

# Mineral Policy in the Era of Sustainable Development: historical context and future content

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# Presentation

- Introduction
- Historical Context
- Mineral Policy
- Sustainability and Minerals
- Sustainability Policy
- Conclusions

# Introduction

The purpose of public policy is to direct or control actions by governmental bodies and the public so as to achieve desired ends.

Which goals are pursued depends on the values and interests of the people creating the policy

Over time power devolves from absolute rulers to elites to (more or less) democratic governments, to the public.

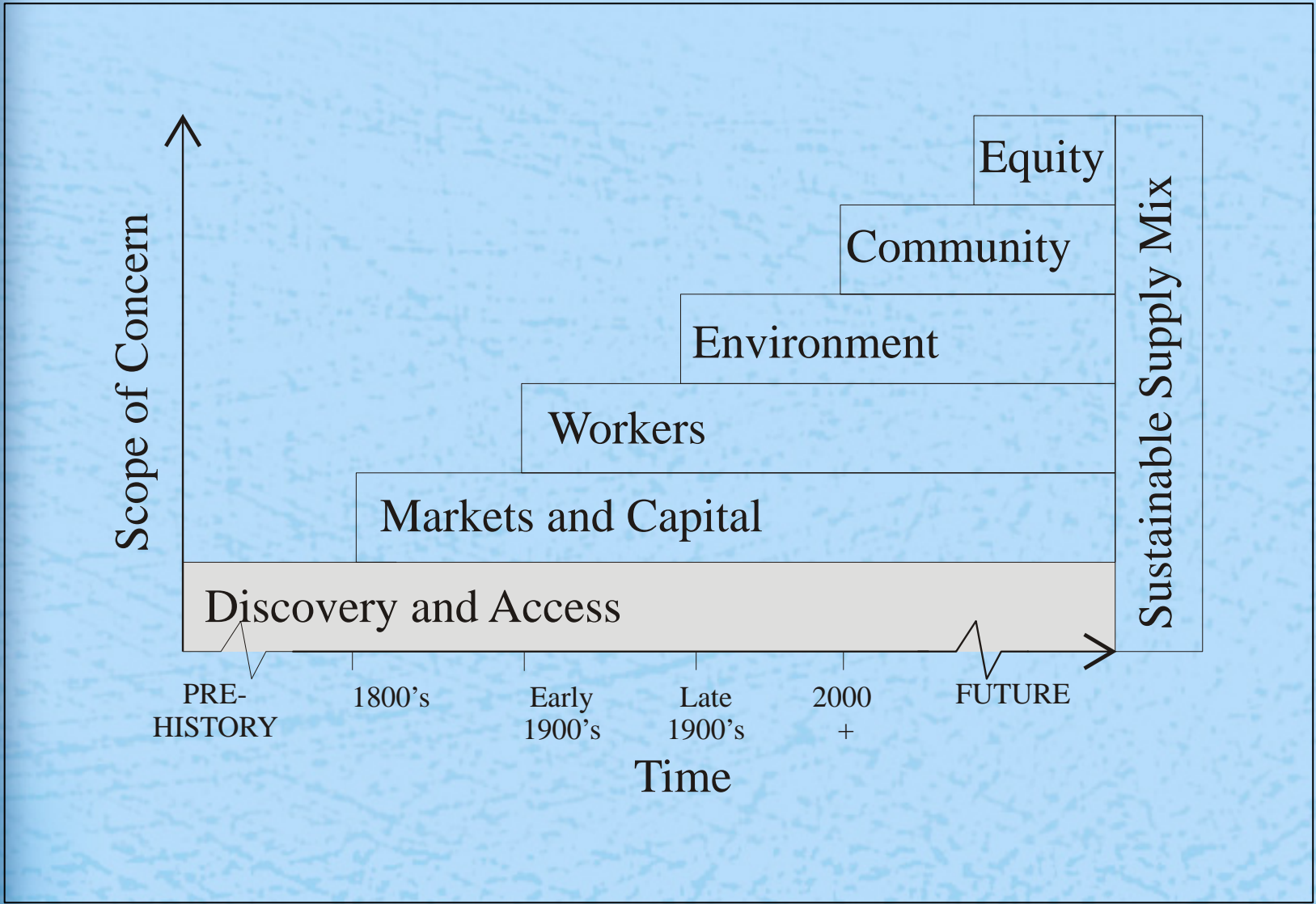


# Changing Thinking About Mineral Supply


The thinking about mineral supply, and about the relationship between the government, the economy, workers, the environment, and society at large, has changed over the past 200 years.

