

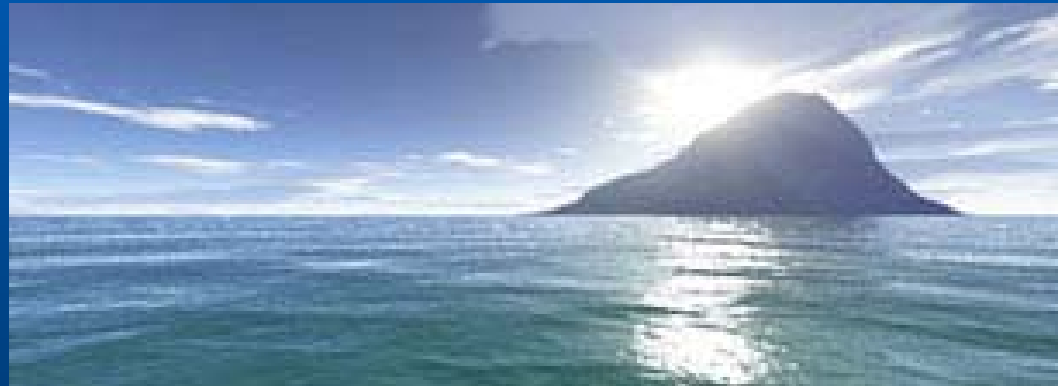
# Geo-Caraibes Geothermal Development Project

## Overview of Legal Issues

A. John Armstrong • OAS Legal/Policy Team

# I. Project Goals

- **Create conditions for commercially viable geothermal power plants**
  - Develop *regional* legal regime
  - Tailor regional regime to individual countries of Dominica, St. Lucia & St. Kitts and Nevis
  - Adjust for Martinique & Guadeloupe





## II. Geothermal Legal Regime

- **What are the elements of a geothermal legal regime?**
  - **A. Manage resource**
  - **B. Promote development**
  - **C. Provide for power sales/purchase**
  - **D. Ensure transmission**
  - **E. Ensure environmental integrity**
  - **F. Benefit the public welfare**

## II. Geothermal Legal Regime

### A. Resource Management

- **What is definition of geothermal resource?**
- **Who owns the resource?**
- **How does the legal regime conform to real world?**

## •II. Geothermal Legal Regime

### A. Resource Management

# What are “geothermal resources”?

- **Defined by use**
  - Generating electrical energy
  - Direct heating and recreational bathing
- **Defined by characteristics**
  - Must be used on-site
  - Base load
  - Substantial up front capital/multi-year amortization
- **Defined by precedent**
  - Water/mineral laws etc.
  - *Sui generis*

## •II. Geothermal Legal Regime

### A. **Resource Management**

# Who owns geothermal resources?

- **The State?**
- **People of the nation (held in trust by the State)?**
- **Private landowners?**

