

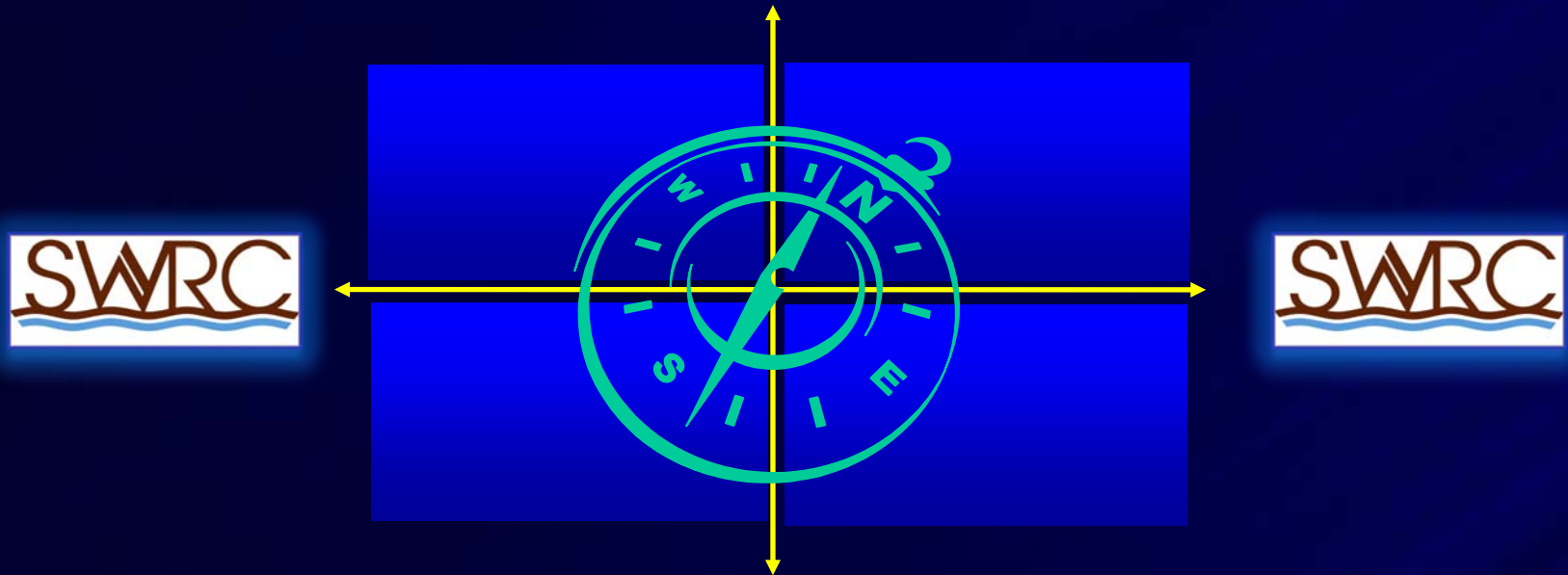
Scenario Planning

An Introductory Overview

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Christopher Scott

Udall Center for Studies in Public Policy

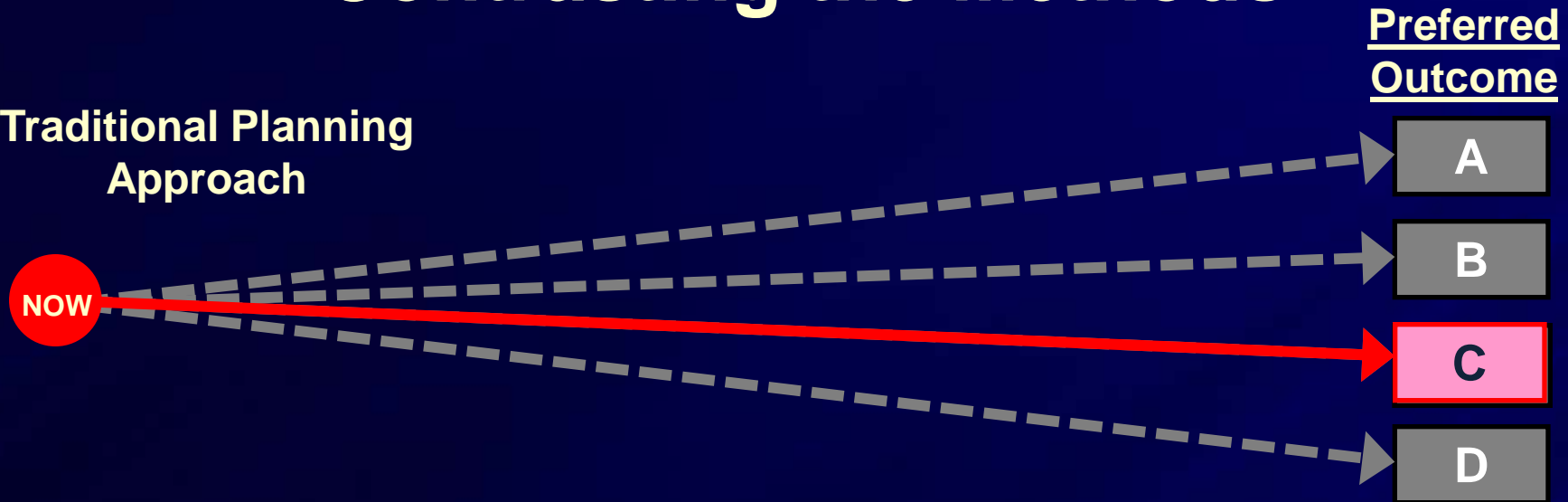
June 11, 2012

Scenario Planning in Brief

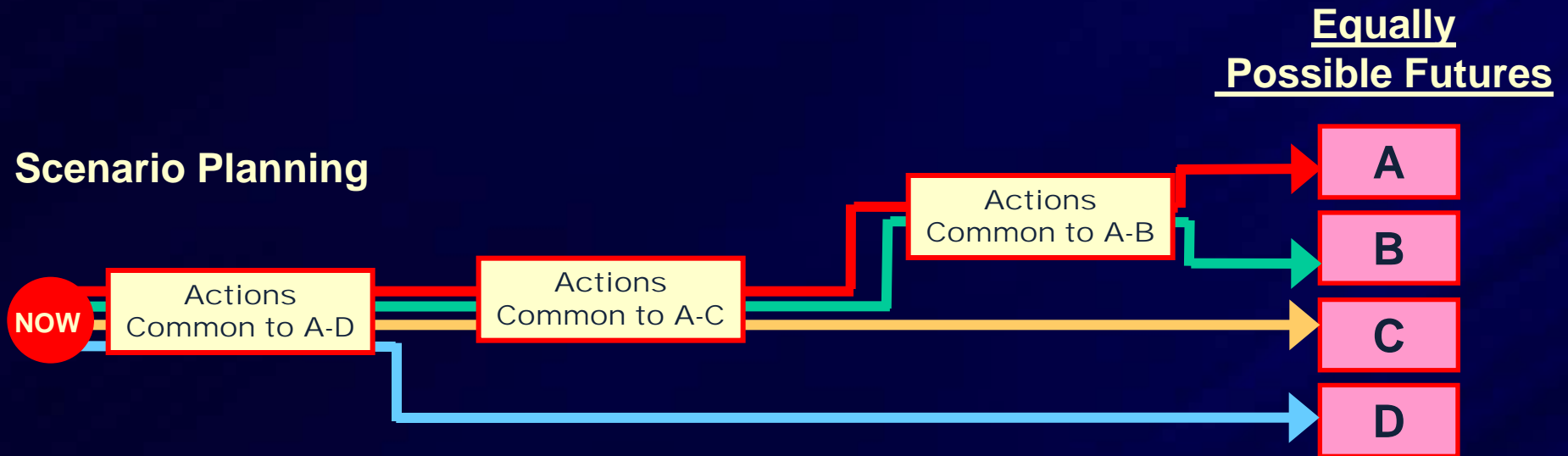
- Provides a “strategic” planning framework
- Applies to dynamic planning environments where uncertainty is high
- Prioritizes critical planning uncertainties
- Promotes developing a “consensus” vision of the future challenges & opportunities
- Increases flexibility & preparedness
- Enhances an organization’s capacity to adapt to uncertain change

Contrasting the Methods

Traditional Planning Approach

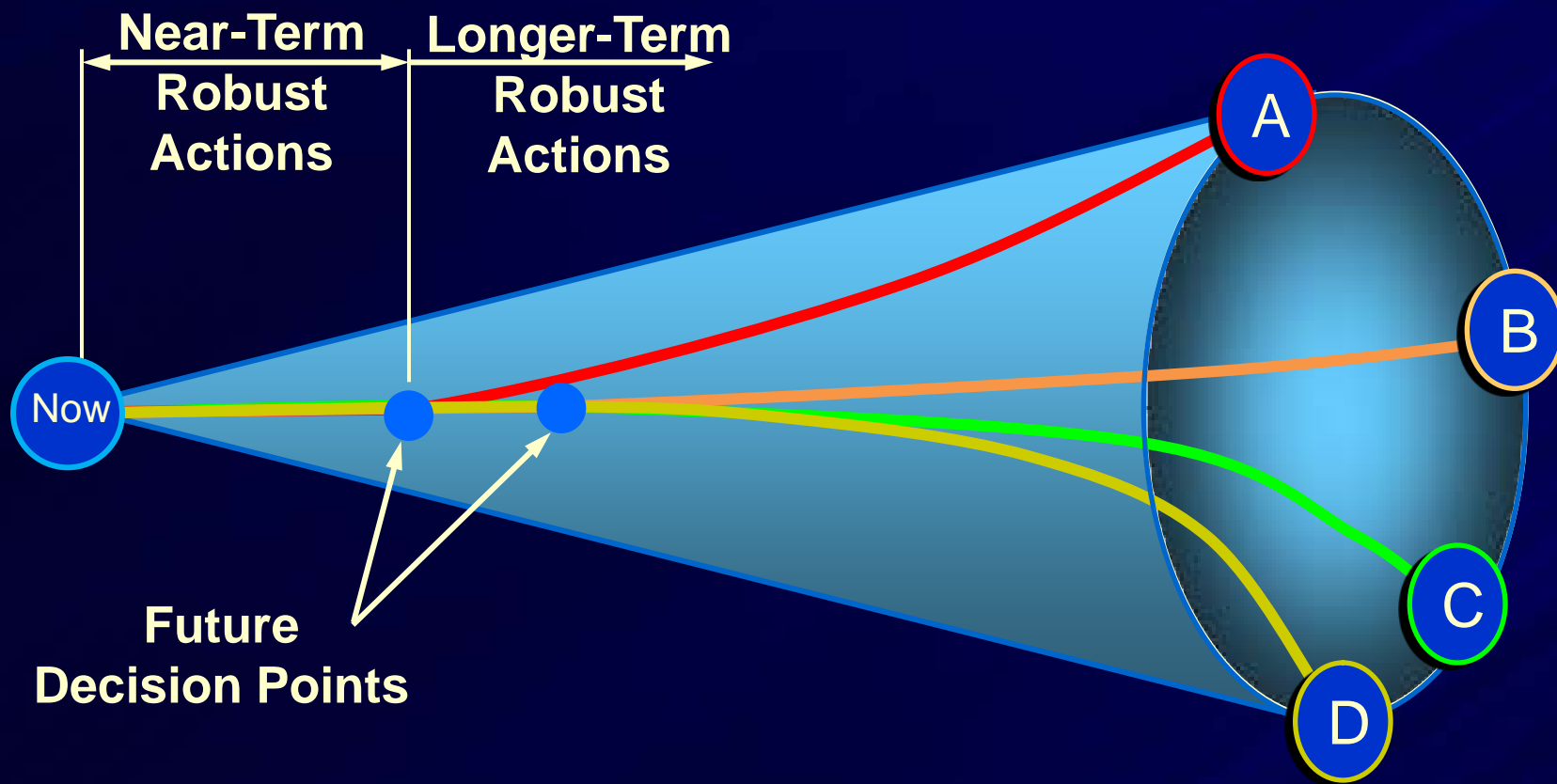


Scenario Planning



Defining the Range of Future Possibility

Developing End-Member Futures



SCENARIO PLANNING

TWO BASIC TYPES

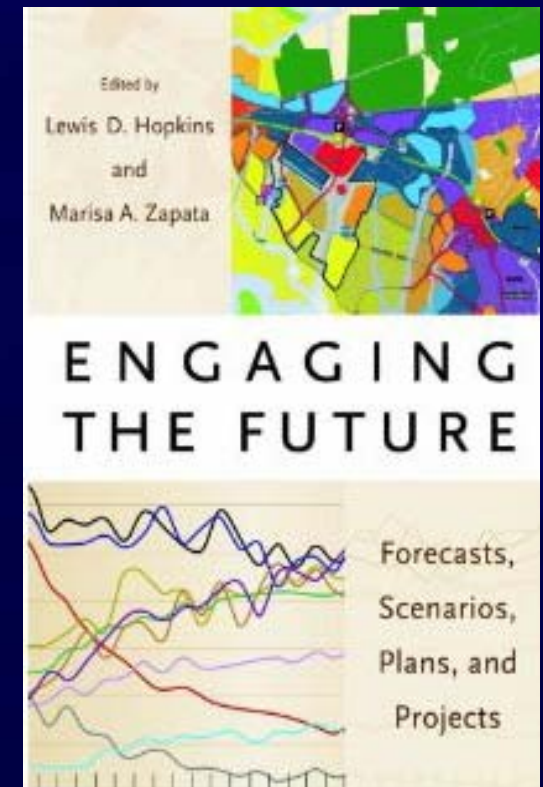
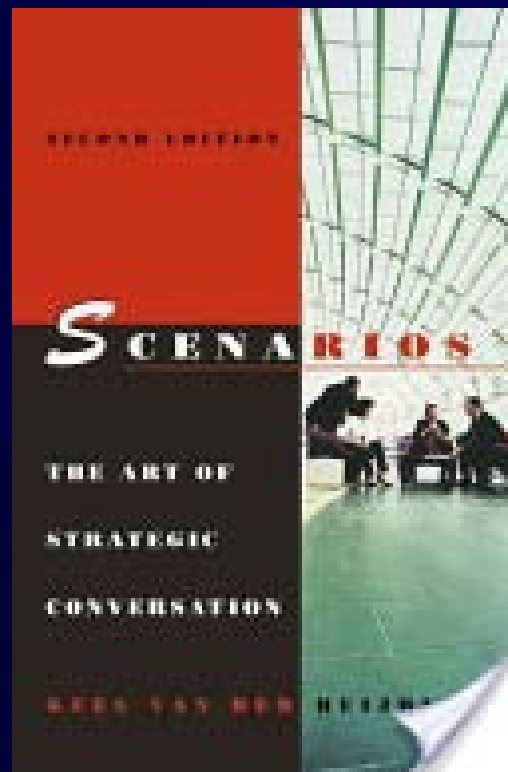
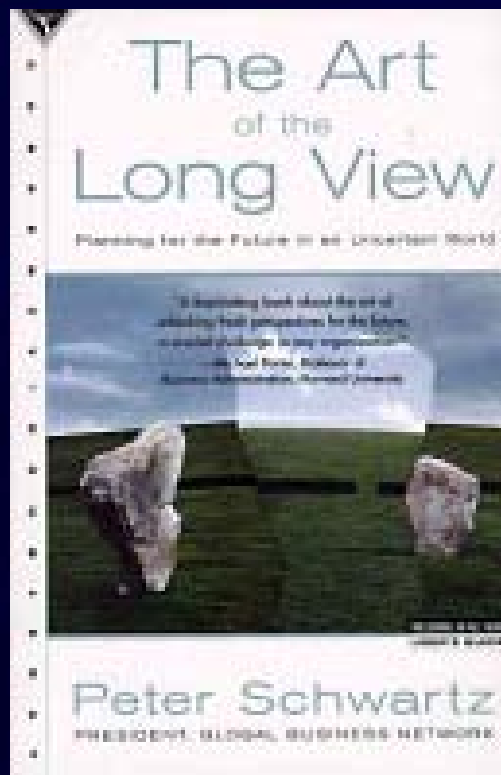
TRADITIONAL

