

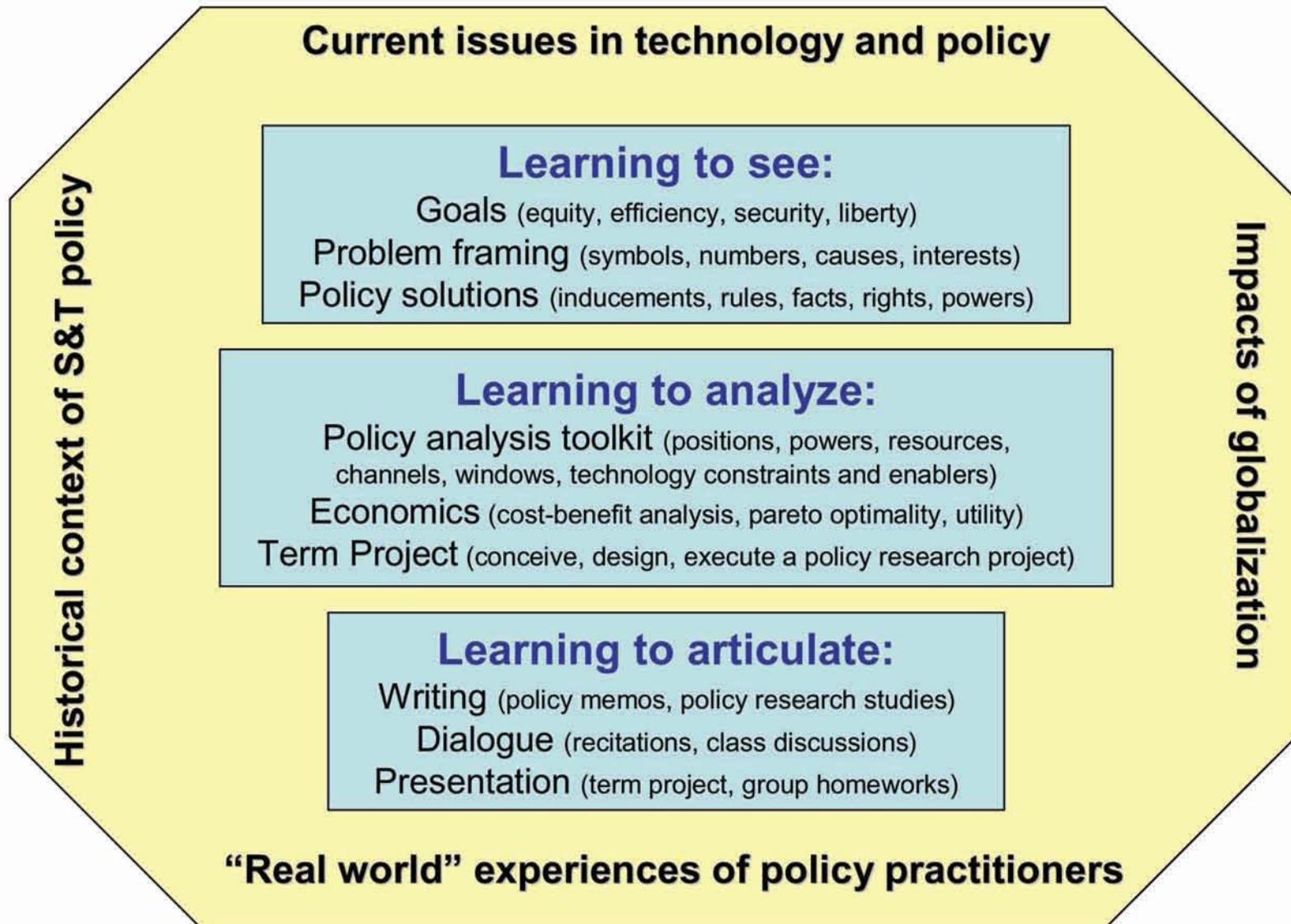


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# Technology and Policy Analysis

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**October 23, 2006**

# ESD.10 Meta-Learning Objective: **Appreciate the political, social, and institutional context of technological systems**





# Is there a difference? The technology question

- **Let's begin with an important and fundamental question:**
  - Do you think there is a difference between policy involving technology-related areas and non-technology-related areas?