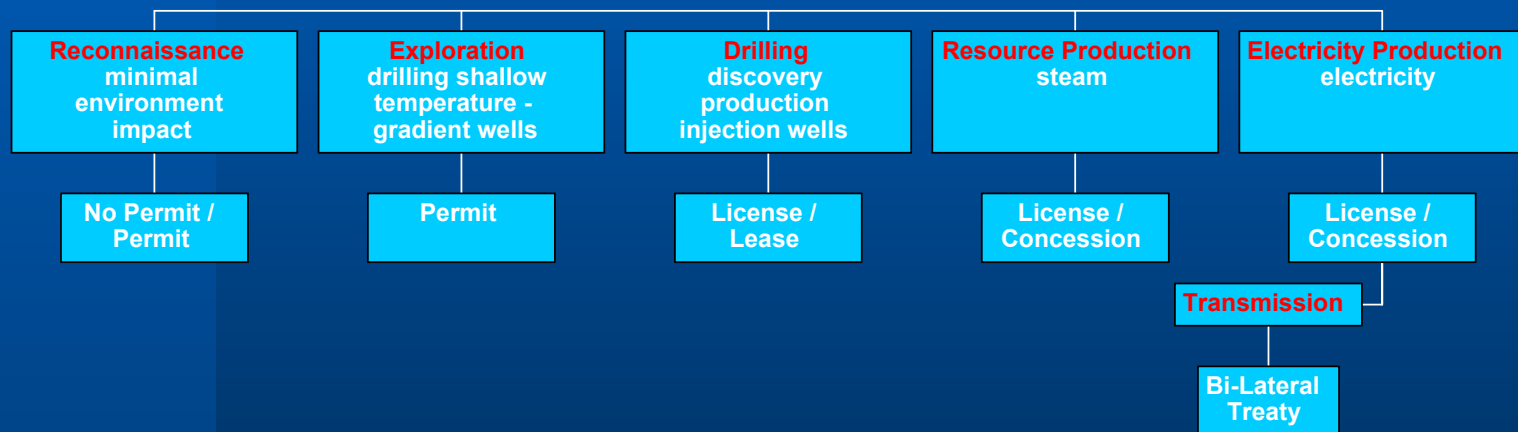


## II. Geothermal Legal Regime

### A. Resource Management

# How does the legal regime conform to the real world?

### Stages of Geothermal Power Production



## II. Geothermal Legal Regime

### A. Resource Management

# How is the real world administered under the law?

- **Permits**

- Limited term
- Use or lose
- Linked to Licenses
- Extendable

- **Licenses**

- Long term
- Use or lose
- Linked to Concessions
- Extendable

- **Concessions**

- Long term

## • II. Geothermal Legal Regime

### A. Resource Management

## Consider:

- **Geothermal resources have not been successfully developed...**
  - ...under existing water, hydrocarbon or mining laws.
  - ...nor under geothermal laws that are not development friendly.
- **Create a specific law dealing with the unique qualities of Geothermal Resources in a development climate.**

## •II. Geothermal Legal Regime

### B. Development Promotion

# What are the mechanisms for selecting commercial developers?

- **Negotiated Licenses**
  - Due-diligence essential
  - Useful in “high-risk” areas
- **Public bidding**
  - Pre-qualify financial and technical capabilities of developer
  - Best used with “known” resources
  - May eliminate competition from smaller / aggressive companies

## • II. Geothermal Legal Regime

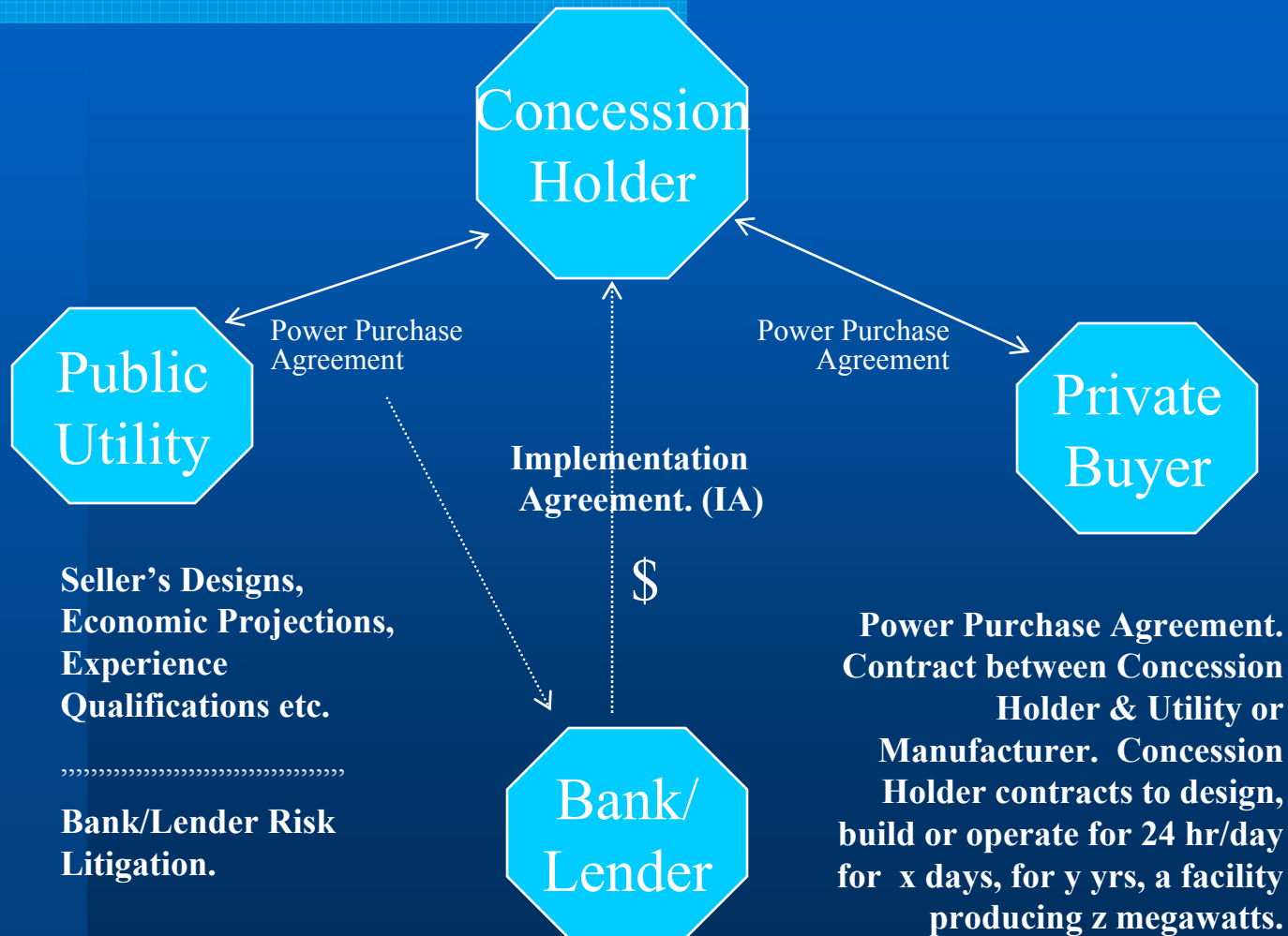
### B. Development Promotion

# What are the mechanisms for attracting commercial developers?

- Authority to generate electricity ( IPPs )
- Receptive Utilities
- Tax considerations in development stages
- Remittance of interest, principle & earnings
- Judicial stability (grandfather tax regime)
- Freedom from expropriation
- Subsidies?
- **Drilling Risk Fund**

