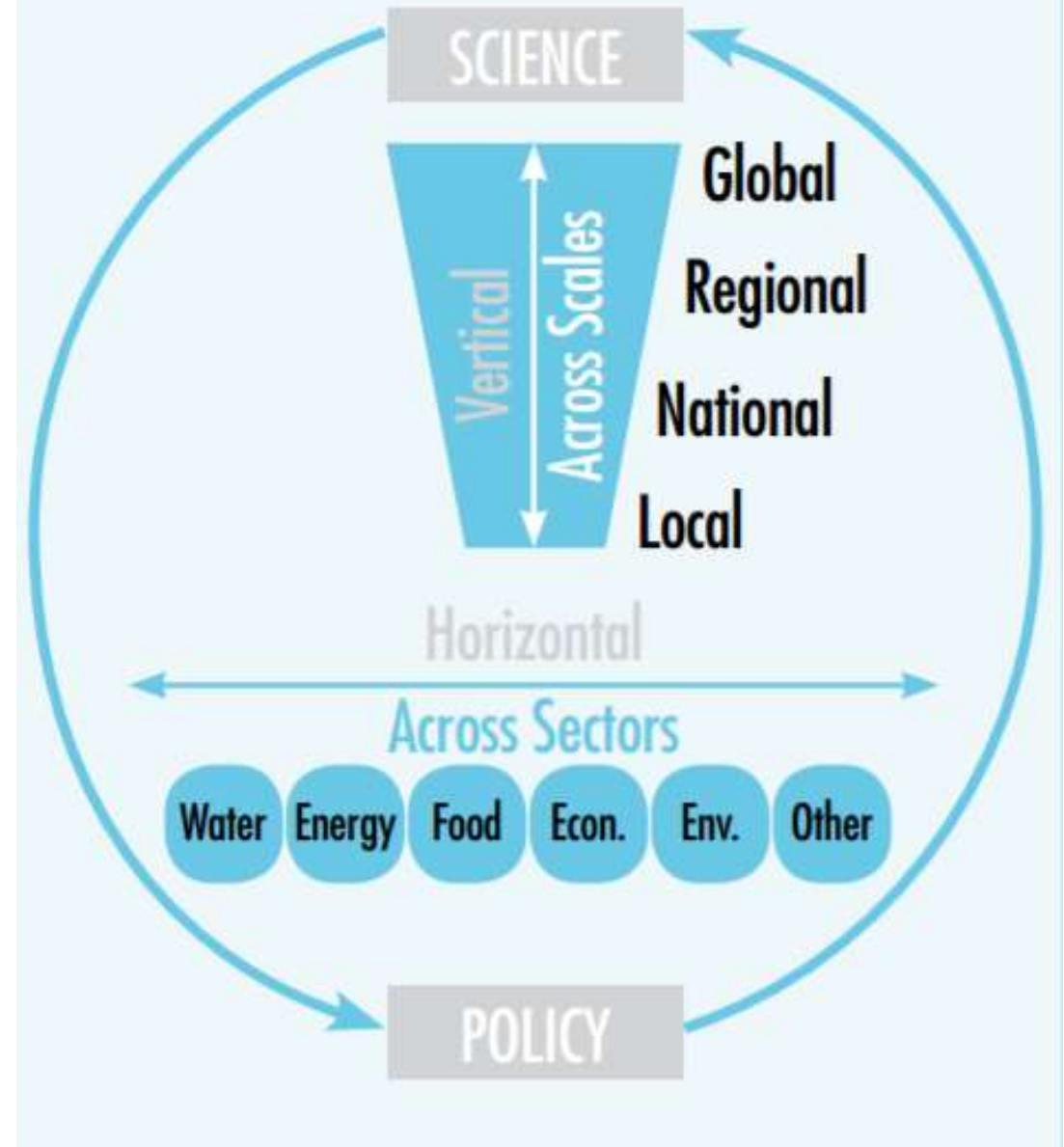




# Understanding the Science-Policy Gap: A Formal Principal-Agent Delegation Model

Bassel Daher  
Austin Mitchell

- Challenges in communication across disciplines interconnected with water **within the scientific sphere**
- Challenges in effective communication mechanisms **between policy and scientific spheres**
- Disconnect caused by **difference in timeframes, agendas and priorities** of science and policy spheres → leading to **delay in science-policy response and feedback**