- **My answer:**

*technology and*  
^ **Policy Analysis**

- Not a really big difference, but...
- Technology is usually subject to relatively immutable physical laws of the universe, creating constraints
- Non-technological things are usually more subject to social constructs, which history has shown can change given time



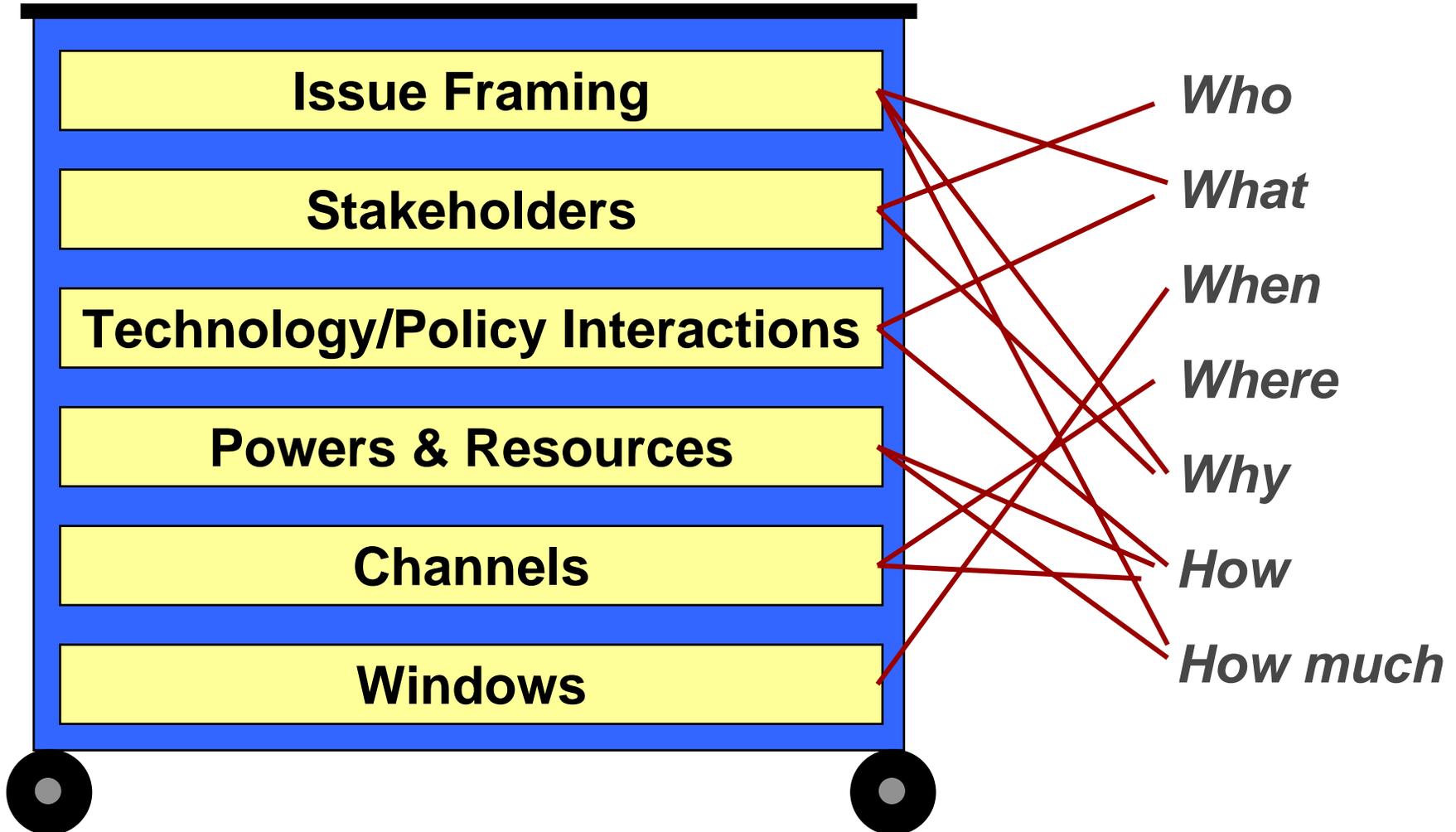
# What is technology and policy analysis?