ONLY
STAKEHOLDERS
WITHIN AN
ORGANIZATION

VS

“HYBRIDIZED”

INCLUDES
EXTERNAL
STAKEHOLDERS/
ORGANIZATIONS



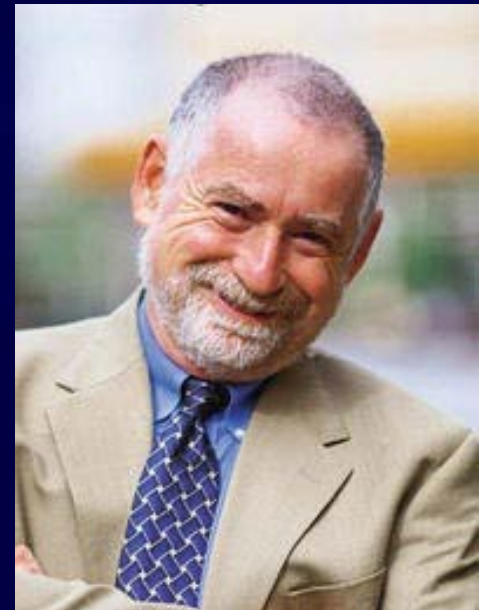
**“Prediction is
difficult, especially
about the future.”**

--Yogi Berra



“Scenarios allow a manager to say, I’m prepared for whatever happens.”

Peter Schwartz
The Art of the Long View



**Scenario Planning is not about
PREDICTING or FORECASTING
what will happen in the Future**

...

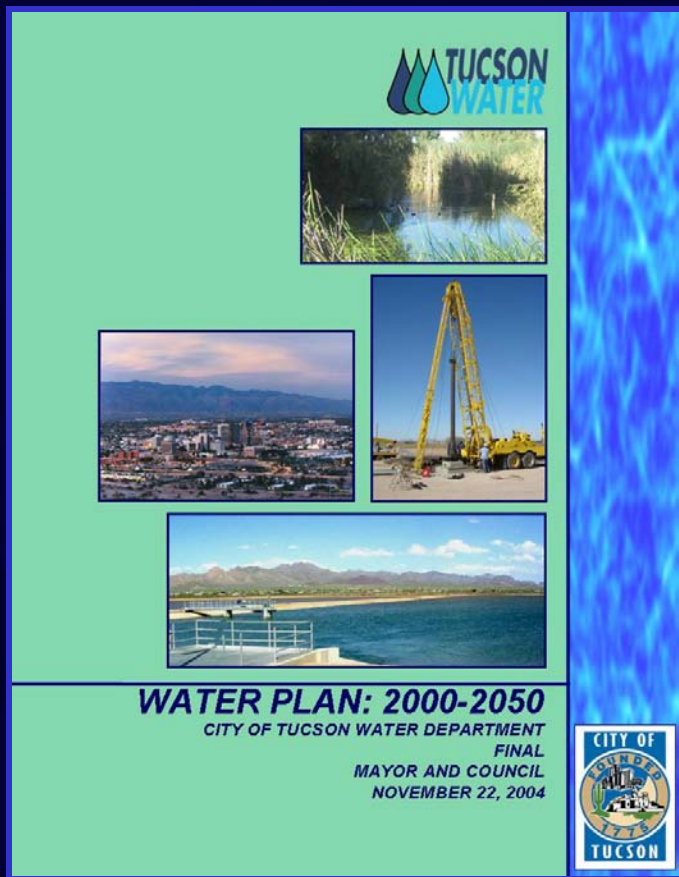
**It's about BEING PREPARED
for whatever happens
in the Future**

Many Factors Can Influence a Water Issue



Using Scenarios in Water Utility Planning

Water Plan: 2000 – 2050 (2004)



Chapter 6: The Planning Process

Chapter 7: The Recommended Plan

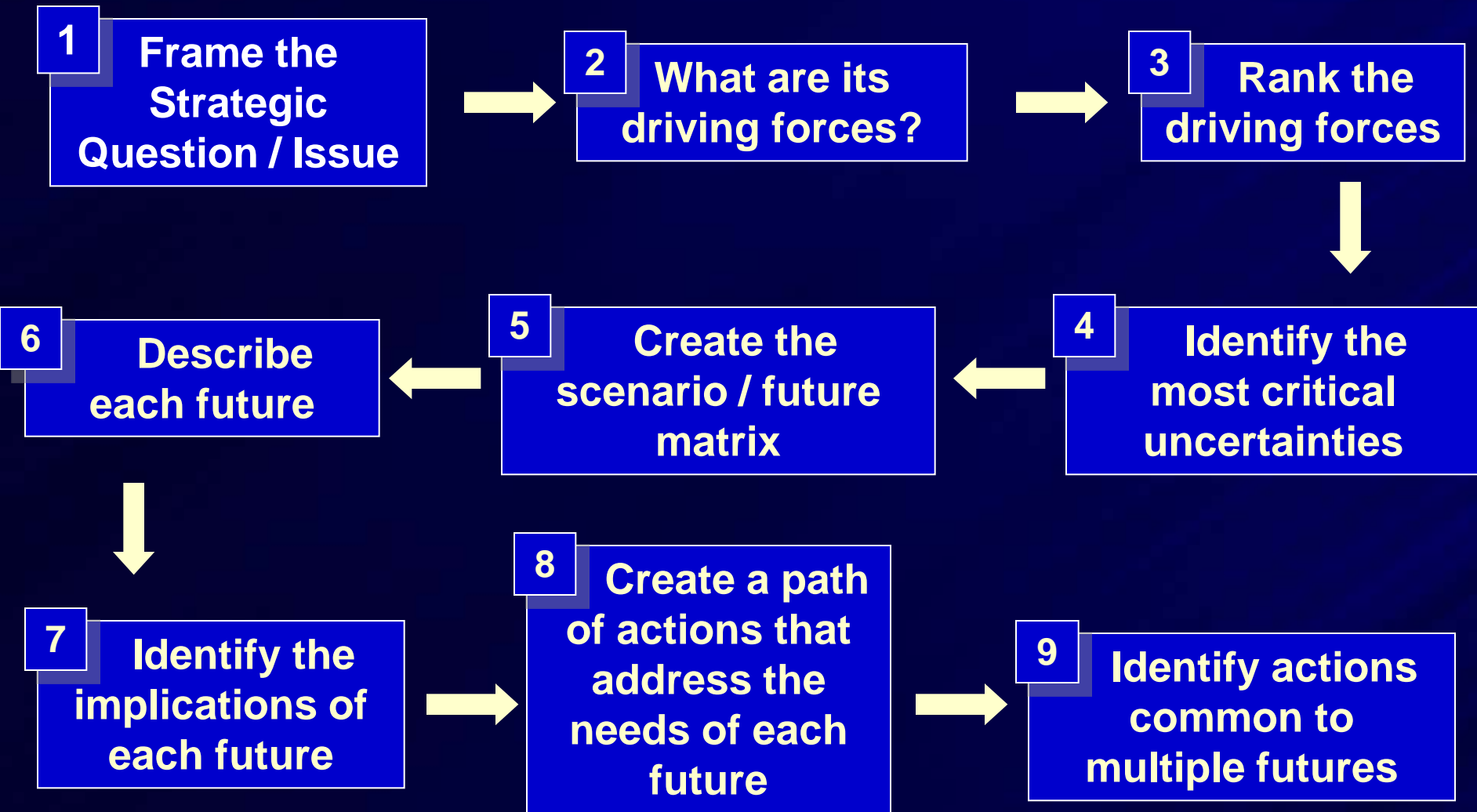
Plate 1: Recommended Plan Summary

Appendix D: Planning Methodology

<http://cms3.tucsonaz.gov/water/waterplan>

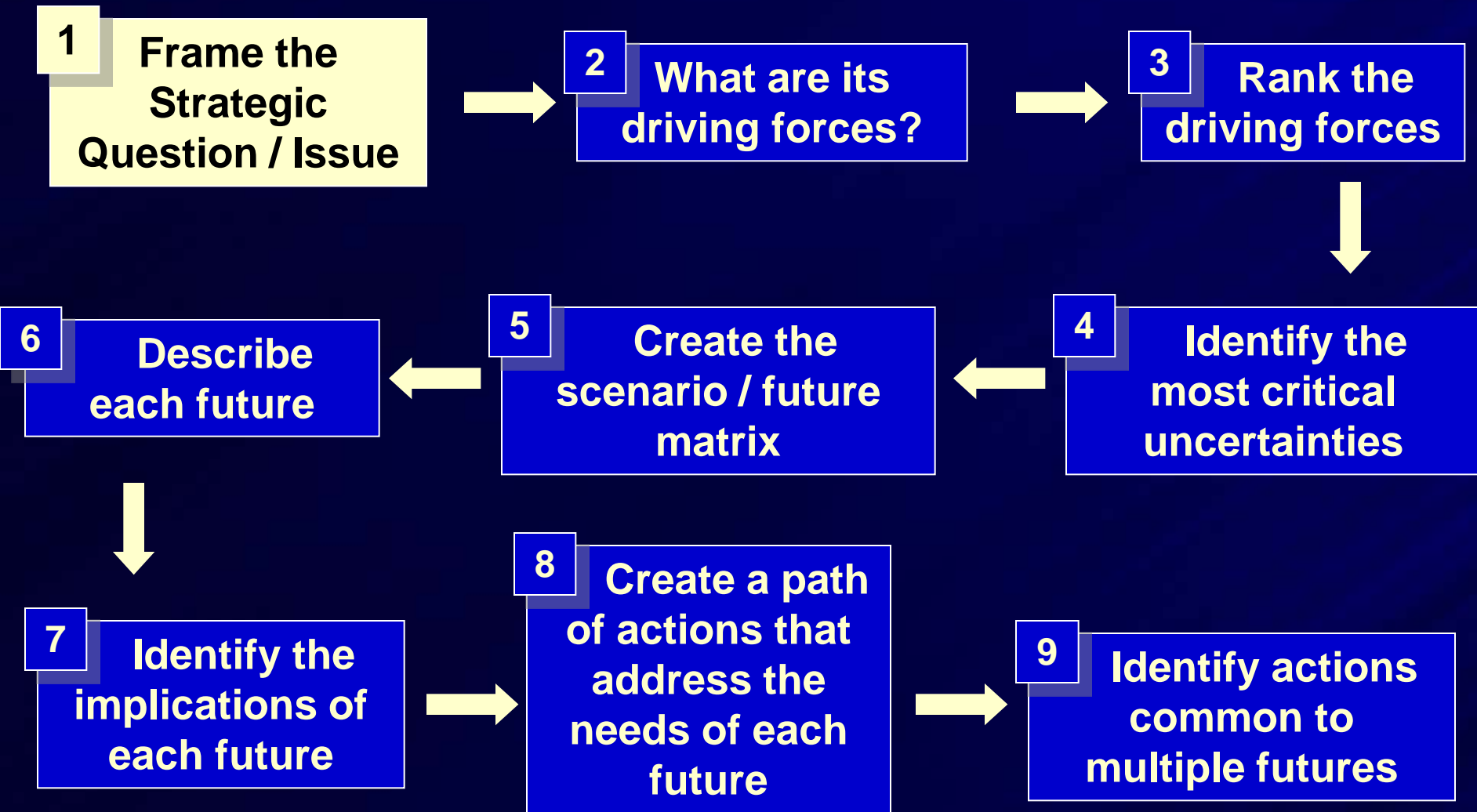
Scenario Planning Process

The Nine-Step Program



Scenario Planning Process

Step #1



Examples of Possible Water Utility Issues

- How will climate change impact a Utility's ability to provide reliable municipal supplies in the future?
- How can a Utility prepare for uncertain changes in drinking water regulations in the next 20 years?
- How can a Utility buttress water resources that are vulnerable to shortage?
- How can a Utility maximize the wet-water benefit of its effluent resource over the next 20 years?

Tucson's Situation in 2004

Tucson Water had system corrosion problems when shifting from groundwater to CAP water in the early 1990s

CAP water's high salinity & the City's New Treatment Plant were blamed for the widely-reported "red water" issues

Customers came to distrust CAP water, the New Plant, & the UTILITY—CAP deliveries were suspended for 7 years

Tucson came to use 40% of its CAP water by blending w/ groundwater *via* recharge&recovery. What about the rest?