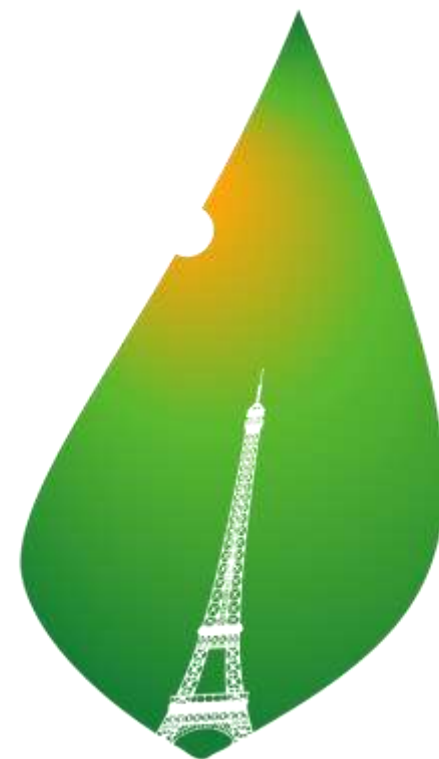


Daher, B., WEF Nexus Research Group (2017). **IWRA Sustainability in the Water-Energy-Food Nexus: Bridging Science and Policy Making.** *Policy Briefing Water International*, 6