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- **Counter examples can be very useful**
  - <show video clip of Dead Poets' Society movie>
- **No singular universal quantitative prescription**
- **Think of technology and policy analysis as:**
  - A toolbox (indeed a whole chest!) of principles, methods, techniques, tools, analogs, experiences, etc. that help you understand, take action on, and assess T&P issues
- **How you structure your tools for analysis depends on your objective:**
  - Understanding
  - Acting
  - Reflecting and Assessing



# “Drawers” in your tool chest for technology and policy analysis



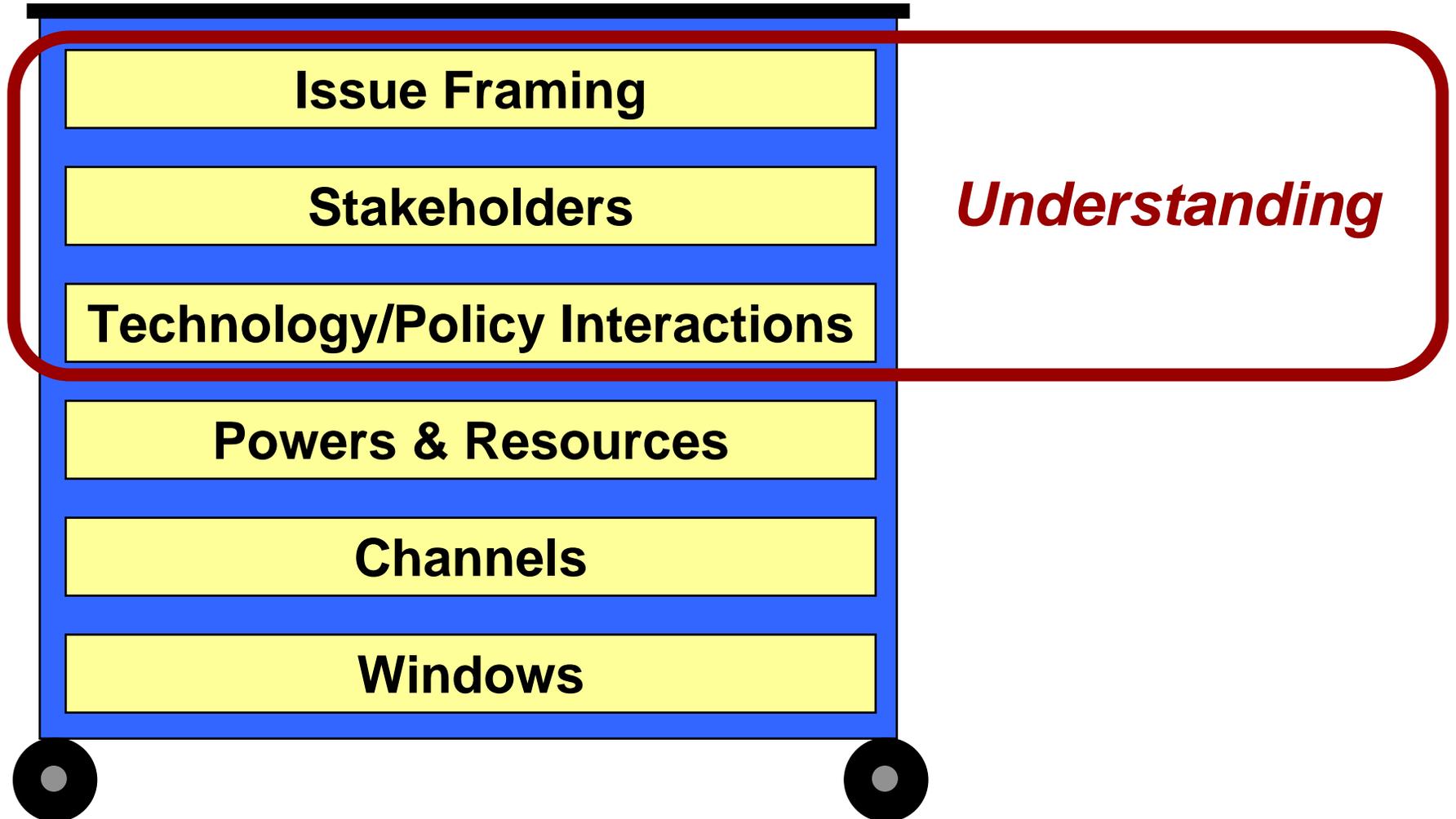