# Changing Thinking About Mineral Supply

- Pre-industrial era – access to resources;
- The Industrial Revolution – capitalists, industry, and economic markets;
- Late industrial age – workers;
- Post industrial age - environment;
- End of the millennium – social impacts and preferences; and
- The twenty first century – intra- and intergenerational equity.



Expansion of Issues of Concern



New ideas do not automatically or immediately translate into new policies. Policy lags public opinion and preferences.

# Mineral Policy

There is broad consensus that mineral policies should address:

- Sovereignty
- Economics
- Legislative framework
- Regulatory agencies




# Mineral Policy

The goal is to create an enabling economic environment that:

- Aligns investments with comparative advantage
- Sets tax regimes that capture economic rent
- Provides regulatory certainty
- Allocates property rights, and
- Ensures mineral supply adequate to support economy and defense of the nation.

# The Ascendance of Neoclassical Economics


During the 1950's, 1960's and 1970's mineral policies were marked by government intervention in administrative procedures, taxation, land and resource use restrictions, nationalization, joint ventures, state own companies, high tax rates, import/export control, and in some cases even nationalization.



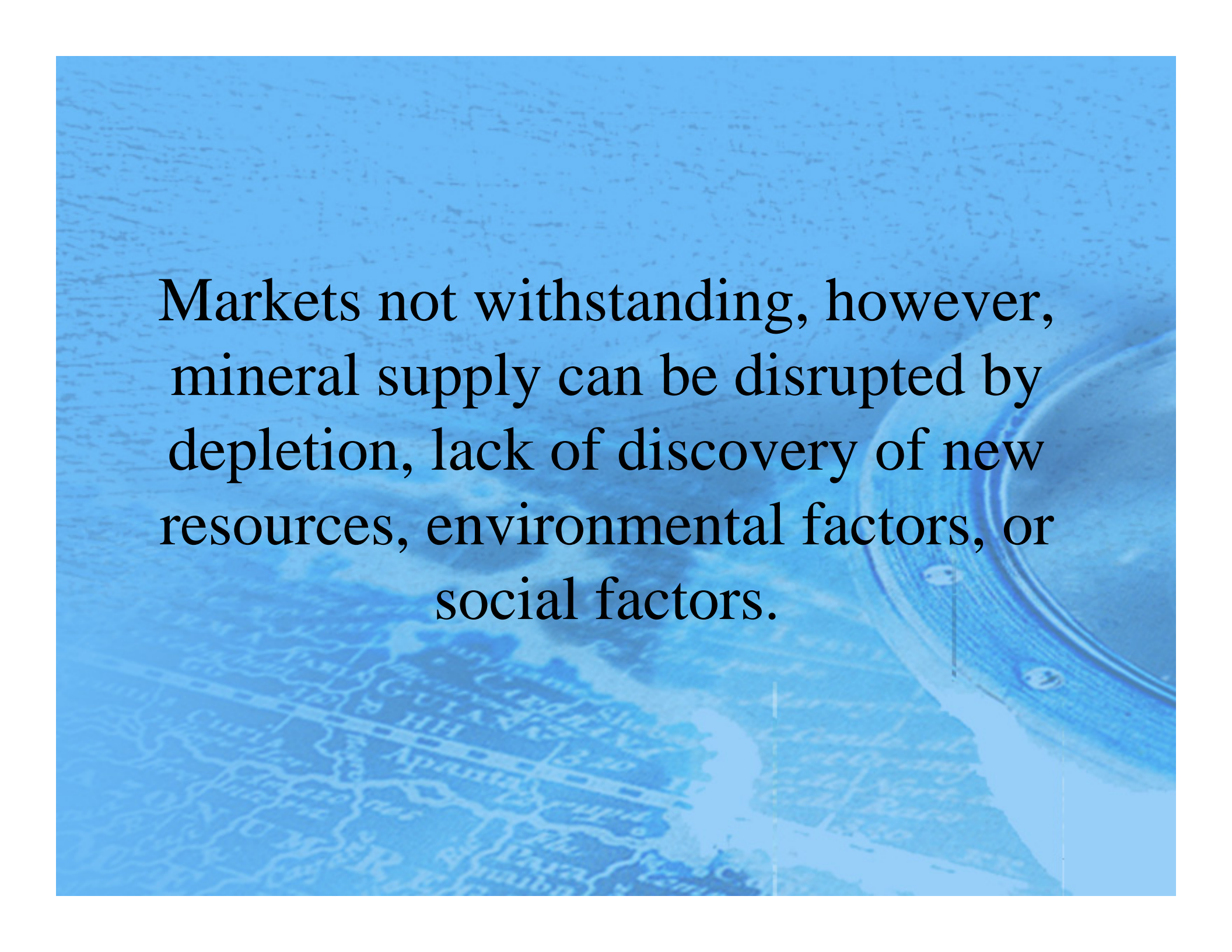
By the 1980's it was clear that these policies were not leading to desired outcomes. Through the 1990's over 100 countries restructured their mining laws. Neoclassical economic theory informed many of these reforms.