Community accepted CAP recharge but not necessarily higher salinity & direct "chemical" treatment

UTILITY WAS UNCERTAIN ABOUT HOW TO PROCEED

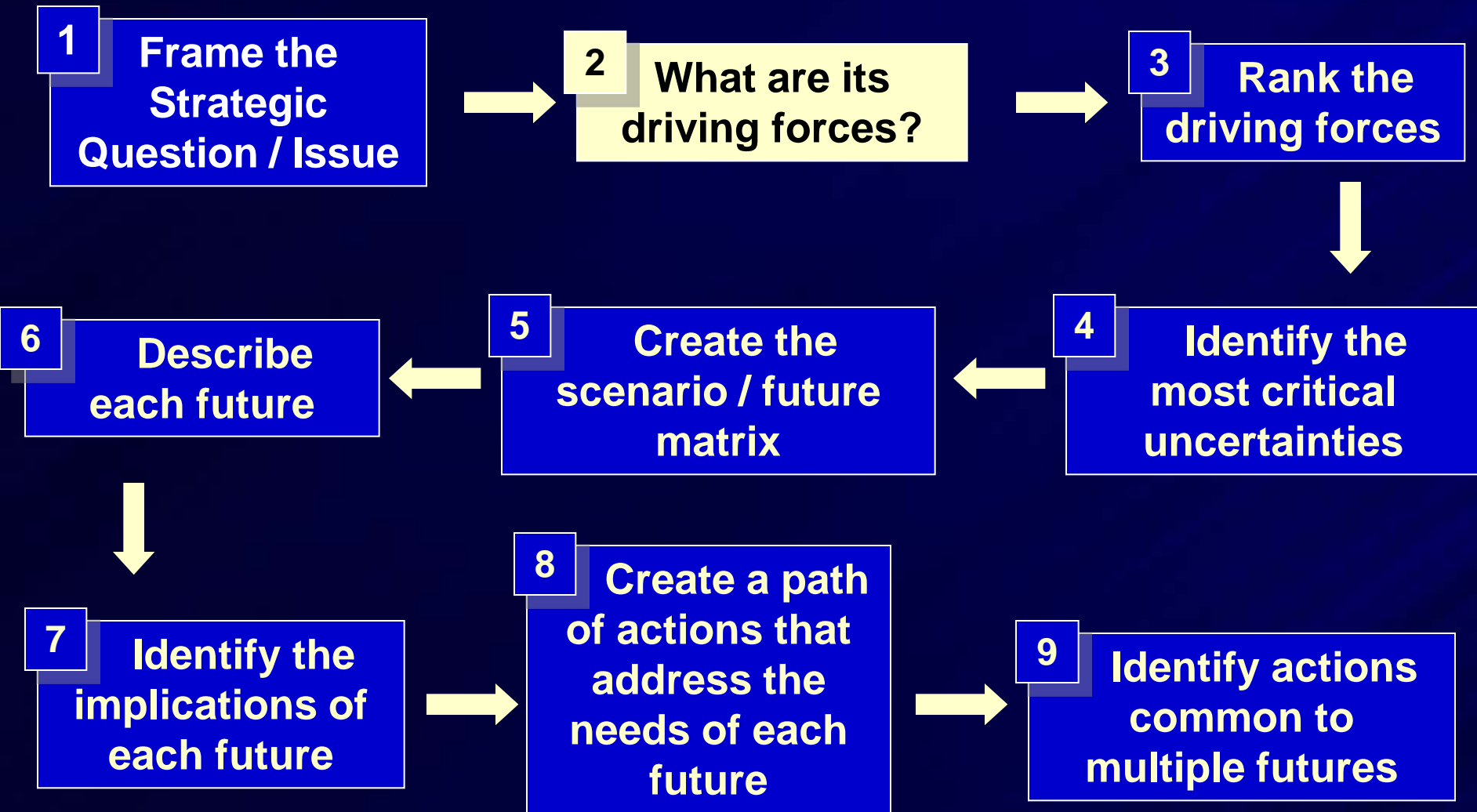
Tucson Water's Planning Issue (2004)

“How should the Utility bring into full use its two currently available ‘renewable’ water resources?”

- Central Arizona Project Water
- Municipal Wastewater Effluent

Scenario Planning Process

Step #2



Understanding the System

Identifying the Drivers that Influence the Issue



What are the Most Important Drivers?

Deconstructing the System's Influences

Financing

Politics

Environmental Needs

Emerging Contaminants

New Supply Sources

Energy

Aging Infrastructure

Public Perception

System Security

Media Coverage

Water Rates

Economy

Climate Variability

Water Quality

Technology

Drought

Growth Pressure

Regulation

Conservation



Tucson Water's List of Driving Forces

- 1) Public/Political Support for “Direct Use” of New Treatment Plant by diverting off CAP canal
- 2) Public/Political Support for “Indirect Use” of New Treatment Plant after CAP Water Recovery

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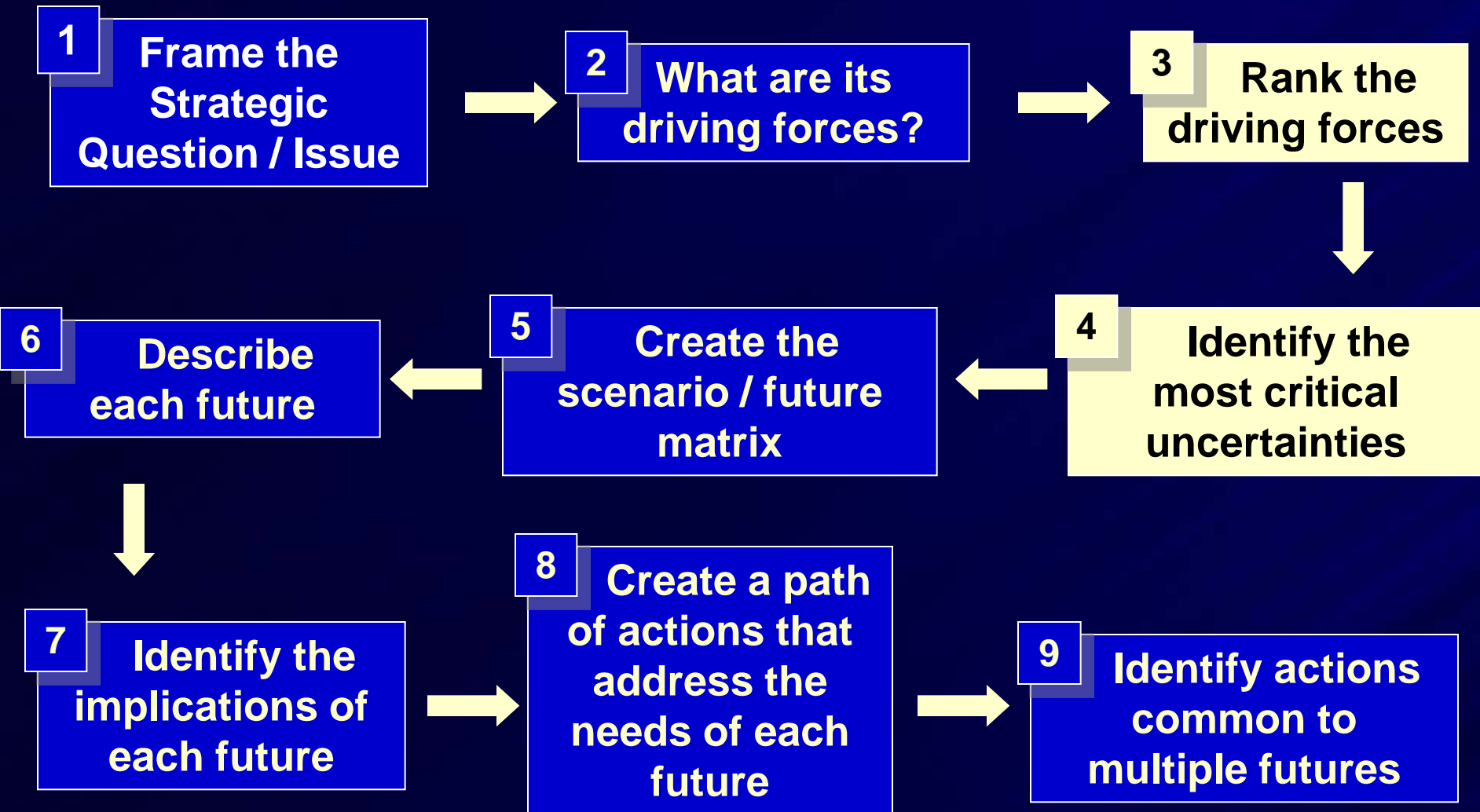
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- 13) Public's willingness to pay extra for “aesthetic” improvements to potable Water Quality
- 14) Tolerance of Local Residents to New Facilities
- 15) Environmental/Endangered Species Act Issues