# “Drawers” in your tool chest for technology and policy analysis



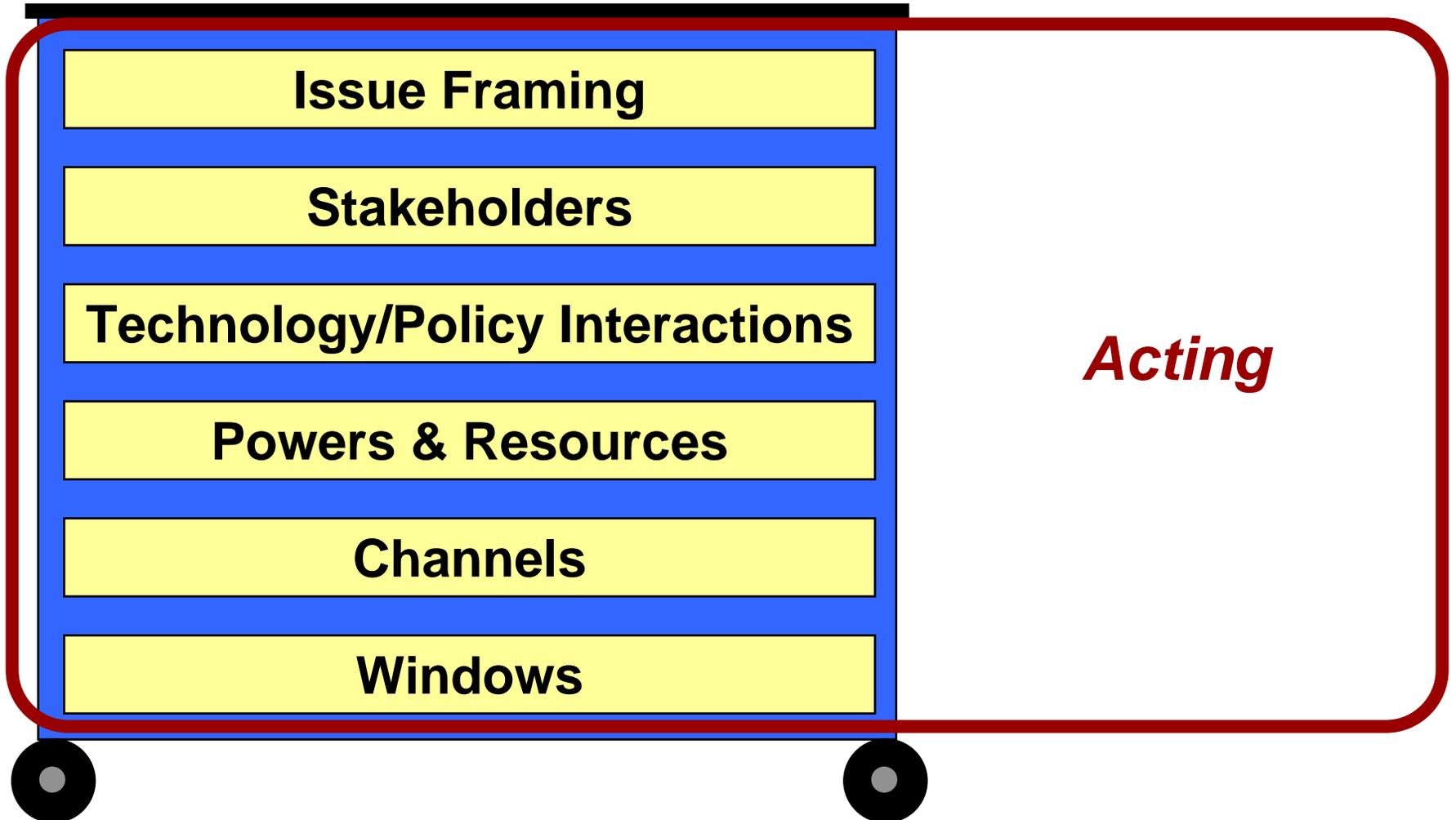


# “Drawers” in your tool chest for technology and policy analysis



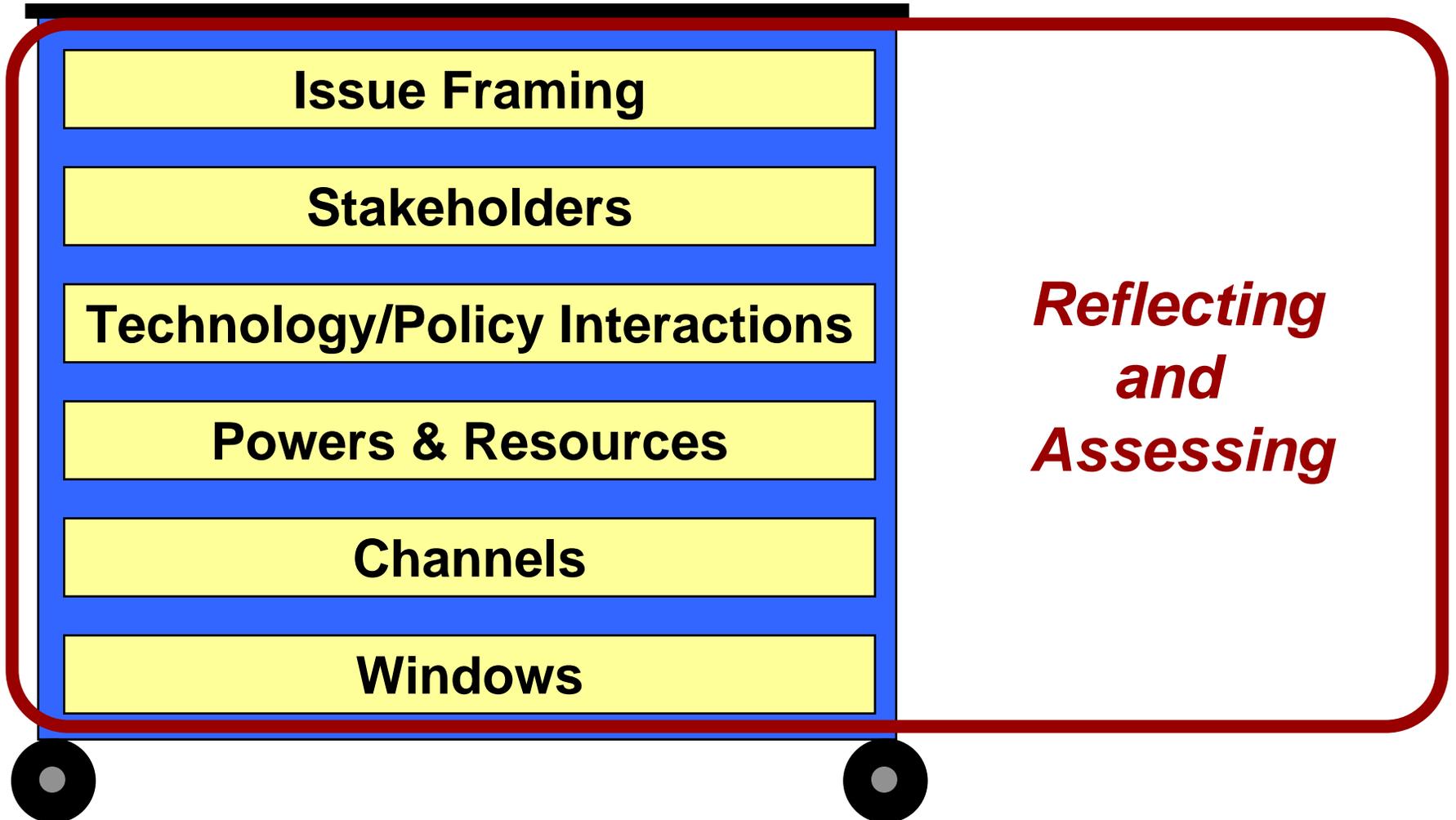


# “Drawers” in your tool chest for technology and policy analysis



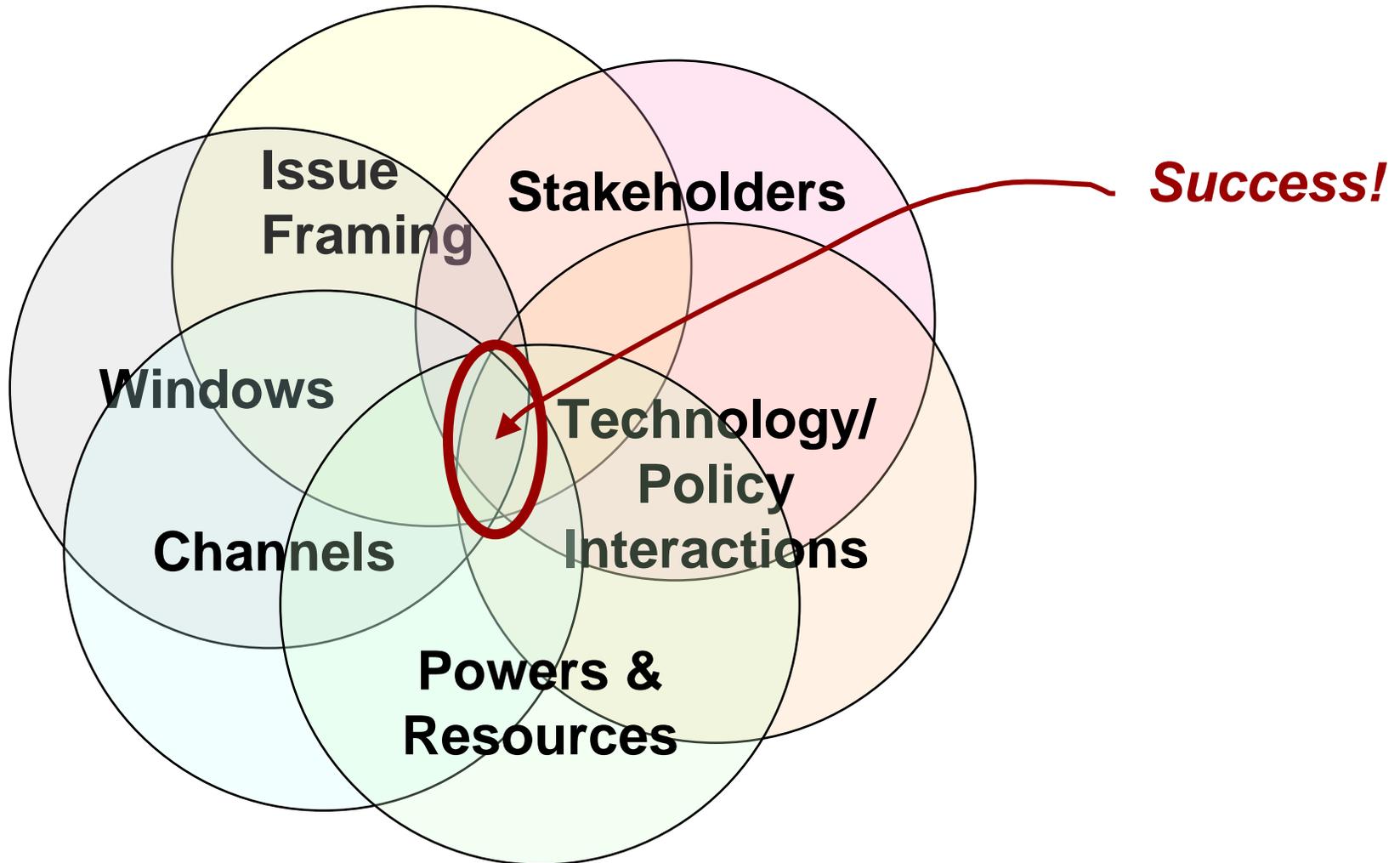


# “Drawers” in your tool chest for technology and policy analysis





# Achieving success in implementing policy involving technology





# Agenda

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- **Review technology and policy analysis tools**
- **Examine technology and policy implementation**
- **Discuss technology and policy assessment**