# Four Propositions of Neoclassical Economic Theory:

1. Rational pursuit of self-interest by individuals and firms in competitive markets leads to equilibrium outcomes that efficiently allocate scarce resources and maximize economic output.
2. Economic growth is a natural and harmonious process made possible by operation of free and competitive markets.
3. Pace of growth is greatly enhanced by unrestricted international trade and factor flows consistent with prevailing measures of comparative advantage.
4. Governmental interference with market processes reduces or impedes growth and leads to increased social, political and economic conflict.

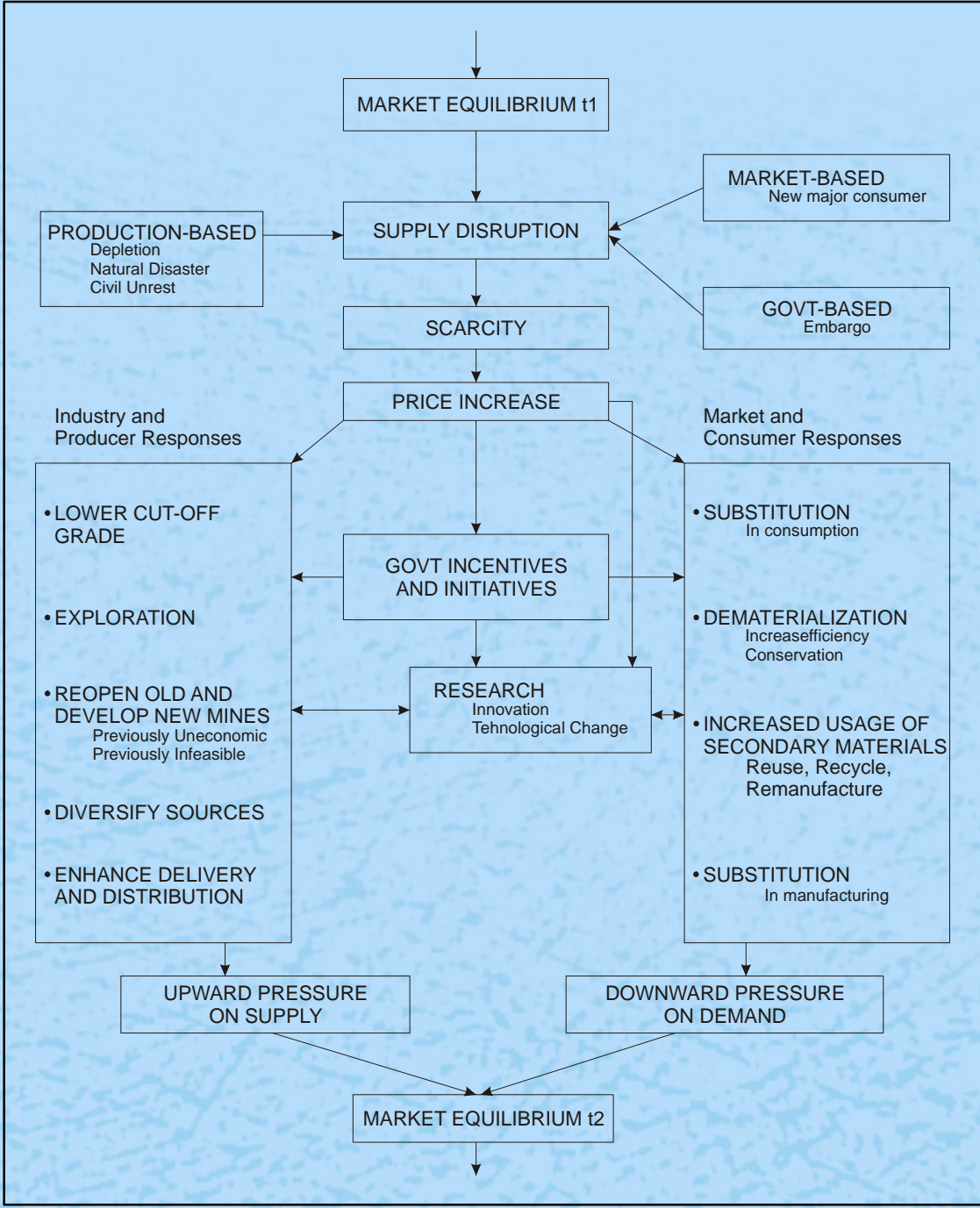


According to neoclassical economic theory well-functioning, competitive, and efficient mineral markets are in the interests of both mineral producing and consuming nations.



Markets notwithstanding, however, mineral supply can be disrupted by depletion, lack of discovery of new resources, environmental factors, or social factors.

# Mineral Market Flow



# Policy Responses To Scarcity

- Increase access to domestic resources
- Provide incentives to
  - Explore
  - Conserve
  - Reuse and recycle
- Subsidize research
- Encourage substitution