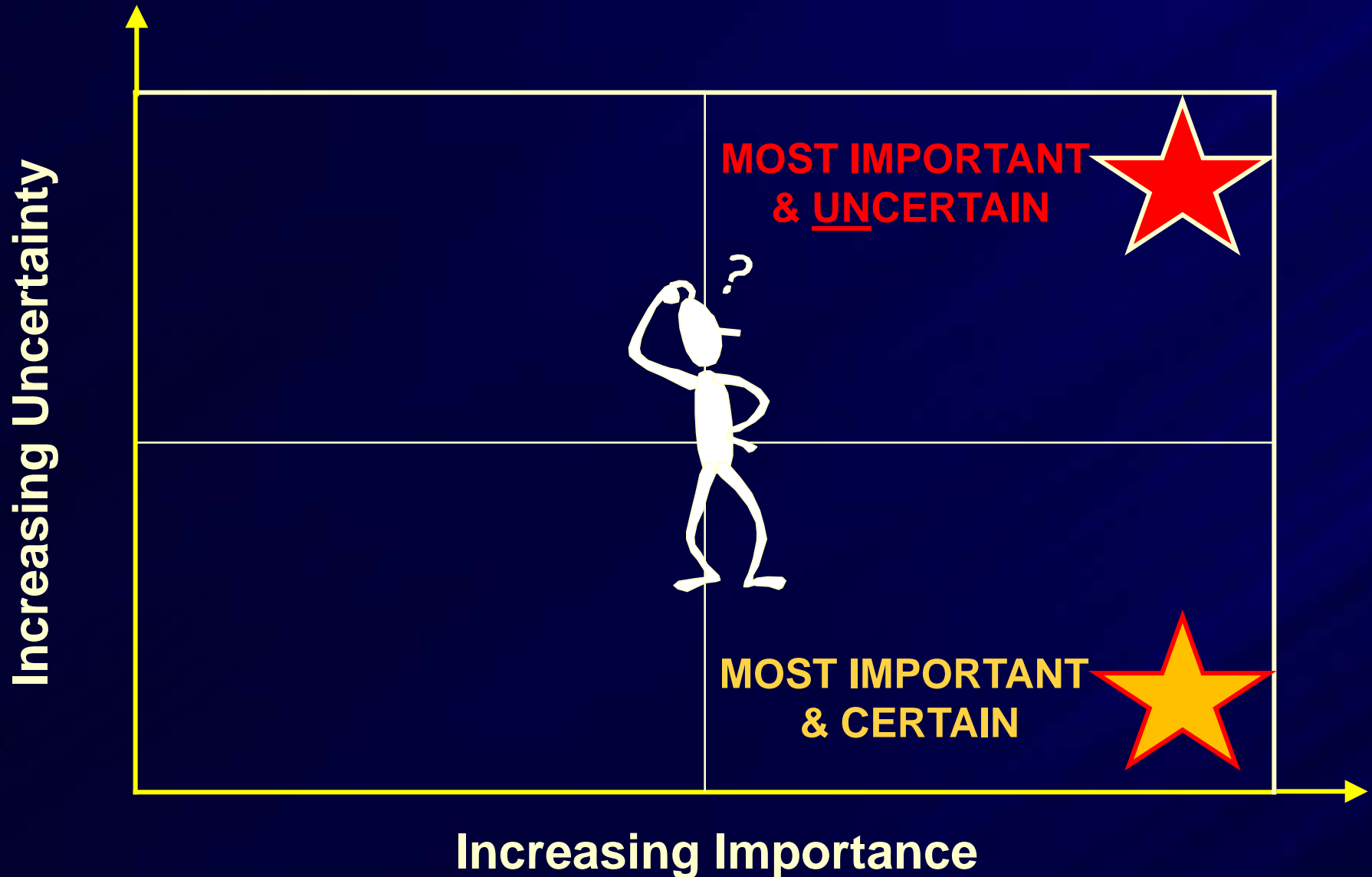
Scenario Planning Process

Steps #3 & #4

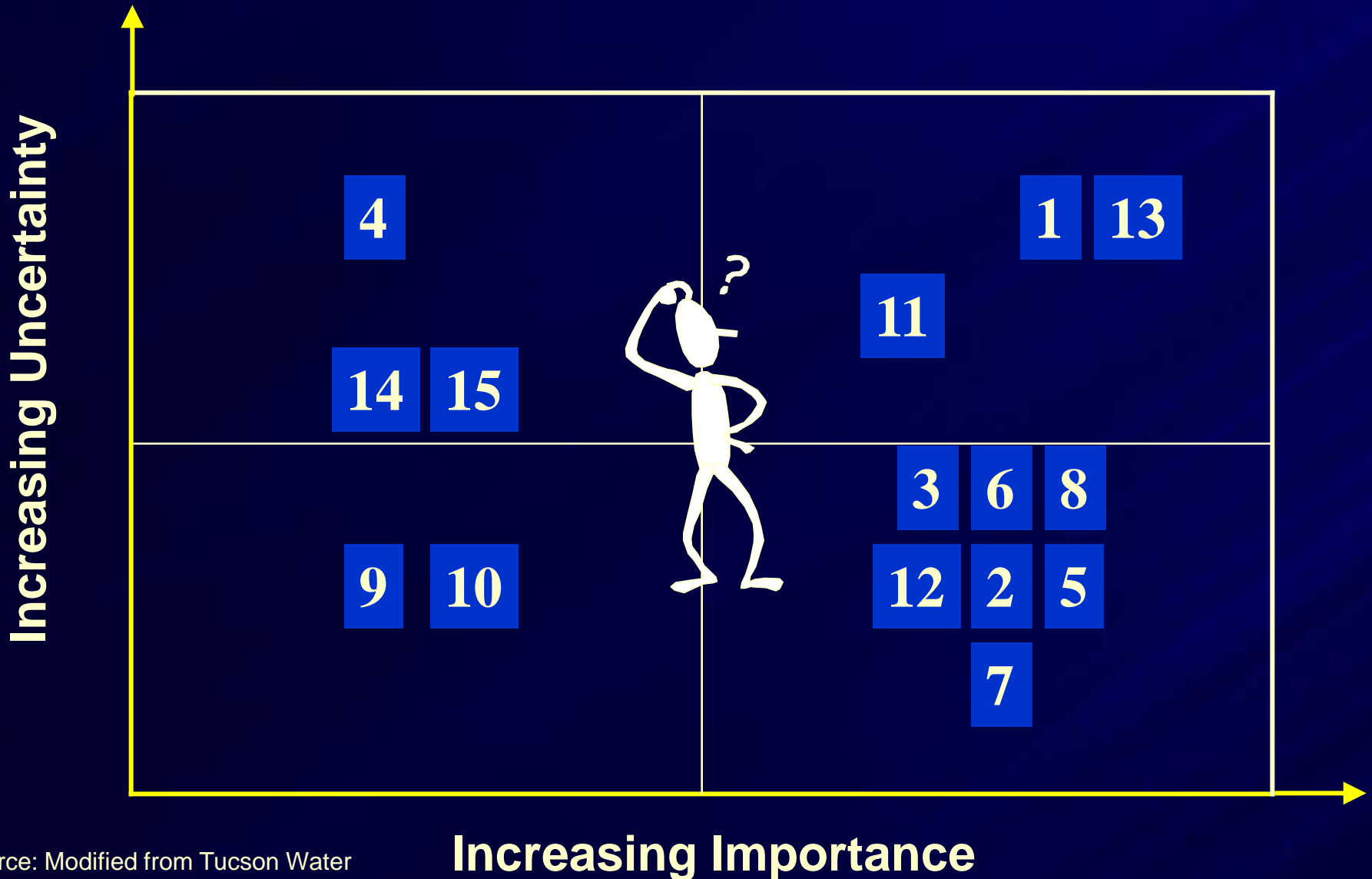


Rank the Driving Forces

Identifying the Scenario Components

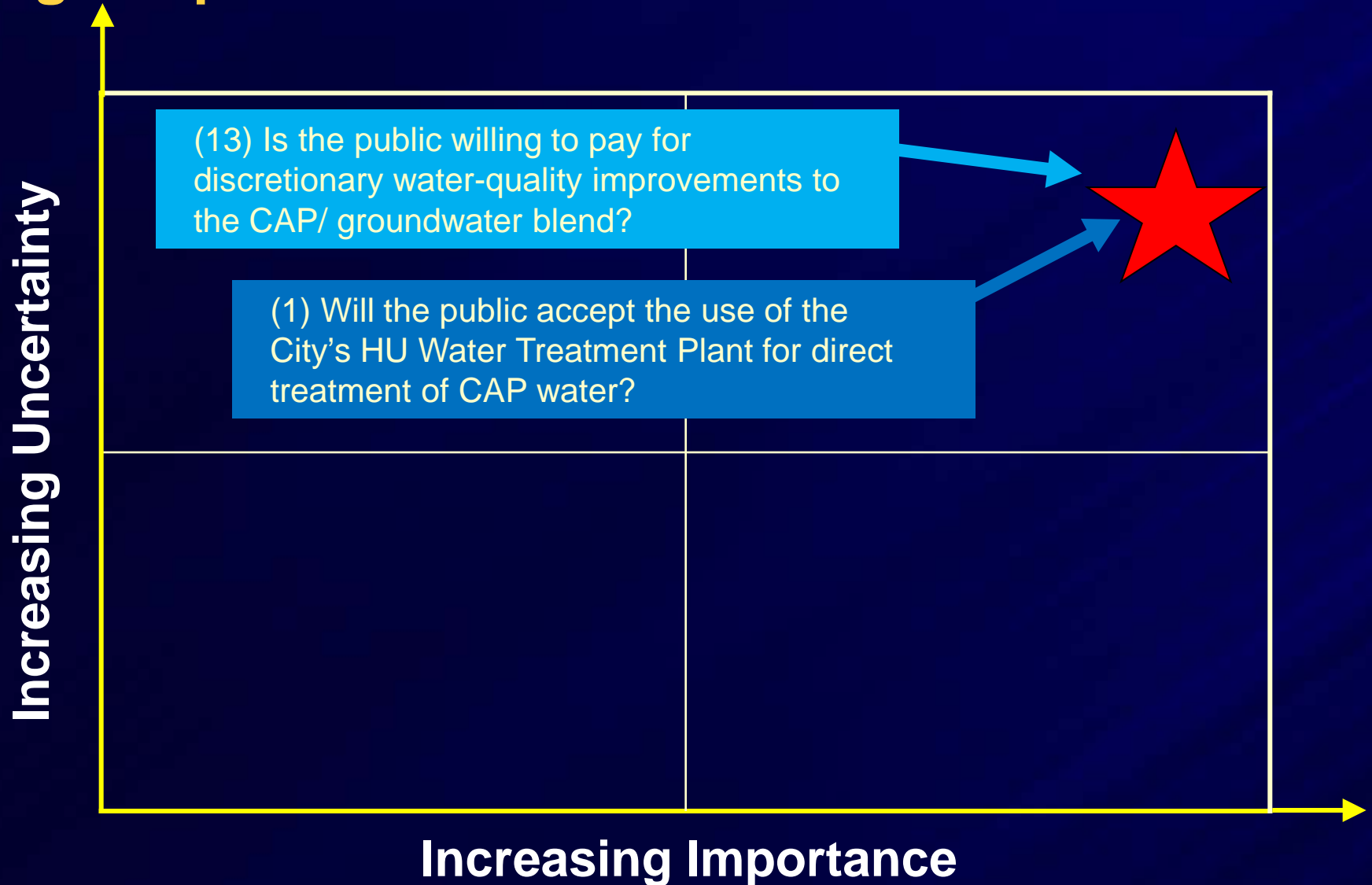


Ranking Tucson Water's Driving Forces



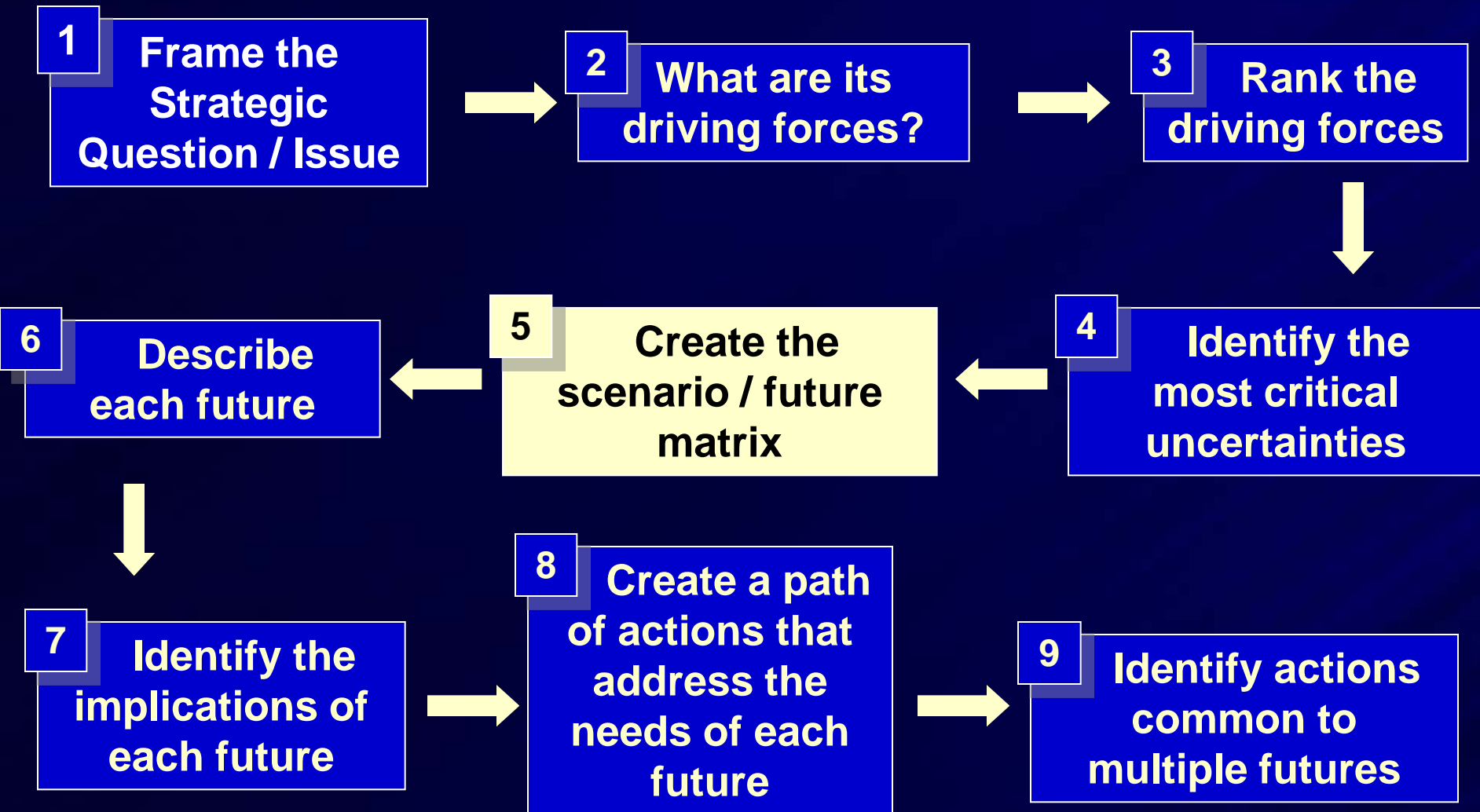
Identifying the Most Critical Uncertainties