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# **Tools in the Technology and Policy Analysis Tool Chest**



# Issue framing

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- **What fundamental goals are in play?**
- **What are the bounds of the issue?**
- **How is the issue cast?**
  - **Economic (cost-benefit), safety (risk-benefit), interests (sides), control, conspiracy, victimization, causes**
  
- **For discussion: Strengths? Cautions? Your reflection from the readings? Apply to your term project?**
- **Advice**
  - **Make use of Stone framework to gain new perspectives**



# Stakeholders

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- **Who cares about the issue? What are their motivations?**
- **What are their core beliefs and values?**
- **How are stakeholders arrayed on the issue?**
- **What coalitions exist?**
  
- **For discussion: Strengths? Cautions? Your reflection from the readings? Apply to your term project?**
- **Advice**
  - **Go out a few layers to gain perspective on vital, important, peripheral stakeholders**



# Technology and policy interactions

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- How does the technology constrain or enable policy?
- How does the policy constrain or enable technology?



- For discussion: Strengths? Cautions? Your reflection from the readings? Apply to your term project?
- Advice
  - Deep understanding of the technology
  - Separate function / process from form / object

- **What channels exist for taking action on the issue?**
  - Electoral, legislative, legal, administrative, media, grassroots...
- **What are the costs and benefits of using various channels, now and in the future?**
  
- **For discussion: Strengths? Cautions? Your reflection from the readings? Apply to your term project?**
- **Advice**
  - Consider the political capital required for different channels



## Powers and resources

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- **Who has formal and informal power to take action?**
- **Who has resources to put to the issue?**
- **Who can influence those that take action / have resources?**
- **How can people with power/resources/influence be mobilized?**
  
- **For discussion: Strengths? Cautions? Your reflection from the readings? Apply to your term project?**
- **Advice**
  - **Powers, resources and channels are very often intertwined**

- **Which focusing events could be imagined that would put the issue on the agenda?**
- **Are there institutional routines for moving the issue?**
  
- **For discussion: Strengths? Cautions? Your reflection from the readings? Apply to your term project?**
- **Advice**
  - **Understand the seasonal and life cyclicity of stakeholders and organizations**