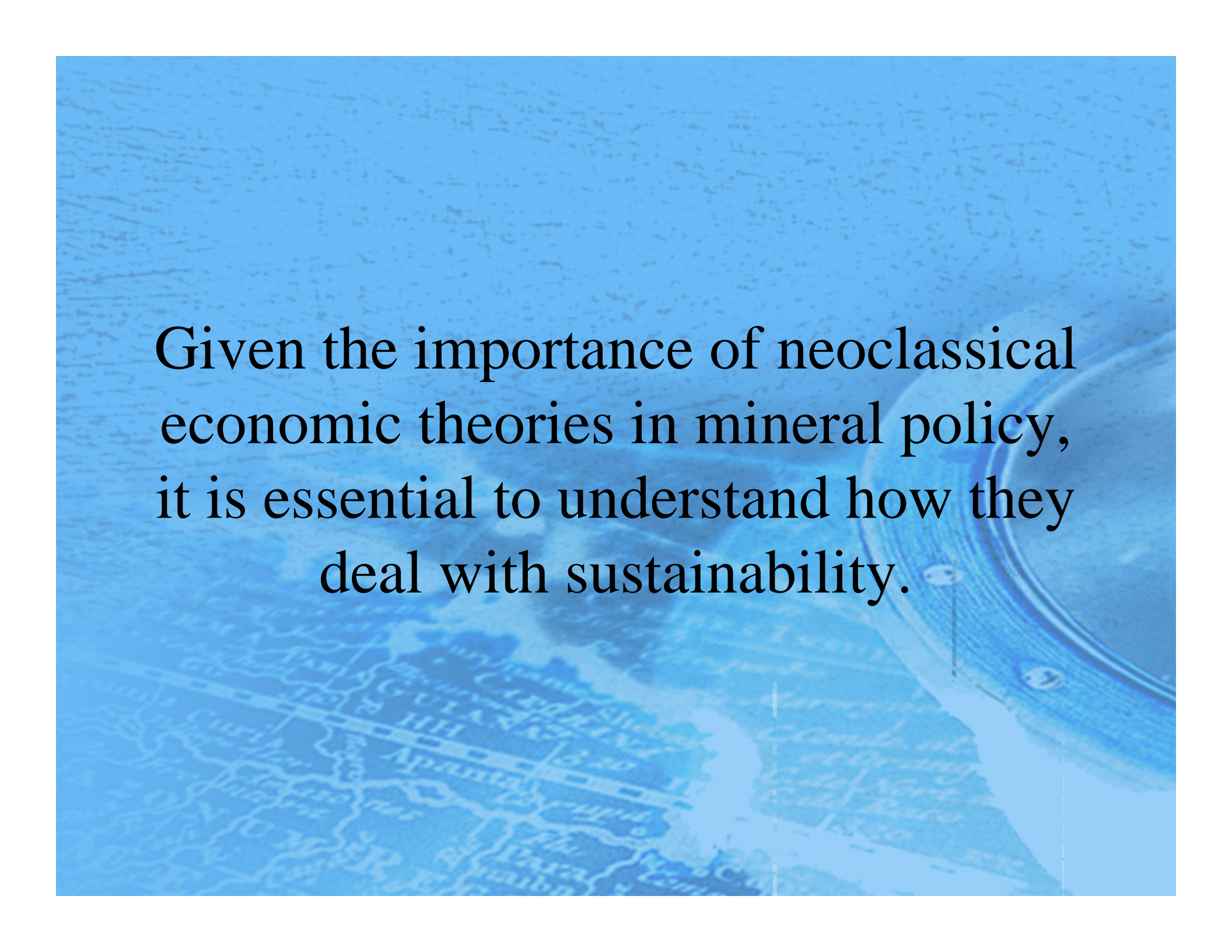


# Sustainability And Minerals


- It is based on a comprehensive and inclusive, i.e., post-modern, view of systems as open, dynamic, and integrated. The interconnectedness of social, economic and environmental systems is explicitly recognized.
- The overarching goals of sustainability, i.e., economic prosperity, environmental health and intra- and intergenerational equity are widely accepted.

# Sustainability And Minerals

- Non-renewable resources – depletion ?
- Mining does impact the environment.
- Minerals create wealth.
- Minerals are essential to all societies.

The background is a blue-tinted image. On the left, there is a topographic map showing contour lines and some text, possibly in Cyrillic. On the right, there is a magnifying glass with a wooden handle and a metal rim, focusing on a small area of the map. The overall theme is exploration and analysis.

Given the importance of neoclassical economic theories in mineral policy, it is essential to understand how they deal with sustainability.




There are several underlying issues that separate the neoclassical approach to extractive resource exploitation from the sustainability approach. Chief among these are their positions on intergenerational equity and capital substitutability.

# Intergenerational Equity

- The neoclassical approach to non-renewable resource extraction is that the optimal extraction rate is best determined by maximizing the net present value (NPV) of the resource over a given time period.
- Ecological economists believe that a discount rate above 0 produces an inequity between generations and is therefore inherently unfair.

# Capital Substitutability

- Weak Sustainability
  - Non-renewable resources will never be completely exhausted; they will simply be replaced by other goods as the resource price becomes prohibitive.