High-Impact Forces that can Influence the Future



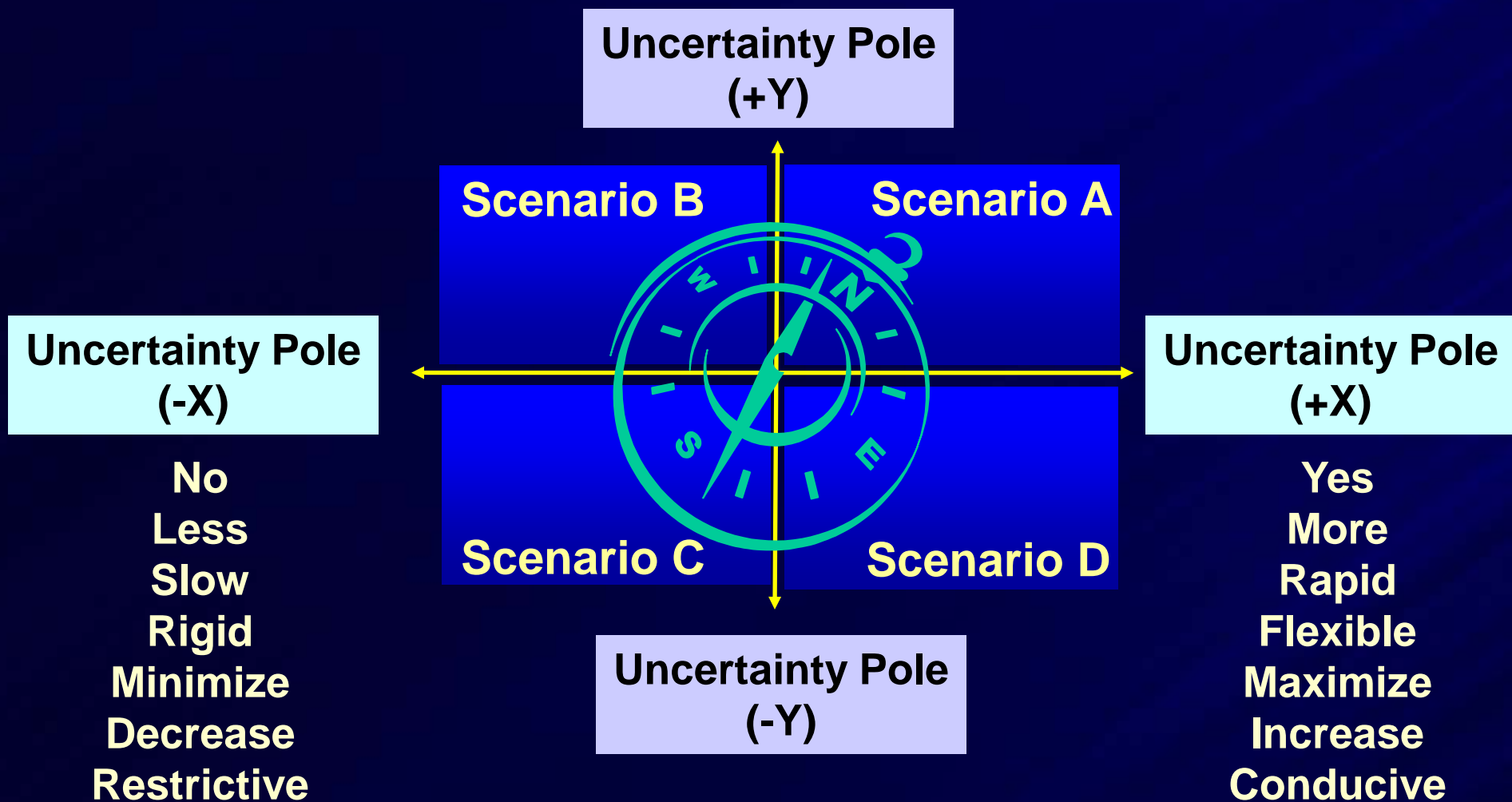
Scenario Planning Process

Step #5



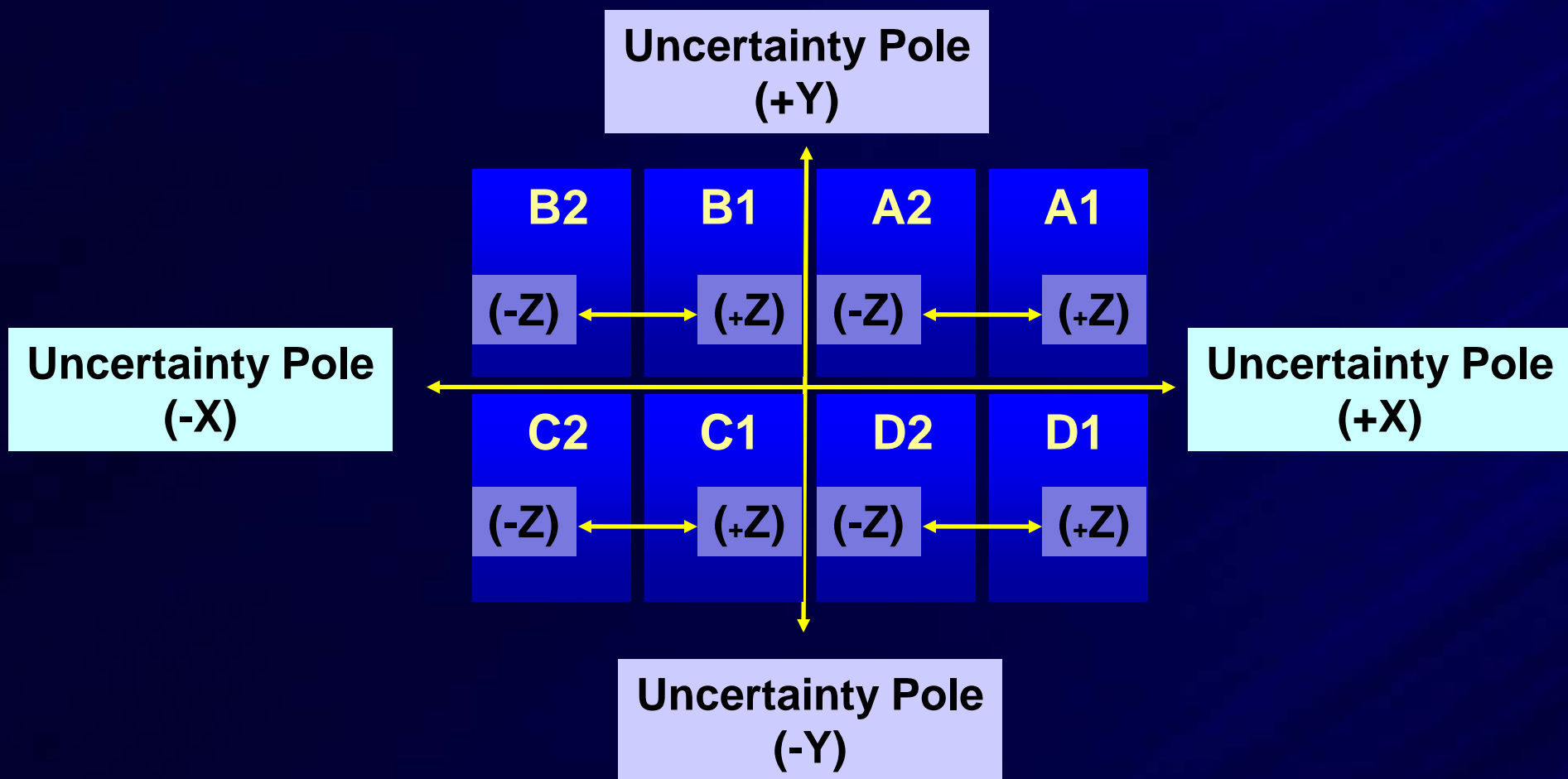
The Scenario Planning Matrix

With Two Uncertainty Axes—Four Futures



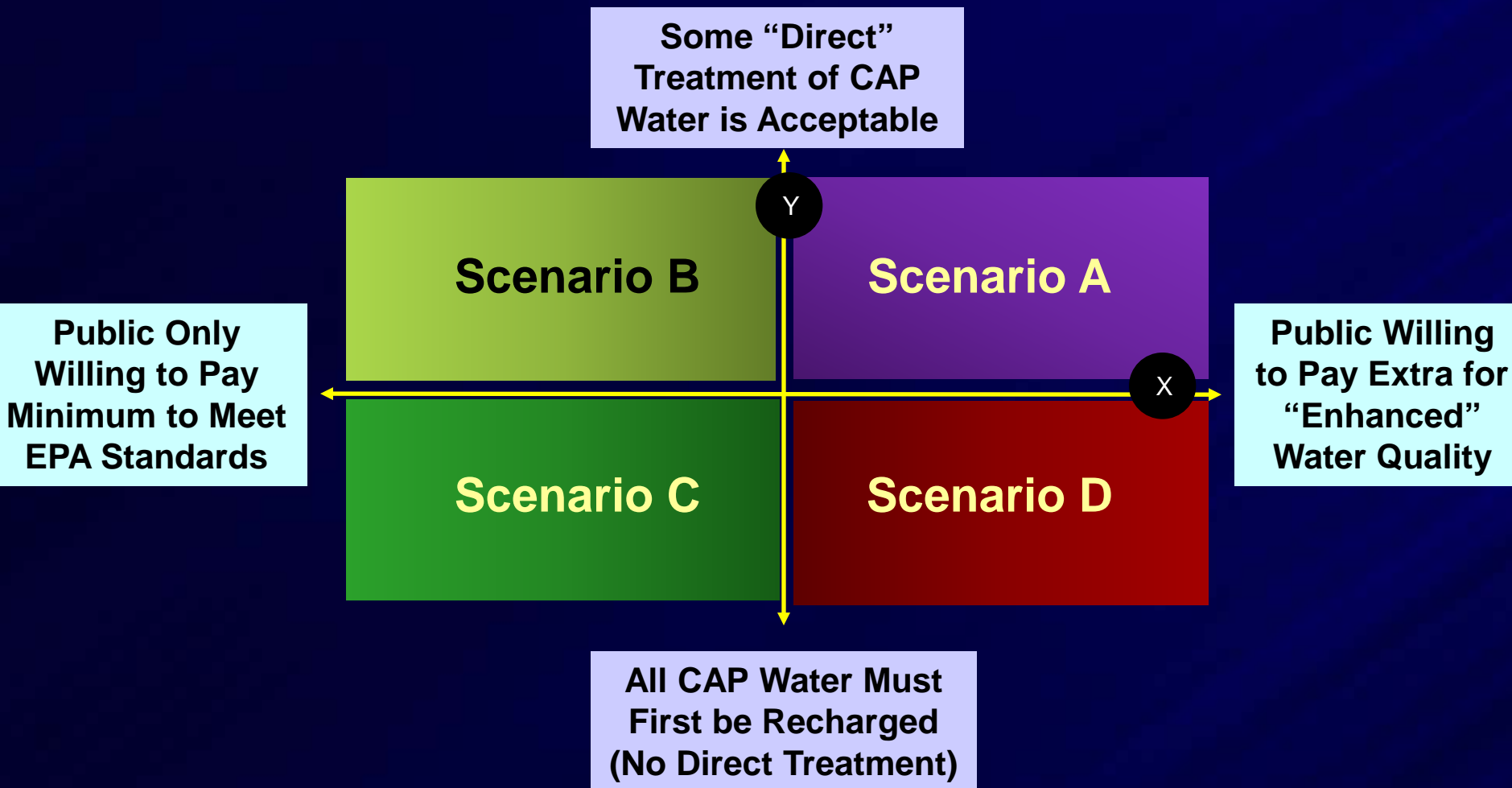
The Scenario Planning Matrix

With Three Uncertainty Axes—Eight Futures



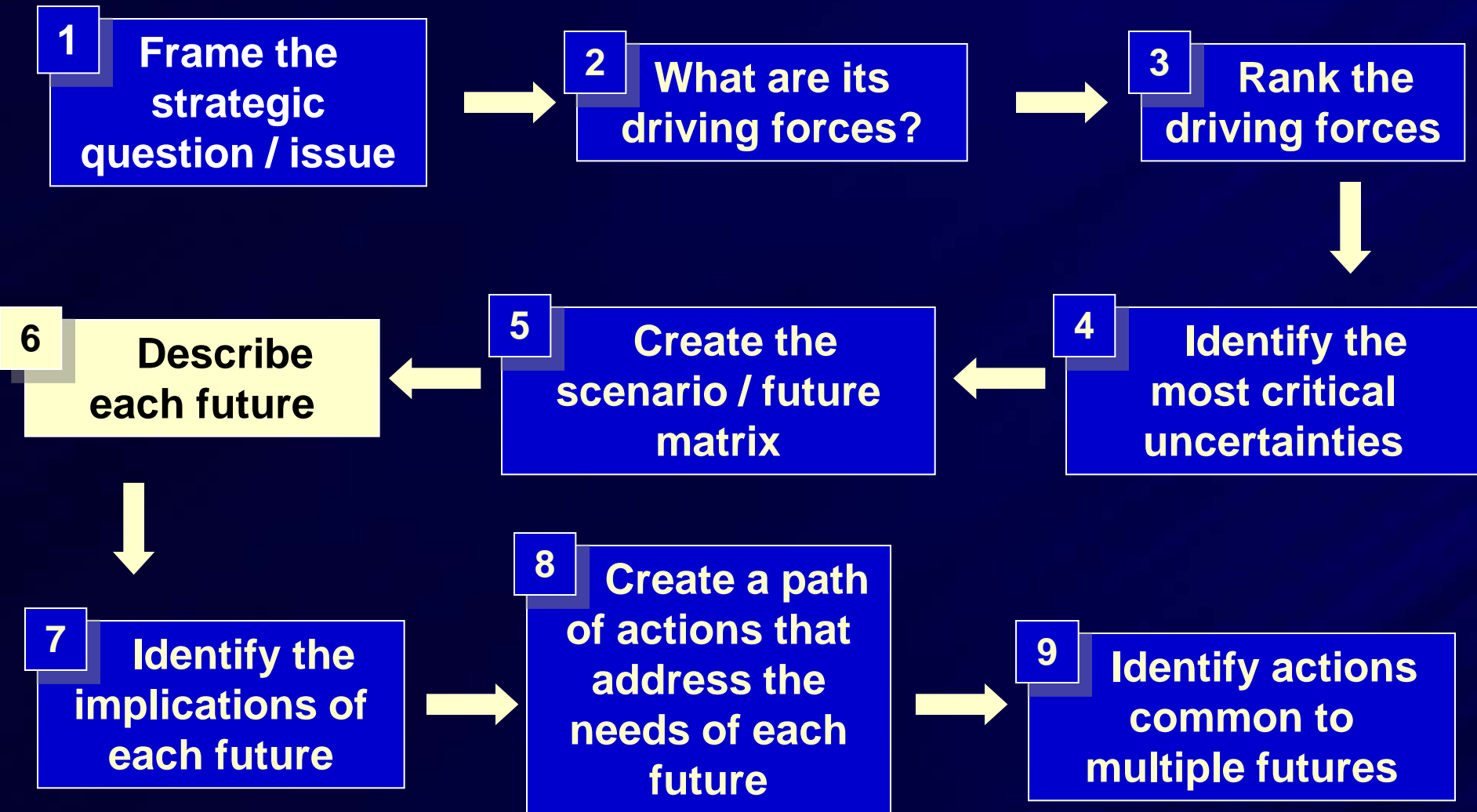
The Scenario Planning Matrix

Tucson Water's End-Member Futures

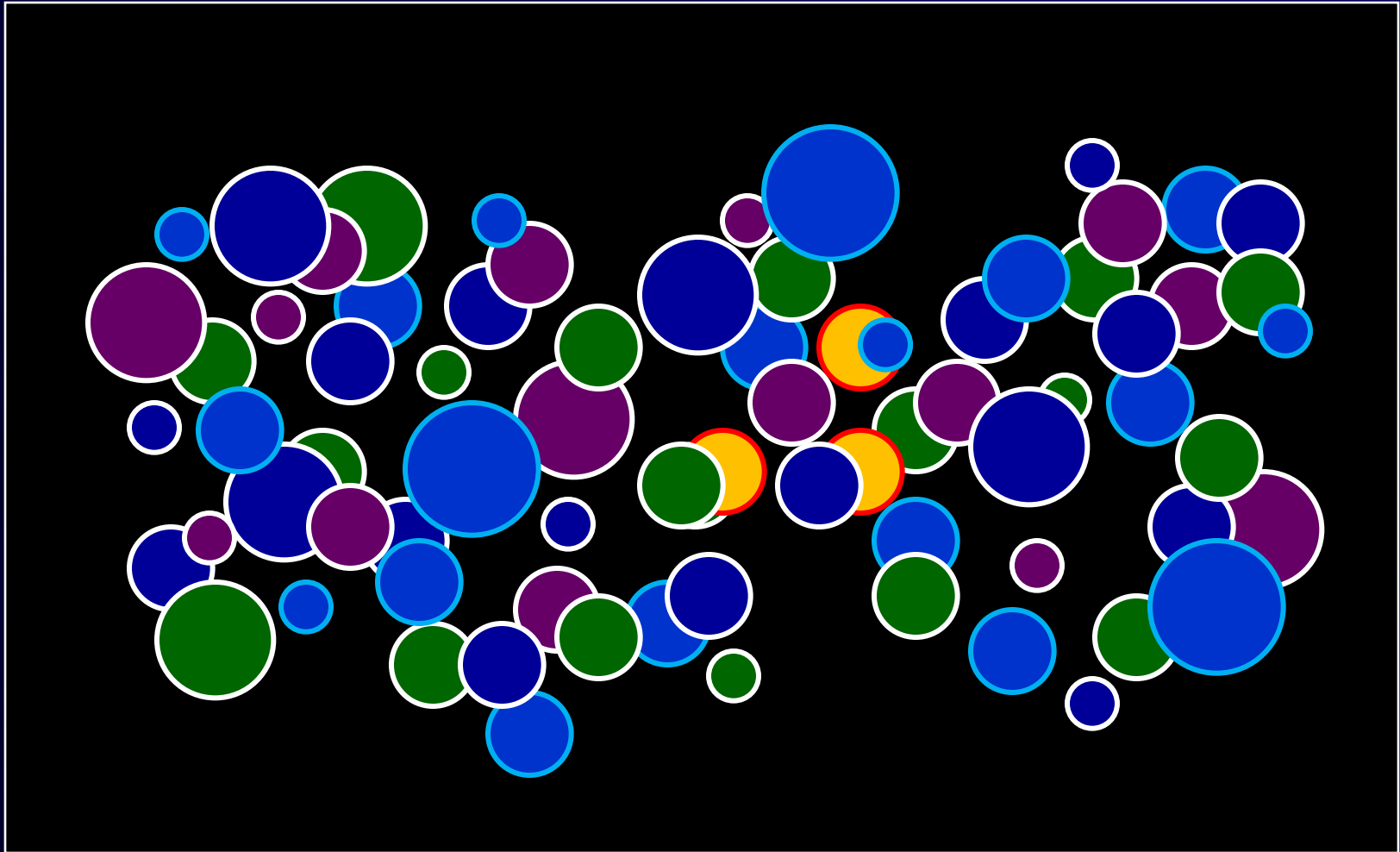


Scenario Planning Process

Step #6

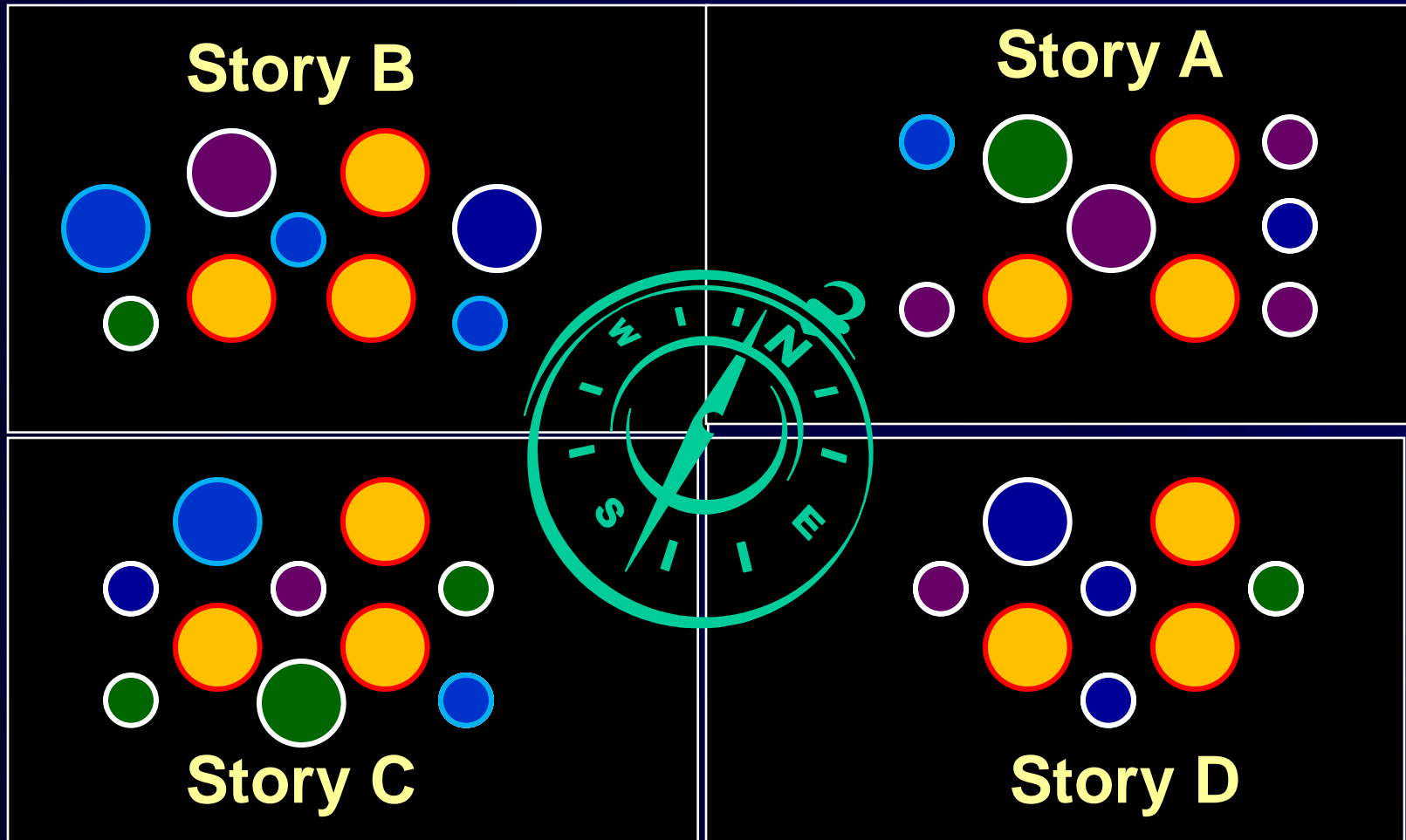


The Dynamic Planning Environment And its Apparent Chaos



Simplifying the Planning Environment

Developing Credible Stories to Visualize the Future



 = "Certain" Elements  = "Possible" Elements

The Power of the Scenario Narrative



The Power of the Scenario Narrative

- These are **STORIES** which can make the planning environment more comprehensible
- They can add something “**NEW**” by asking “**WHAT IF**” and extending the logic
- A good narrative captures the **EMOTION** of a scenario which can deepen our insight
- **WE ALL** tell stories—to ourselves and each other—to structure our place in the World
- Organizations & Nations also tell stories—possibly of a **MYTHIC PAST** or an **OFFICIAL FUTURE**