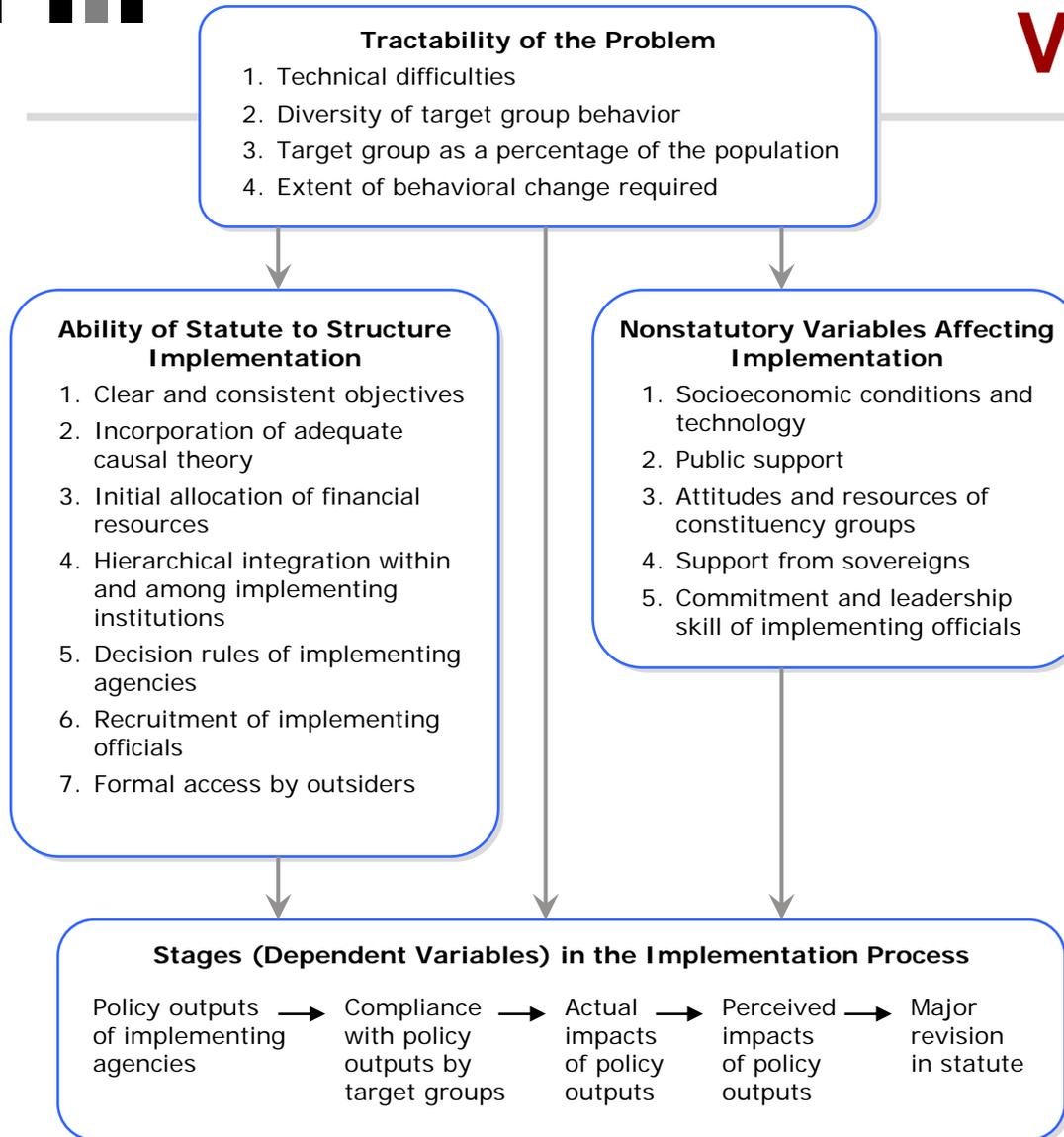


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# Implementing Technology and Policy



# Implementation Variables & Stages



- What are your impressions of implementation?

Figure by MIT OCW.



# The policy lifecycle view

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- **Consider creating policy in a lifecycle context, like designing a product**
  - Remember “Design for manufacturability, producibility, operability”?
  - Conceive, Design, Implement, Operate, and incorporate learning into the next iteration
  - Enter each phase of the policy lifecycle with a view towards upstream and downstream influences
  - What is the equivalent of “disposal” or “retirement” in the policy lifecycle?



# Characteristics of effective policy implementation

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- **What makes for effective policy implementation?**



## Effective implementation (1/2)

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1. **Policy mandates clear and consistent objectives**
2. **Policy based on sound theory of causal linkages, gives officials sufficient jurisdiction and points of leverage to attain goals**
3. **Policy structures implementation process effectively; right agencies, integration, decision rules, dollars, support**



## Effective implementation (2/2)

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4. **Leaders of implementing agencies possess managerial and political skill and are committed to policy's goals**
5. **Policy is actively supported by constituency groups and leaders**
6. **Policy objective not undermined over time by changing conditions**



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# Assessing Technology and Policy



# Policy assessment

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- **What questions should you ask yourself in assessing a policy in retrospect?**



# Assessment and Reflection

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- **How well did the policy achieve its goal?**
- **What were unintended consequences?**
- **What went well or poorly in the conception, design, implementation?**
- **What were unanticipated complications?**
- **“What if...” we used a different framing, considered different stakeholders, called on different powers, mobilized other constituencies, found different windows of opportunity, etc.**