainder of its useful life and develop contingency back up plan

- Long
  - Employ defensive measures to protect old asset to assure getting full useful life

LONG TERM ADAPTATION CHOICES

- Rehab, upgrade, replace old asset with new equivalent asset and develop contingency backup plan
- Rehab, upgrade, replace old asset with new equivalent asset and defensive measures
- Rehab, upgrade, replace old asset with new equivalent asset at a less vulnerable location
- Replace old asset with alternative and more sustainable asset(s)
- Regional collaboration or watershed scale alternatives
- Hybrid options, incremental variants of the above options, and other strategies

Source: Stratus Consulting Inc.
What new information do you think is needed to support understanding?

What decision support tools and information do you recommend the utility embrace?

• 3 minutes with your notes
• 5 minute table discussion
• 5 minutes report out
Step 3: Build the Strategy

- Apply communication best practices.
- Address potential cognitive barriers?
- Identify engagement opportunities.
Simplify and share in layers
Remind people what they already know
Be straight with tradeoffs – share benefits and individual losses
Use community thought leaders
Identify and Address Questions of Critical Concern

Address Wicked Attributes
The Halo Effect

The Prediction Bias

The Overconfidence Bias

Confirming Evidence Trap

Address Cognitive Barriers
"The Hidden Traps in Decision Making."
Engagement Opportunities

What are your challenges and opportunities?
Step 3: Build the Strategy

• Apply communication best practices.
• Address potential cognitive barriers?
• Identify engagement opportunities.
1. Apply the 27-9-3 Rule:
   • approximately 27 words
   • that can be spoken in 9 seconds or less
   • with 3 or fewer ideas
Step 4: Build your knowledge and confidence

What did you learn that really boosted your understanding?

Stay out of your ego!
No one leaves the room without confidence in their ability to engage in the climate is changing conversation.
our basic neurological wiring does not allow us to make "good" decisions easily. Instead, we are designed to make safe decisions quickly.
Step 5: Anticipate, Prepare and Practice

Critical conversations

I am not convinced that climate change is real
Need Two Types of Communication

- Critical conversation
- Reasoned discourse

I am not convinced that climate change is real
Message maps provide a way to engage in a reasoned discourse.

I am not convinced that climate change is real.
Risk Communication Templates

CCO TEMPLATE
Use when asked a question with high-emotion
Steps:
- Compassion
- Conviction
- Optimism
Example: (1) "I am very sorry to hear about......;
(2) I believe that......(3) In the future, I believe that......

WHAT IF” TEMPLATE
Use when asked a “what if, what might happen” question
Steps:
- Repeat the question (without negatives)
- Bridge to “what is”
- State what you know factually
Example: (1) "You've asked me what might happen if......; (2) I believe there is value to talk about what is, what we know now; (3) And what we know is......"

BRIDGING TEMPLATES
Use when you want to return to your key points or redirect the communication
1. "And what’s most important to know is..."
2. "However, what is more important to look at is..."
3. "However, the real issue here is..."
4. "And what this all means is..."
5. "And what’s most important to remember is..."
6. "With this in mind, if we look at the bigger picture..."
7. "With this in mind, if we take a look back..."
8. "If we take a broader perspective, ..."
9. "If we look at the big picture..."
10. "Let me put all this in perspective by saying..."
11. "What all the information tells me is..."
12. "Before we continue, let me take a step back and repeat that..."
13. "Before we continue, let me emphasize that..."
14. "This is an important point because..."
15. "What this all boils down to is..."
16. "The heart of the matter is..."

BRIDGING TEMPLATES (cont.)
17. "What matters most in this situation is..."
18. "And as I said before, ..."
19. "And if we take a closer look, we would see..."
20. "Let me just add to this that..."
21. "I think it would be more correct to say..."
22. "Let me point out again that..."
23. "Let me emphasize again..."
24. "In this context, it is essential that I note..."
25. "Another thing to remember is..."
26. "Before we leave the subject, let me add that..."
27. "And that reminds me..."
28. "And the one thing that is important to remember is..."
29. "What I've said comes down to this..."
30. "Here's the real issue..."
31. "While...is important, it is also important to remember..."
32. "It's true that... but it is also true that..."
33. "What is key here is..."