Nations Unies  
Conférence sur les Changements Climatiques 2015

COP21/CMP11

Paris France

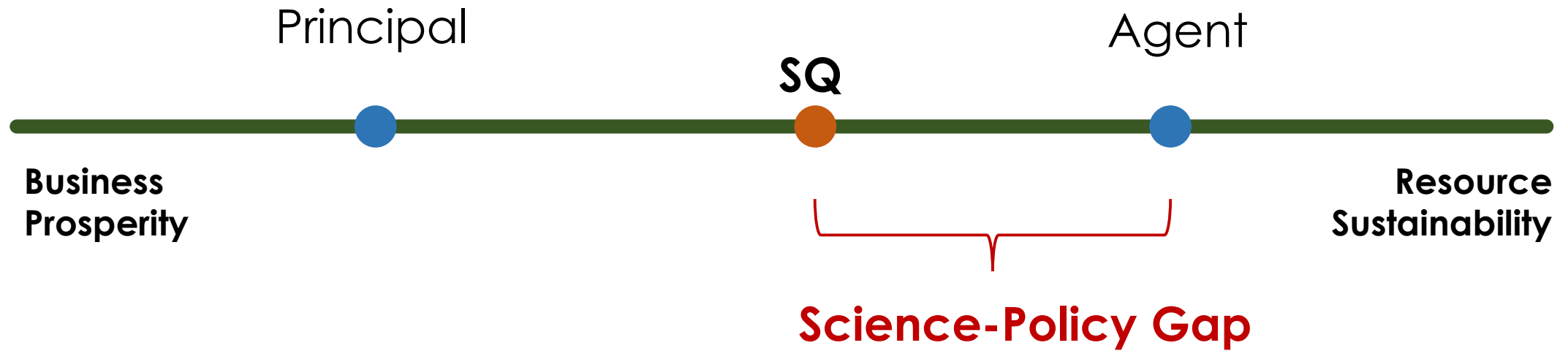


PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21·CMP11

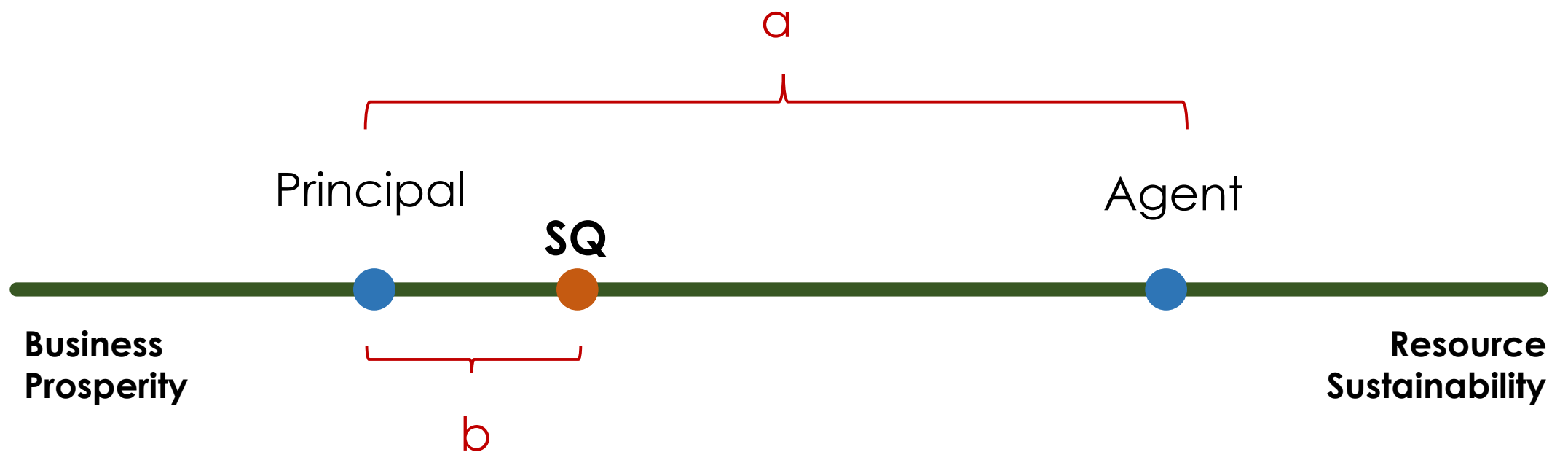
## Study Aim

- What role do **different players' value systems** have in determining **delegation outcomes**?
- What role do **external shocks** play?
- How do both affect on the **science-policy gap**?

