

Geo-sequestration in US: Environmental and Legal Implications.

Paper Presentation for the
Environmental Law for New Technologies Course
by

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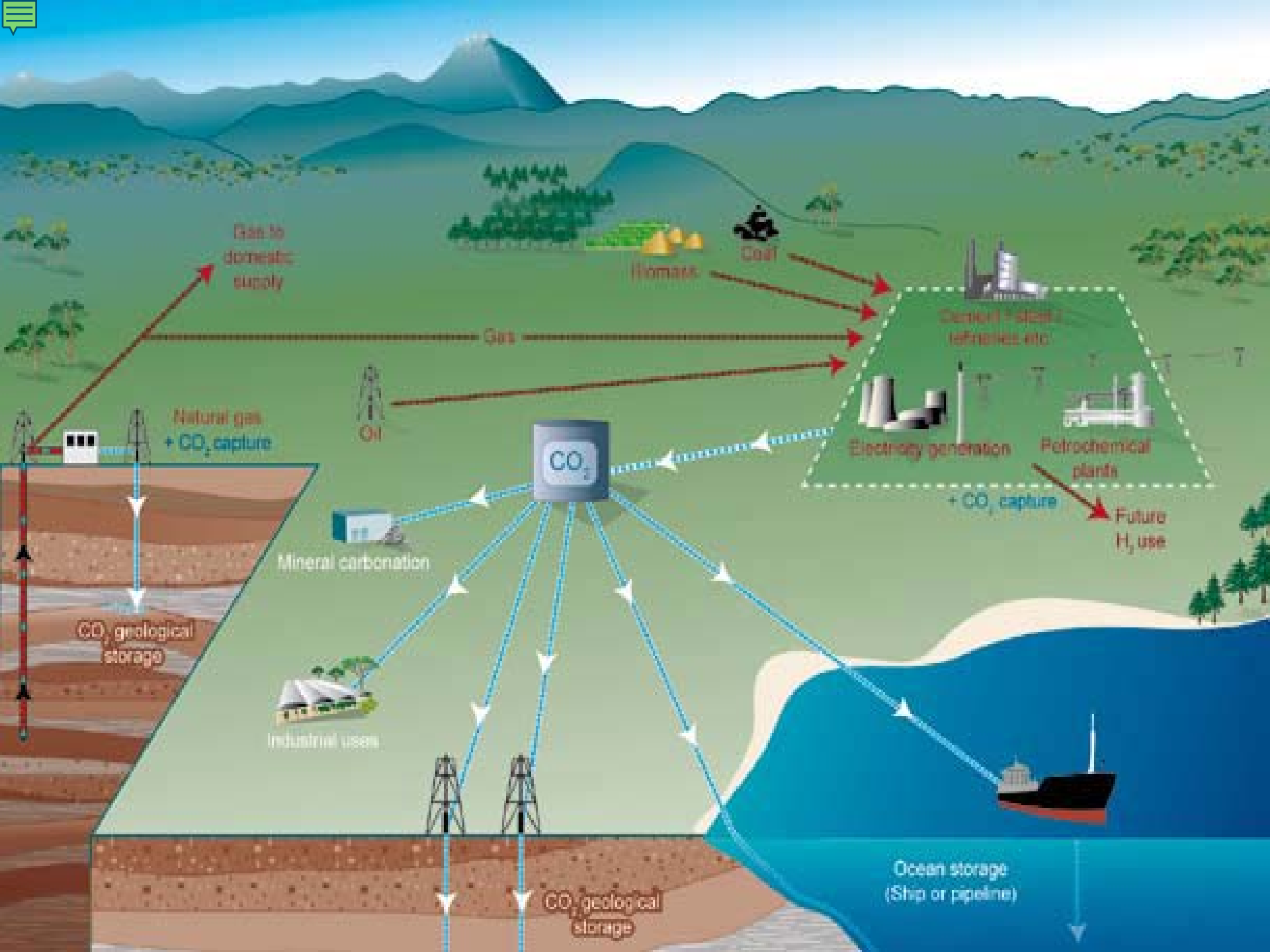
INTRODUCTION