## II. Geothermal Legal Regime

### C. Enabling Power Sales



## II. Geothermal Legal Regime

### C. Enabling Power Sales

# What are the major considerations in developing a geothermal PPA?

- **Projects are designed to run at a fixed output level around the clock**
- **PPA should contain:**
  - **substantial CAPACITY PAYMENTS**
  - **low ENERGY PAYMENTS**
  - **...reflecting typical project cost structure**
- **Base capacity testing provisions on adequacy & regularity of delivery during on-peak hours**
- **Limit dispatching provisions to requirement that unit go to maximum output in emergencies**

## II. Geothermal Legal Regime

### C. Enabling Power Sales

# Consider:

- **Streamlining and standardizing the legal and regulatory procedures for power purchase agreements between the utility and the private power producers to minimize costly delays and complications in contract negotiations**



## II. Geothermal Legal Regime

### D. Ensuring Transmission

# What are the transmission hurdles?

- **Timing: generation and transmission must be in sync**
- **Land transmission**
  - Transmission Line Agreement (TLA)
- **Undersea cables**
  - Bi-lateral international agreements
- **Point of measurement (Busbar?)**
- **Risk of line loss**

## II. Geothermal Legal Regime

### E. Ensuring Environmental Integrity

- **Balancing government regulation & self-regulation**
  - Identify the public interest that is being fostered or protected
  - Identify the mechanisms and tools that can accomplish this task with the least disruption to the market and the least cost to the public

## II. Geothermal Legal Regime:

### E. Ensuring Environmental Integrity

# Consider:

**When promoting geothermal development, small countries with limited resources should focus regulation on ...**

**... safety &**

**... environment &**

**... avoid micro-management.**

## II. Geothermal Legal Regime

### E. Ensuring Environmental Integrity

What are the **government-regulation** measures for safeguarding the environment?

- **Global / Local Environment**
  - Air Quality (emission law)
  - Pollution Inspections
- **Public Safety**
  - blowout prevention
  - Solid Waste Disposal (hazardous solids)
- **Public Welfare**
  - Injection (maximize recovery)
  - Abandonment

## II. Geothermal Legal Regime

### E. Ensuring Environmental Integrity

What are the **self-regulation** measures for safeguarding the environment?

- Aesthetics (visual impact)
- Land Use (least disturbance)
- Public Access (safety restrictions)
- Slope Stability (minimize erosion)
- Biota (protect fish, wildlife, habitat)
- Cultural Resources (archaeology/history)
- Pollution, Waste Disposal & Fire Prevention)

## II. Geothermal Legal Regime

### E. Benefiting the Public Welfare

- **Fees.** Balance fees charged to cover Government's cost in issuing permits, licenses, concessions, & regulating for the public welfare -- with enabling projects to succeed
- **Royalties.** Resources belonging to State should return their value to the State
- **Taxes.** Balance taxes owed by a corporate citizen receiving State services with appreciation of front-end nature of geothermal Resource development
- **Ownership.** Consider pros and cons of government / private partnership

# III. Resources Required

- Lawyers from each jurisdiction
- Primary Government contacts for policy decisions / timely responses / sponsor
- Contact:
  - A. John Armstrong
  - 1364 Beverly Road, Suite 300
  - McLean, Virginia 22101
  - [armstron@bellatlantic.net](mailto:armstron@bellatlantic.net) & [nan.armstrongpc@verizon.net](mailto:nan.armstrongpc@verizon.net)
  - Fax: 703 356 3150

# IV. Schedule

- **Milestones**

**Phase 1: Identify Issues**

**Phase 2: Draft Law**

**Phase 3: Draft Licenses**

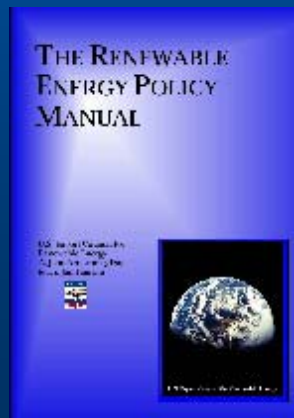
Jan Feb Mar Apr May Jun July Sep Oct Nov Dec





# V. Resources Available

- **The Renewable Energy Policy Manual**
- [http://www.oas.org/reia/english/Documents/RE\\_policy\\_manual.htm](http://www.oas.org/reia/english/Documents/RE_policy_manual.htm)



# V. Final Thoughts

- As each of you participate in developing the geothermal legal regime in your country, during each step of the process,
  - identify the developer's **need**,
  - the corresponding legal **right** required to fulfill that need, and
  - the accompanying legal **duty** to be imposed as a reciprocal responsibility.