# S-P Delegation Model



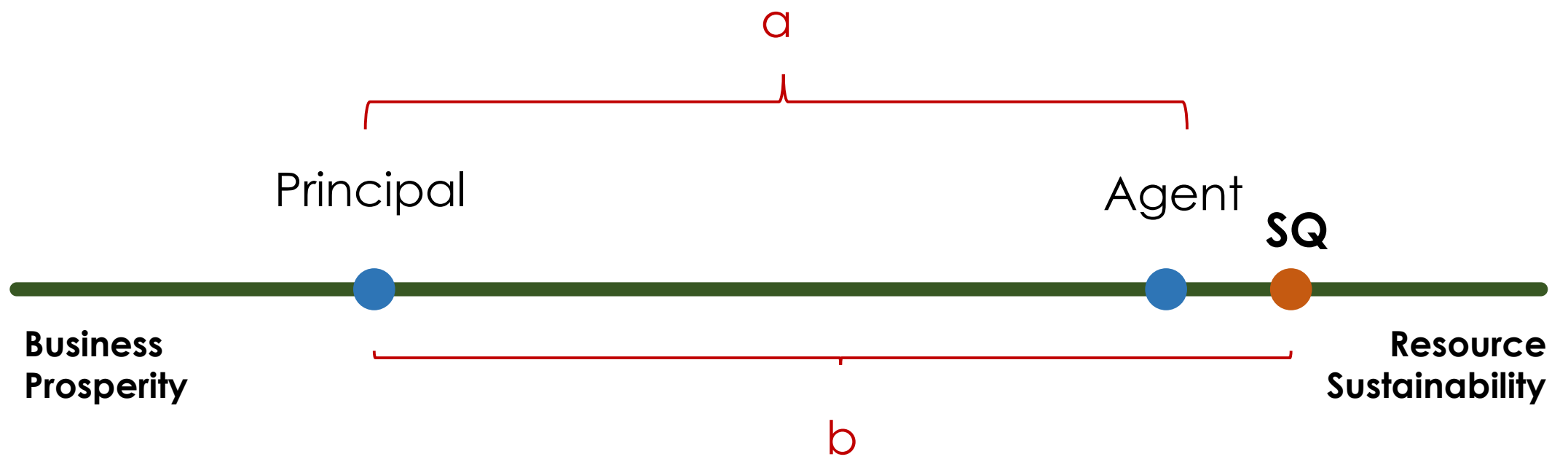
# S-P Delegation Model



$$a > b$$

No Delegation

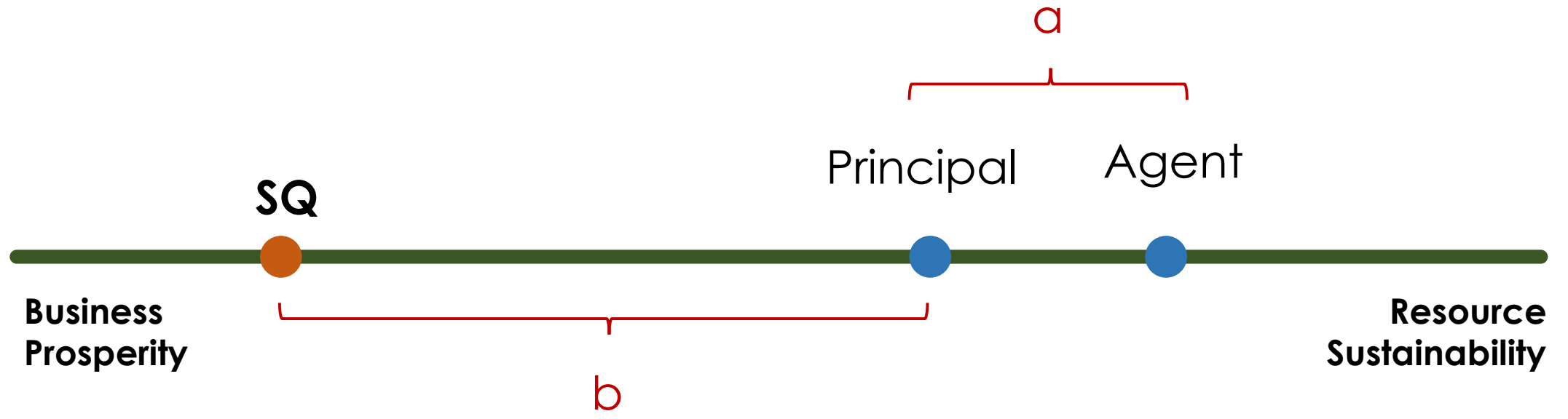
# S-P Delegation Model



$$a < b$$

Delegation Occurs  
(business promotion)

# S-P Delegation Model

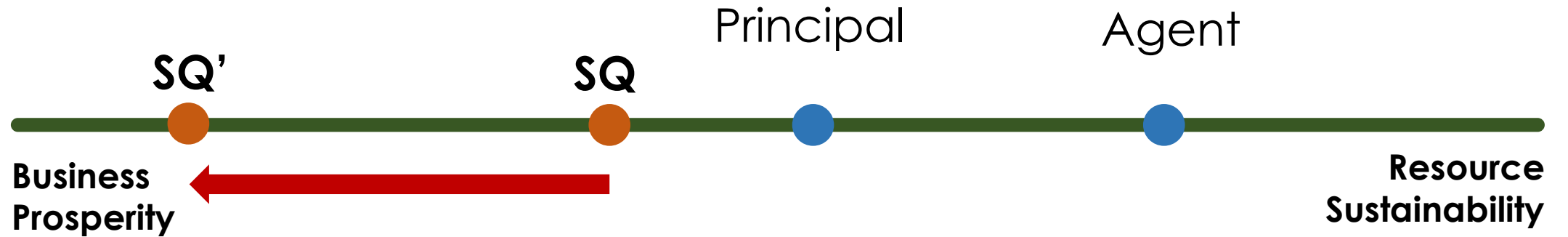


$$a < b$$

Delegation Occurs  
(business regulation)



# Resource Shock



**theguardian**

home > world > UK > europe > americas > asia > middle east > africa > australia > cities > development

**World news** Australia suffers worst drought in 1,000 years

"My government will do everything in its power to help Australia meet its Kyoto Protocol obligations", [Rudd promised](#) in December 2007.

**Delegation** (business regulation)

# Technology Shock



Delegation  
(business promotion)

# Political Shock



Politics on NBC NEWS.com

the WHITE HOUSE PRESIDENT BARACK OBAMA

BRIEFING ROOM ISSUES THE ADMINISTRATION 1600 PENN

Bus hur President c

HOME · BLO

Presid Paris

SEPTEMBER 3,

THE HILL

## Trump still deciding on Paris climate agreement

BY TIMOTHY CAMA - 05/24/17 02:17 PM EDT

67 COMMENTS

13 SHARES

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# Closing Remarks

- **Gap could be structural** (difference in preferences) and not reconcilable only by communication
- **Gap could close** if **SQ shifts** (as a result of technology or resource shock) or the **values of the players change**
- **Technology/Resource shocks** could reduce the need for regulation thereby improving on the S-P gap without the need for legislative intervention
- **Gap among scientists**

Thank You