Some Prefer Bulleted Plot Lines

Tucson Water's Approach

Story B

- Certainties common to All Stories
- How the uncertainties play out in B
- Challenging conditions unique to B
- Emerging functional capacities in B
- Reaction to evolving conditions in B

Story A

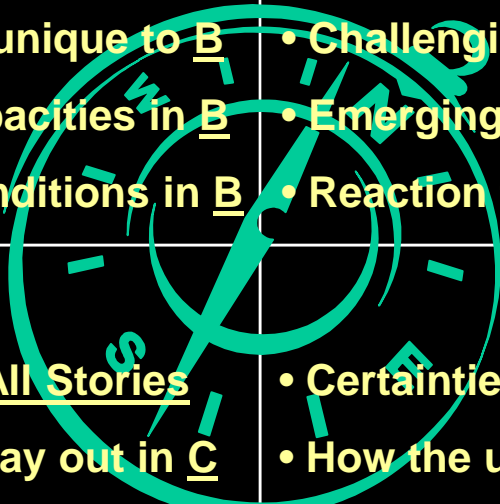
- Certainties common to All Stories
- How the uncertainties play out in A
- Challenging conditions unique to A
- Emerging functional capacities in A
- Reaction to evolving conditions in A

Story C

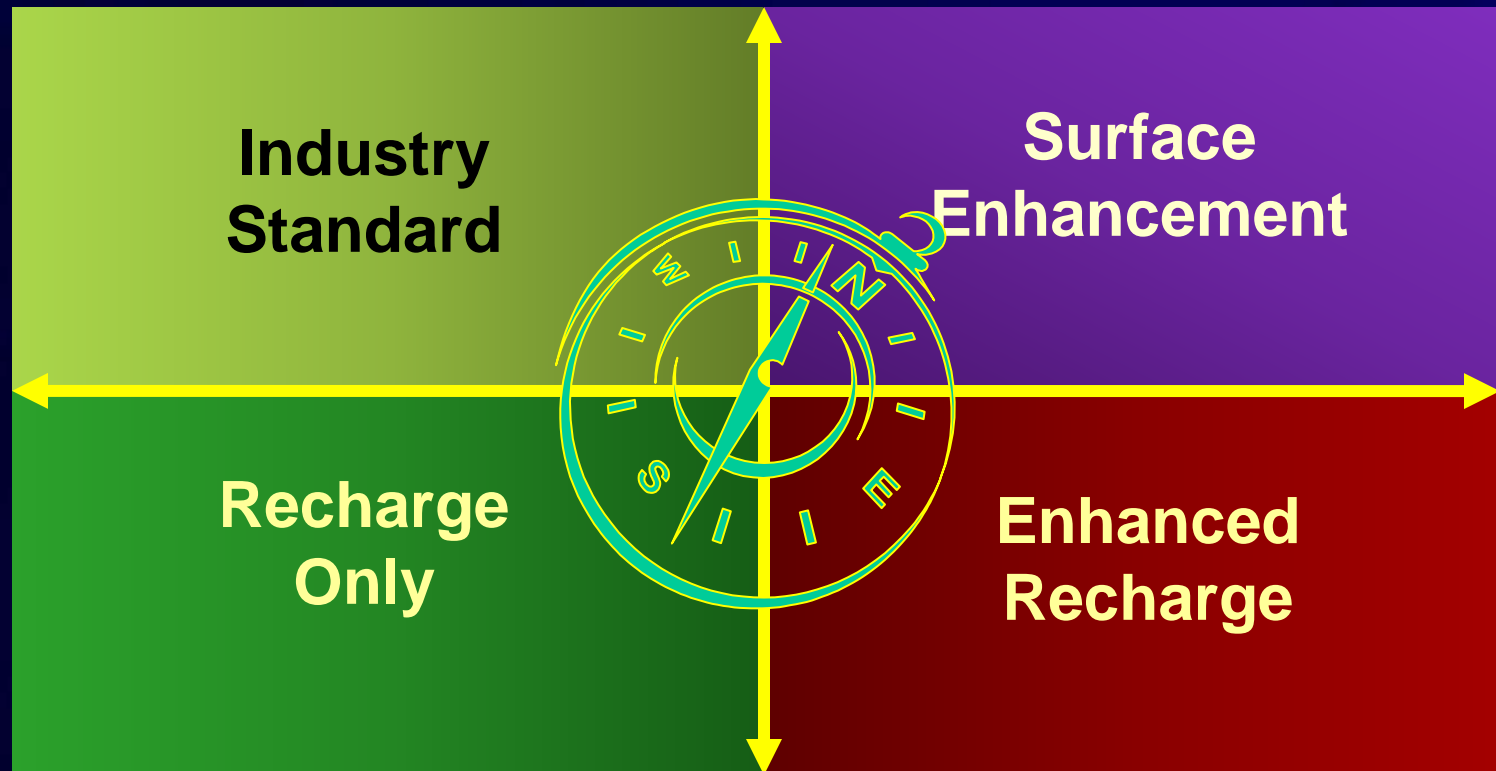
- Certainties common to All Stories
- How the uncertainties play out in C
- Challenging conditions unique to C
- Emerging functional capacities in C
- Reaction to evolving conditions in C

Story D

- Certainties common to All Stories
- How the uncertainties play out in D
- Challenging conditions unique to D
- Emerging functional capacities in D
- Reaction to evolving conditions in D

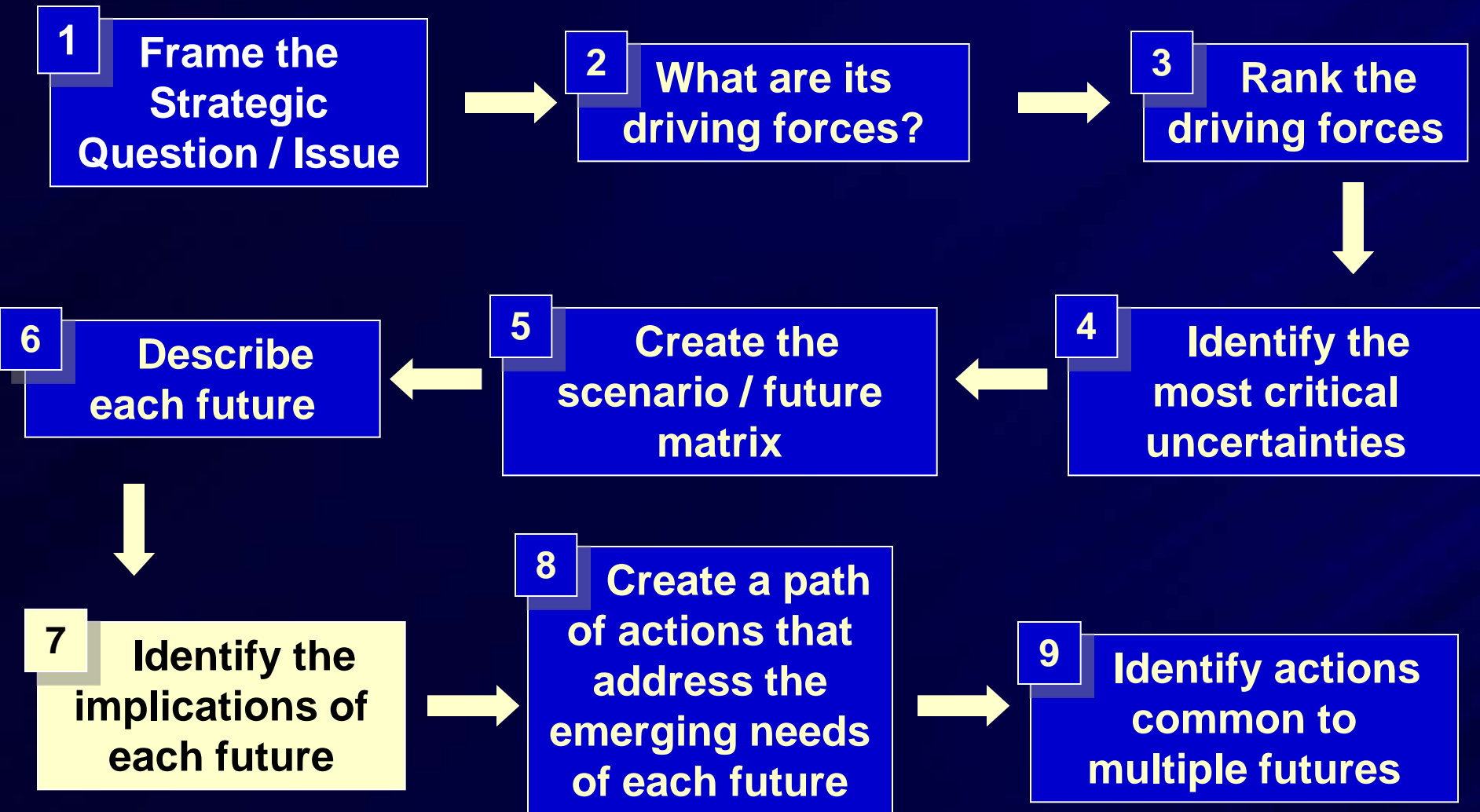


Tucson Water's CAP Utilization Scenario Stories



Scenario Planning Process

Step #7

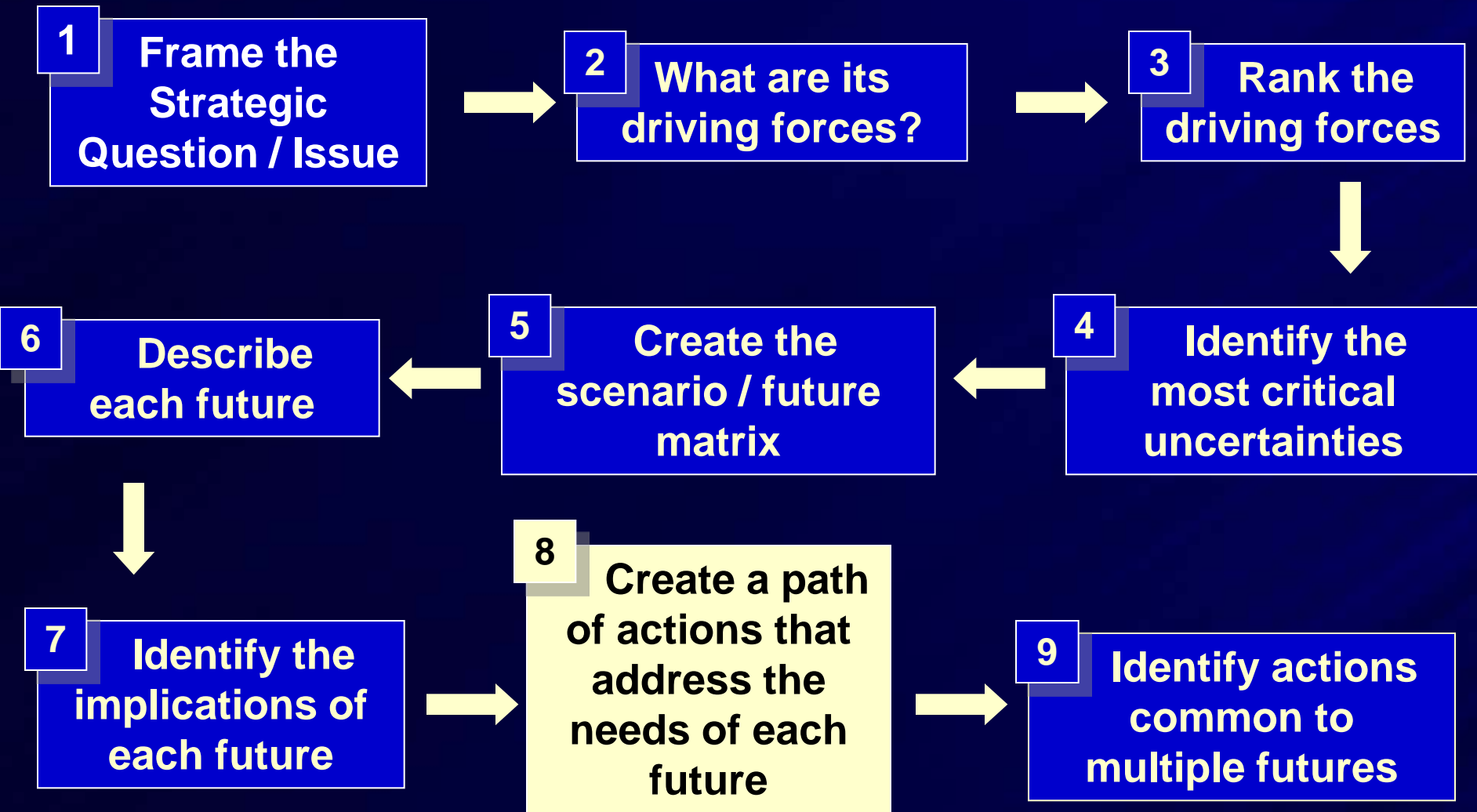


Identifying the Functional Implications The Emerging Challenges and Capabilities?