- **BACKGROUND**
 - Climate Change
 - What causes it?
 - Mitigating Measures

INTRODUCTION

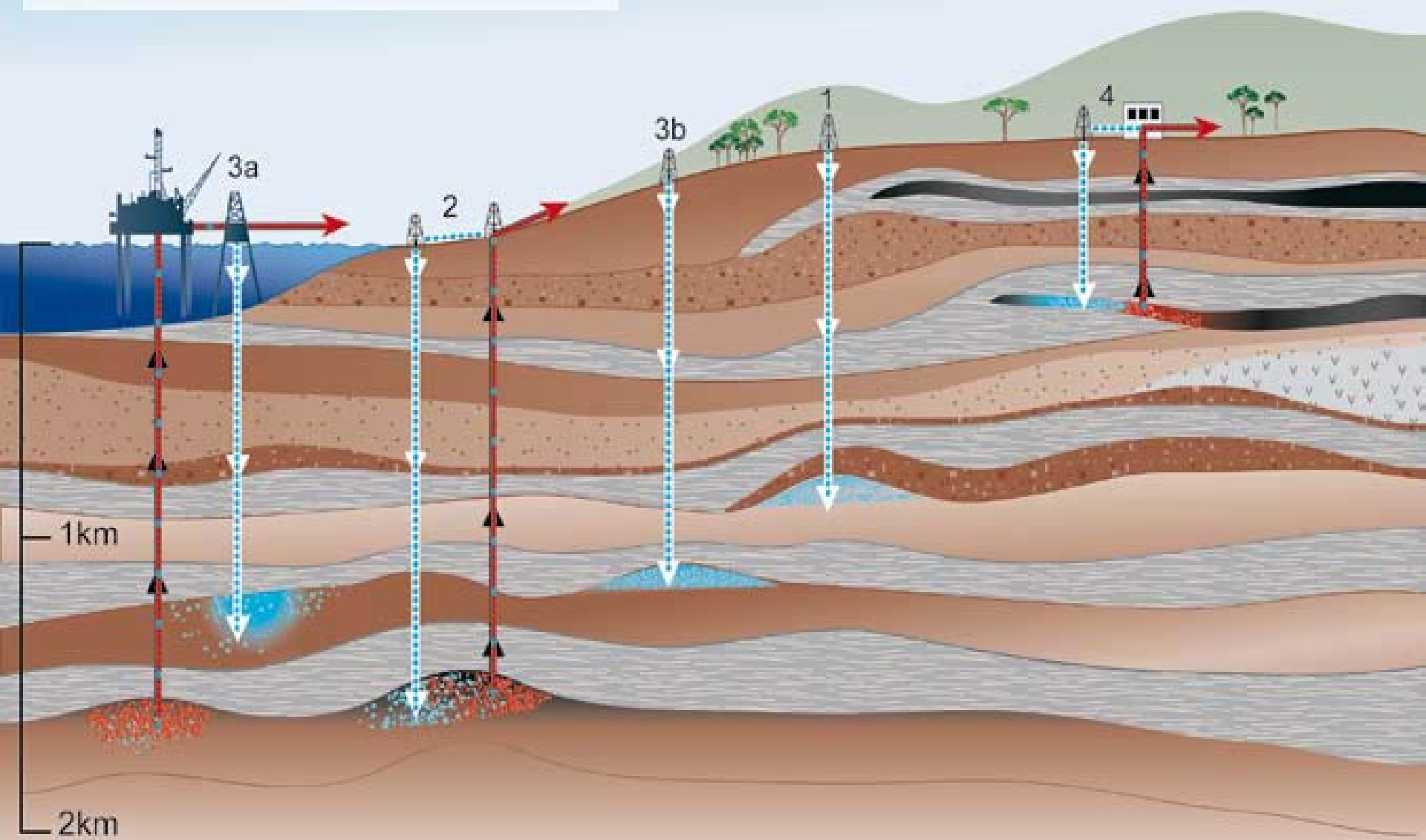
- **BACKGROUND**

- Carbon dioxide capture and sequestration (CCS)?
- Why the need for CCS?
- CCS storage options
- Geo-sequestration/geological storage and types of geological formations
- Existing examples of geo-sequestration projects?

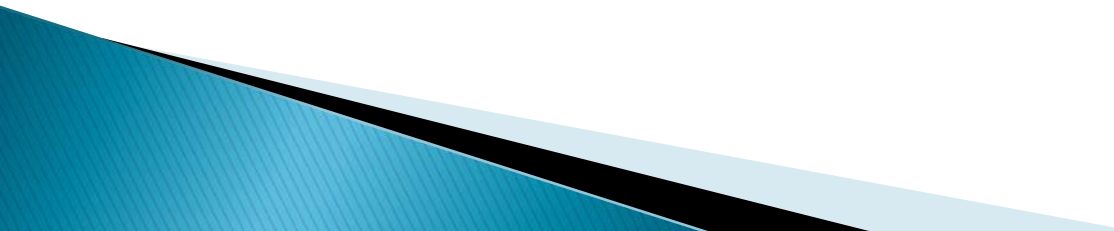


Overview of Geological Storage Options

- 1 Depleted oil and gas reservoirs
- 2 Use of CO₂ in enhanced oil and gas recovery
- 3 Deep saline formations — (a) offshore (b) onshore
- 4 Use of CO₂ in enhanced coal bed methane recovery




Introduction

- Background
 - Existing examples of geo-sequestration projects?
 - The Sleipner project in Norway is the first large scale commercial application of CO₂ storage in a deep saline aquifer in the world. (since 1996 by Statoil).
 - The Weyburn Project in south-central Canada uses CO₂ produced from a coal gasification plant in North Dakota for EOR(since 2000).
 - The In Salah Project in Algeria is the world's first large-scale effort to store CO₂ in a natural gas reservoir (since 2004).
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REGULATORY FRAMEWORK

- **International Regulatory Framework**

These are mainly in respect of offshore geo-sequestration.

- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Convention)
 - United Nations Convention on the Law of the Sea 1982 (UNCLOS)
 - United Nations Framework Convention on Climate Change 1992 (UNFCCC) and the Protocol to the UNFCCC 1997 (Kyoto Protocol).
 - Protocol to the London Convention 1996 (London Protocol), which entered into force on 24 March 2006, and
 - The Convention for the Protection of the Marine Environment of the North-East Atlantic 1992 (OSPAR or Oslo-Paris Convention)
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Federal Regulation in US

- Clean Air Act
- Clean Water Act
- Safe Drinking Water Act

State Regulation

- ▶ Objectives of the state regulations
- ▶ Texas & Wyoming

ENVIRONMENTAL AND LEGAL IMPLICATIONS

- ▶ **CAPTURING OF CO₂**
- ▶ **TRANSPORTATION OF CO₂**

INJECTION AND STORAGE

▶ ENVIRONMENTAL AND LEGAL ISSUES

- Property Rights – Ownership of pore space
 - Federal position
 - State position (Texas)
- Long-term Liability

RECOMMENDATIONS and CONCLUSION

- ▶ Thank you very much for your attention