Risk Communication Templates

<table>
<thead>
<tr>
<th>GUARANTEE TEMPLATE</th>
<th>IDK (I DON'T KNOW) TEMPLATE</th>
<th>RULE OF 3 TEMPLATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use when asked to guarantee an event or outcome</strong></td>
<td><strong>Use when you don’t know, can’t answer, or aren’t best source</strong></td>
<td><strong>Use when responding to any high stress or emotionally charged question</strong></td>
</tr>
<tr>
<td><strong>Steps</strong></td>
<td><strong>Steps</strong></td>
<td><strong>Recommendation:</strong> Provide no more than three messages, ideas, or points at a time</td>
</tr>
<tr>
<td>• Indicate that the question is about the future</td>
<td>• Repeat the question (without negatives)</td>
<td><strong>Example:</strong> (1) “You can do” “x” (2) or “y” but I recommend (3) “z”</td>
</tr>
<tr>
<td>• Indicate that the Past/Present predict the future</td>
<td>• Say “I wish I could answer”; or “my ability to answer is limited” or “I don’t know” (less preferred)</td>
<td><strong>27/9/3 TEMPLATE</strong></td>
</tr>
<tr>
<td>• Bridge to known facts, processes or actions</td>
<td>• Say why you can’t answer</td>
<td><strong>Use when responding to any high stress or emotionally charged question</strong></td>
</tr>
<tr>
<td><strong>Example:</strong> (1) “You’ve asked me for a guarantee, to promise something about the future; (2) The best way I know to talk about the future is to talk about what we know from the past and the present; (3) And what we know is...” OR “What I can guarantee [assure; promise; tell you] is...”</td>
<td>• Give a follow up with a deadline</td>
<td><strong>Recommendation:</strong> Be brief and concise in your responses: no more than 27 words, 9 seconds, and 3 messages</td>
</tr>
<tr>
<td><strong>3X PROBING TEMPLATE</strong></td>
<td><strong>Bridge to what you can say</strong></td>
<td><strong>PRIMACY/RECENCY TEMPLATE</strong></td>
</tr>
<tr>
<td><strong>Use when confronted with a criticism, objective, or allegation, or challenge</strong></td>
<td><strong>Example:</strong> (1) You’ve asked me about... (2) I wish I could answer... (3) We’re still looking into it. (4) I expect to be able to tell you more by... (5) What I can tell you is...</td>
<td><strong>Use when responding to any high stress or emotionally charged question</strong></td>
</tr>
<tr>
<td><strong>Steps</strong></td>
<td><strong>FALSE ALLEGATION TEMPLATE</strong></td>
<td><strong>Recommendation:</strong> Provide the most important items or points first and last</td>
</tr>
<tr>
<td>• Ask at least three non-judgmental questions before replying</td>
<td><strong>Use when responding to a hostile question, false allegation, or criticism</strong></td>
<td><strong>IN=3P (1 NEGATIVE EQUALS 3 POSITIVES) TEMPLATE</strong></td>
</tr>
<tr>
<td>• Bridge to three positive, constructive, or solution oriented messages</td>
<td><strong>Steps</strong></td>
<td><strong>Use when breaking bad news or stating a negative</strong></td>
</tr>
<tr>
<td><strong>Example:</strong> “Can you tell me more? Can you help me to better understand what you said?”</td>
<td>• Repeat/paraphrase the question without repeating the negative; repeat instead the opposite; the underlying value, or use more neutral language</td>
<td><strong>Recommendation:</strong> Balance the negative message with at least three positive, constructive, or solution oriented messages</td>
</tr>
</tbody>
</table>

I am not convinced that climate change is real.
We both want to ensure that we can provide our customers with safe, adequate supplies of water.

I am convinced, based on the scientific consensus gathered by the International Panel on Climate Change, that the climate is changing and it is human caused.

I would like to share the facts I have and also get sources for your facts so that we can both learn about this important issue.
Scientists at the National Oceanic and Atmospheric Administration have actually measured the number of heat-trapping molecules in our atmosphere and compared them with tree ring and ice core samples to determine that there are many more of these molecules today than at any time in the last 650,000 years.

I have several other sources for this information that I would be happy to share with you. Could you now share your sources with me?
Select a Template
Select the Information
Build a Critical Conversation
Practice

5 minutes
Key Takeaways

• Focus on audience needs
• Share no more than 3 pieces of information at a time
• Aim for incremental changes that build toward a clearly refined objective
• Be persistent, patient and passionate
• Let it be someone else's idea
• Talk about climate change!