- **What are the evolving challenges? What are the emerging needs in each scenario?**
- **How is each scenario functionally constrained? Who or What “wins” & “loses” and Why?**
- **How is each scenario freer and more open? Who and/or What benefits and Why?**
- **What are the emerging capacities & capabilities? What are the resulting opportunities?**
- **Who and/or What is in a position to gain or lose given these opportunities?**

Scenario Planning Process

Step #8

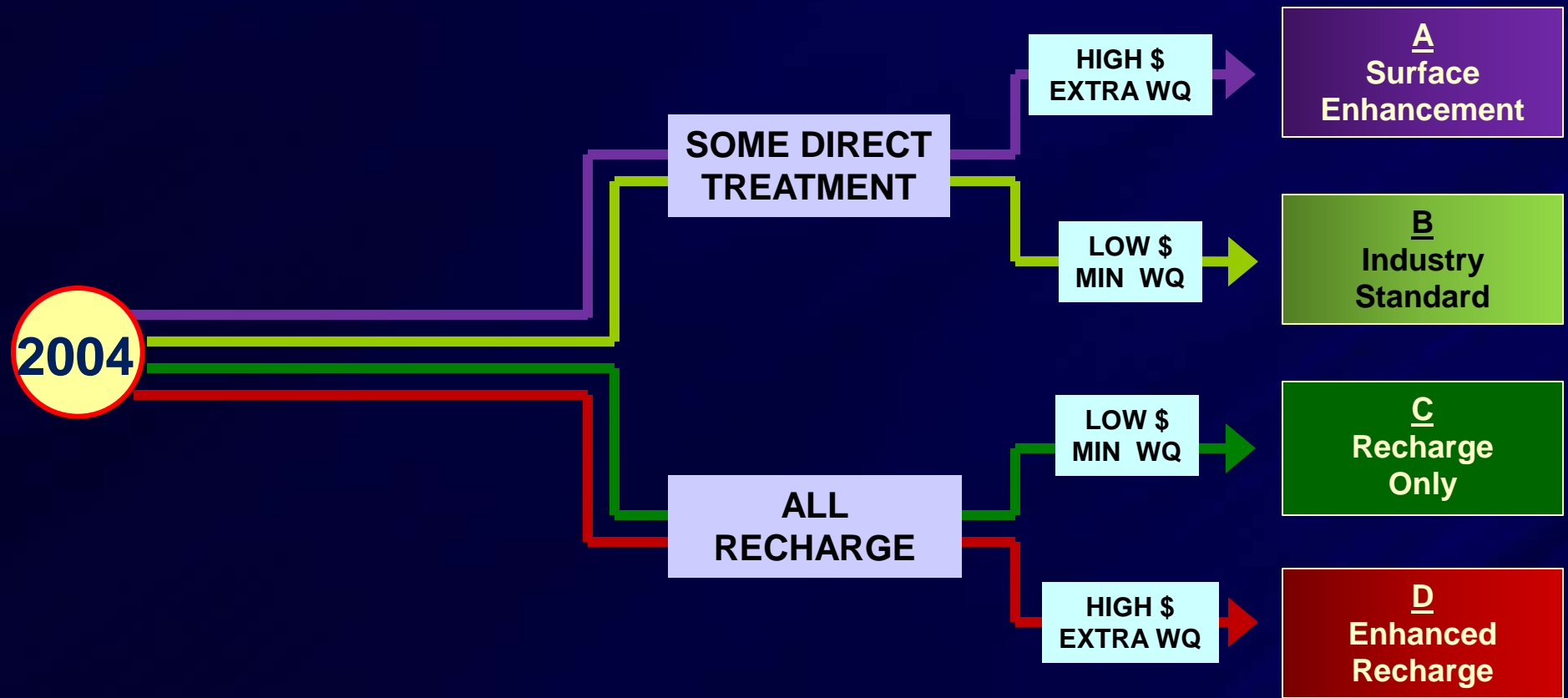


Identifying Potential Adaptive Strategies & Actions

- How can each future's **EMERGING CHALLENGES** be addressed? What actions are needed?
- How can functional deficiencies be remedied or mitigated? How can constraints be relaxed or their impacts minimized?
- Which potential strategies and actions would be most **EFFECTIVE**?
- What initiatives could be implemented to ensure **PREPAREDNESS**—to ensure adequate future capacity & capability **IN EACH SCENARIO**?

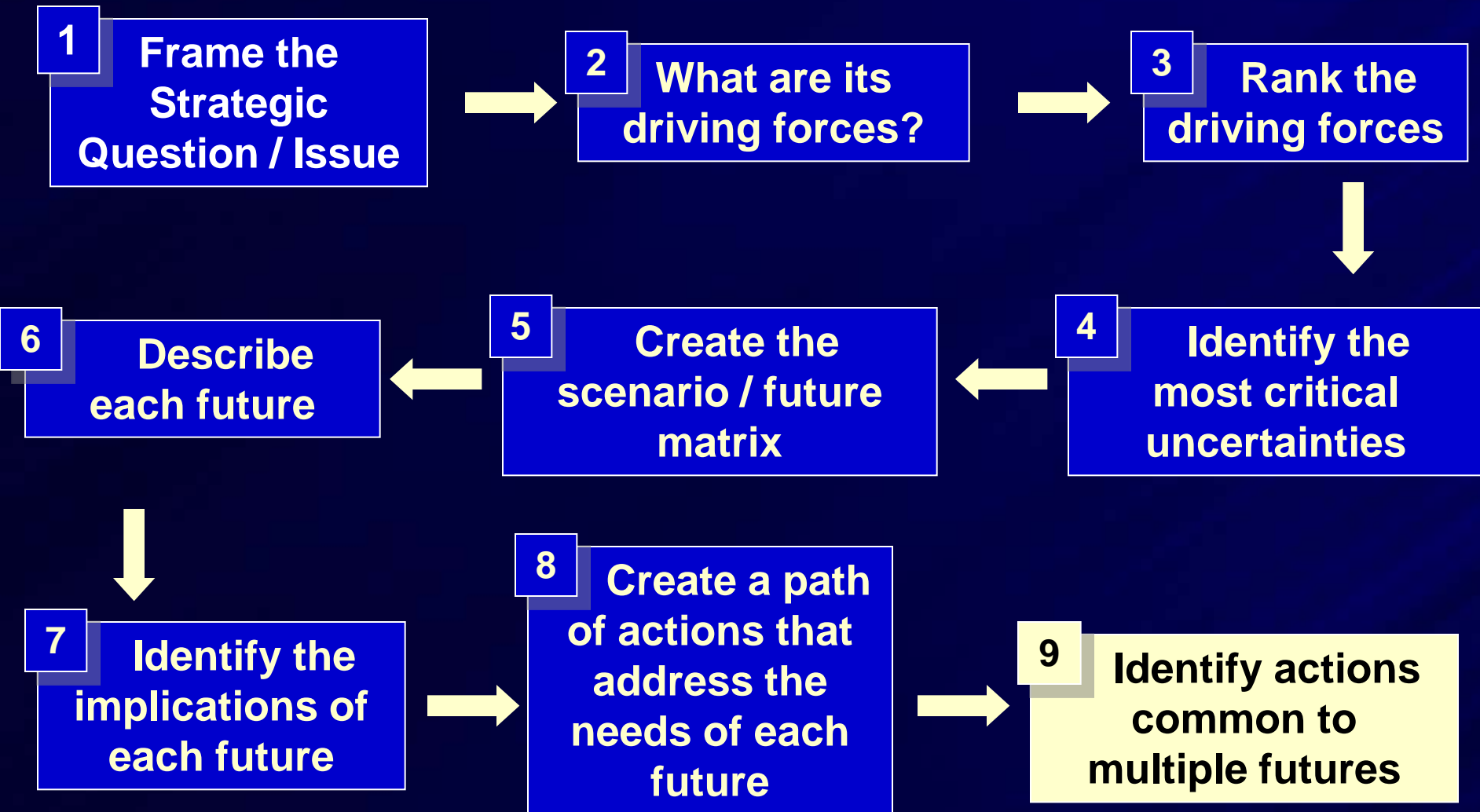
An Implementable Pathway to Each Future

Addressing the Emerging Needs & Capabilities



Scenario Planning Process

The Nine-Step Program

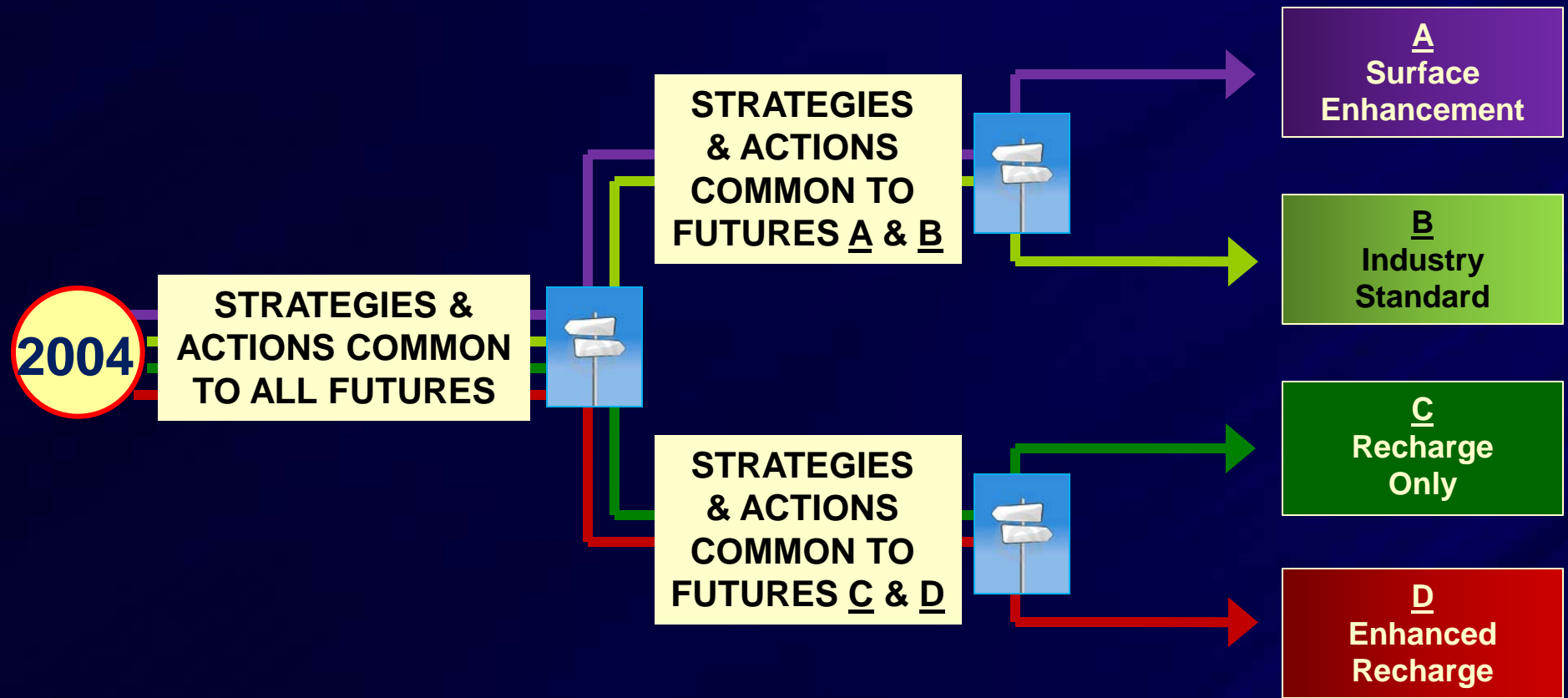


Developing an Implementation Plan

What is the tolerance for risk?

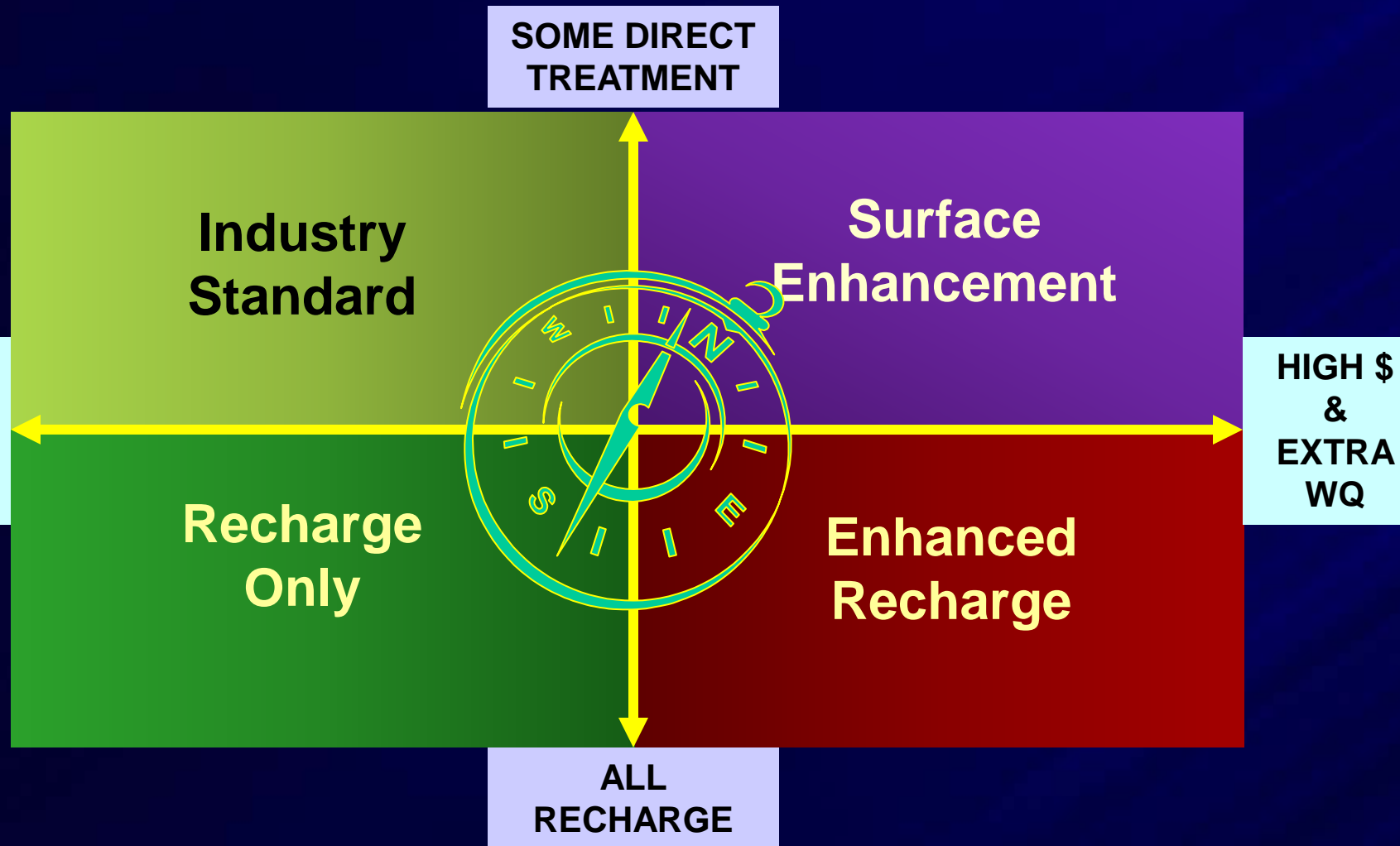
- Which “LOW-REGRET” strategies & actions are common to ALL FUTURES?
- Which apply only to SOME?
- Which would maximize flexibility, adaptive capacity, and capability as WE prepare to move ahead?
- How can an evolving scenario be influenced so that it “MUST BE” achieved or avoided?