- Strong Sustainability
  - Different types of capital are seen as complements to each other, not replacements for each other, and as such the exhaustion of any resource presupposes limits on society in general.



The purpose of sustainability policy is to codify the principles and goals of sustainability in a manner consistent with the social structure and desires of the nation with the objective ensuring a sustainable future.

# Current Mineral Policies

Address:

- Land ownership
- Access
- Taxation
- Trade
- Employment
- Reclamation
- Etc.



# Sustainability–Based Mineral Policy

- Facilitate the transformation of natural mineral capital into built physical, economic, environmental or social capital of equal or greater value;
- Ensure that environmental and social impacts of mining are minimized and their costs incorporated into production functions;
- Require transparency and information sharing;
- Require fair benefit/risk allocations; and
- Coordinate with other policies.

# Minerals in the Context of Progress Towards Sustainability:

- Socio-ecological integrity;
- Livelihood sufficiency and opportunity;
- Intra- and inter-generational equity;
- Resource maintenance and efficiency;
- Socio-ecological civility and democratic governance;
- Precaution and adaptation; and
- Immediate and long term integration.

## **Conclusion ...**

The issues addressed in current mineral policies are important and cannot be ignored; however, progress towards sustainability will necessitate that the scope of mineral policy be broadened to incorporate such topics as the social impacts of mining, transparency, and equity. Exclusive reliance on the neoclassical economic paradigm may hinder achievement of this goal.