Recommended Implementation Plan for All Futures



Tucson Water's Implementation Strategy

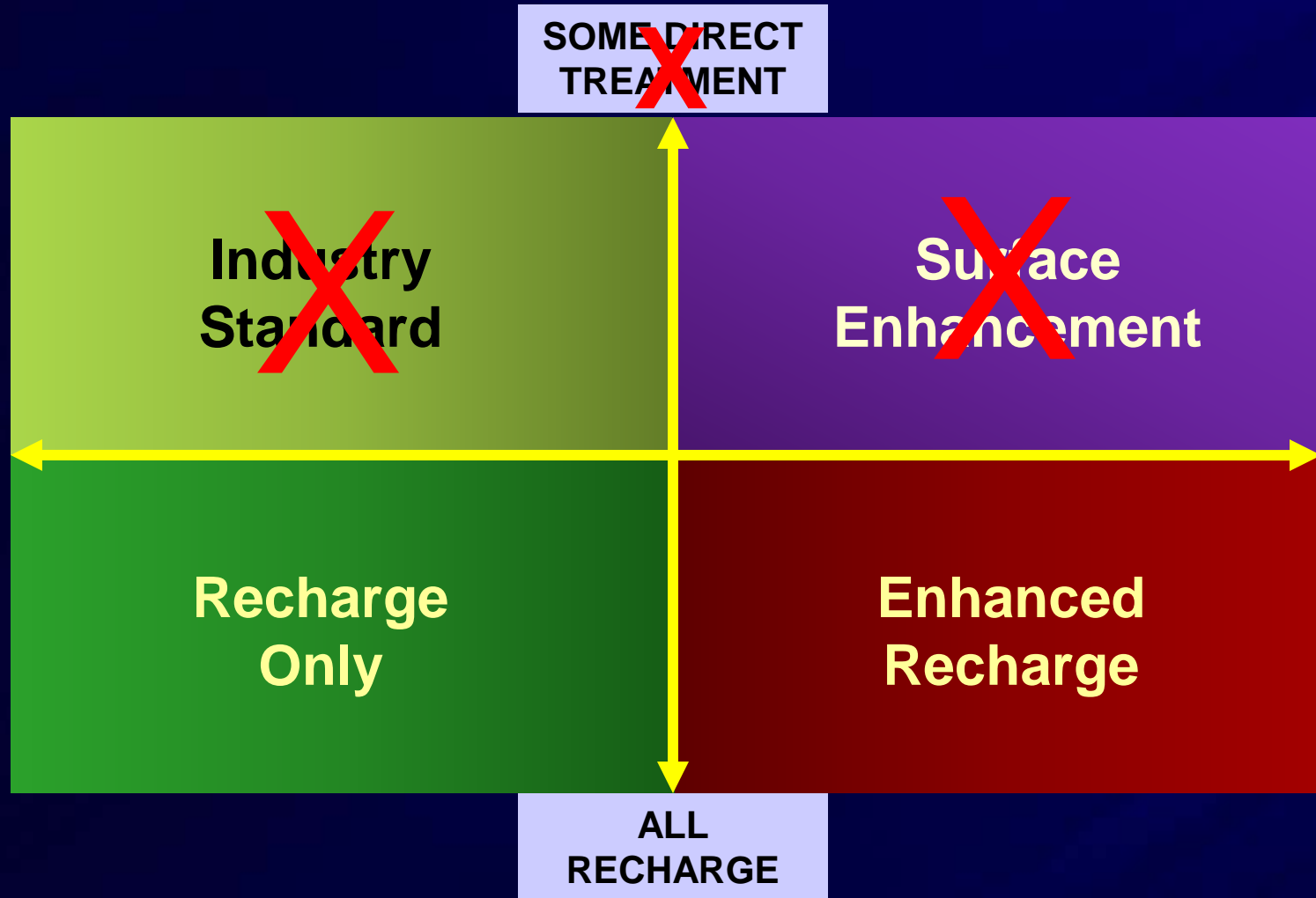
All Futures Possible in 2004





At a Crossroads—A Decision

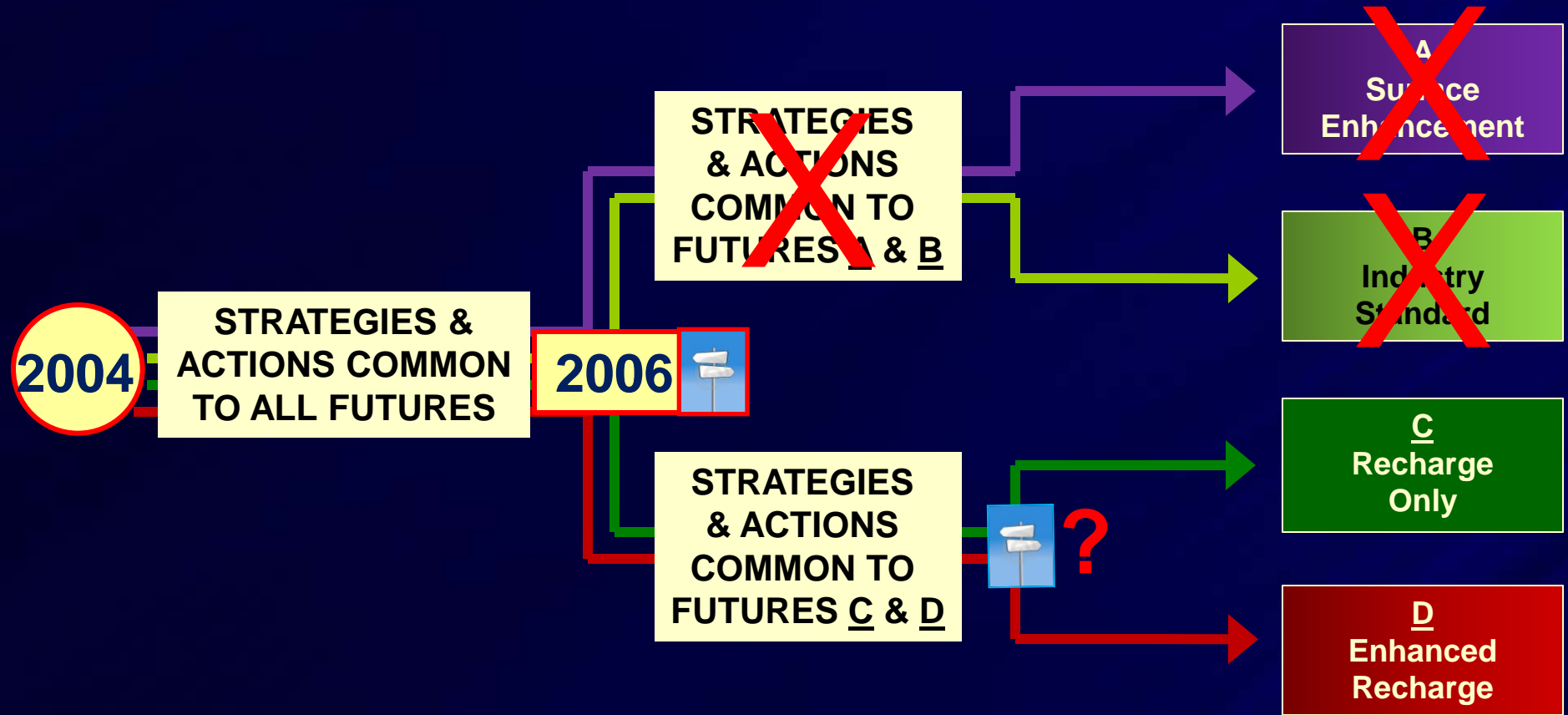
Two Futures Remain Viable After 2006





At a Crossroads—A Decision

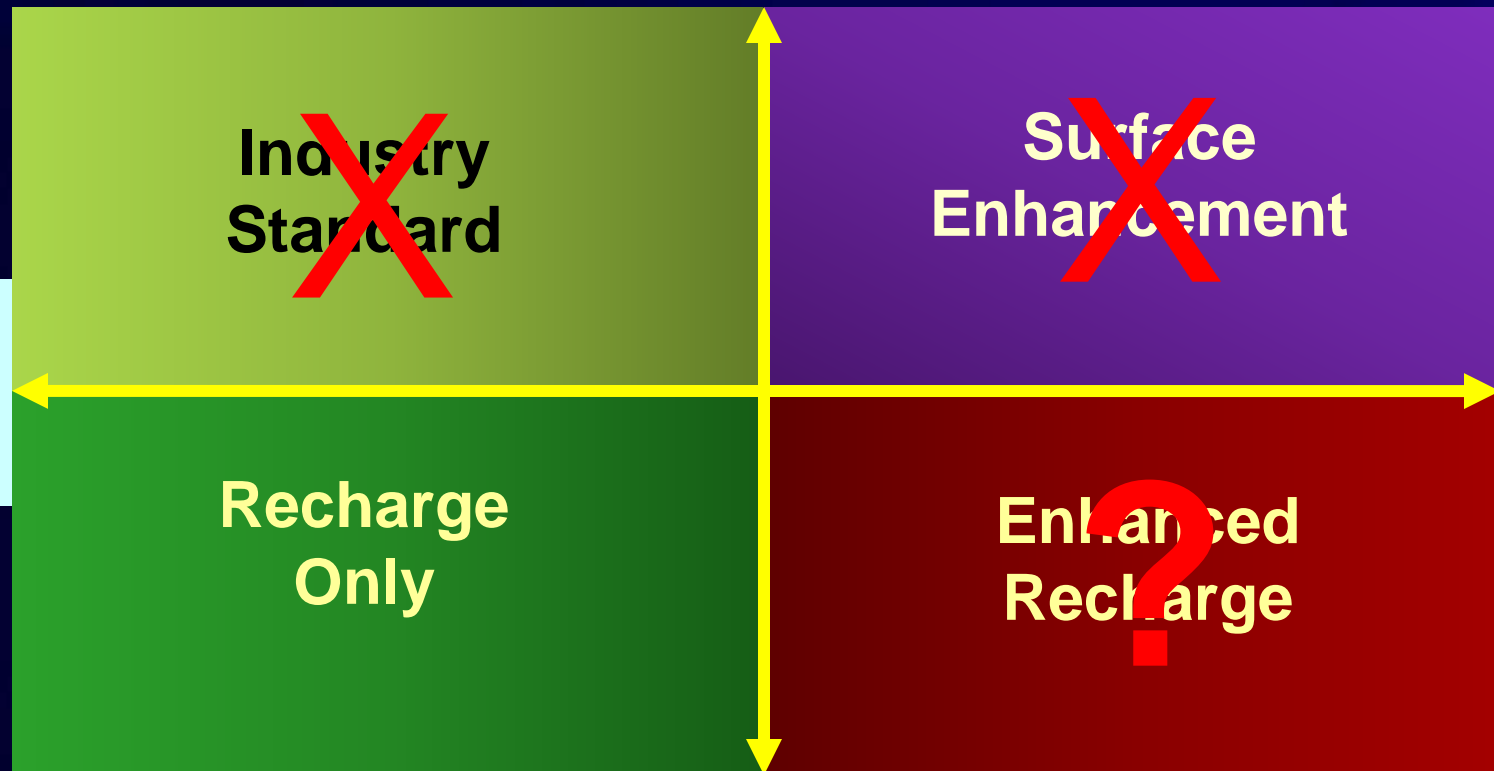
Two Futures Remain Viable After 2006





The Next Crossroads

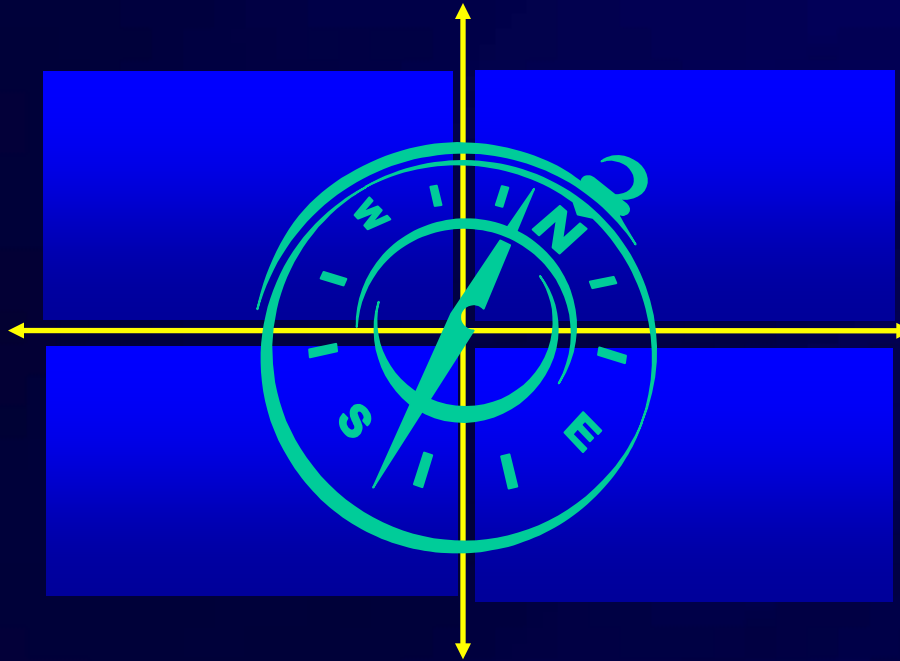
What Will Happen Next—and Beyond?



Scenario Lessons Learned

1. Obtain explicit support of upper management
2. Encourage active participation of key managers
3. Engage a range of subject experts in organization
4. Establish a smaller “core” scenario planning team to reconcile/distill information generated in sessions
5. Allow for intense but professional disagreements
6. Attend to group dynamics—keep things moving
7. Document the process and its outcomes for future updates

Scenario Questions?



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