



Energy Project Development Importance of Power Purchase Agreements

**Tribal Energy Peer Exchange
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Discussion Outline

- **Tribal Energy Project Development**
- **Typical Project Structures/Impacts on PPAs**
- **Project Development Process**
- **Role of Power Purchase Agreements**
- **Power Purchase Options**
- **Typical PPA Components**

Tribal Energy Project Development

- **Fort Mojave energy activities**
 - **Tribally-owned electric/gas distribution and transmission service**
 - **Host a 540 MW gas-fired generation facility (Calpine)**
 - **Planning a 100 MW solar generation project (Southwest Tribal Energy Consortium)**
- **Challenges**
 - **Gaining Tribal Council support**
 - **Working with existing utilities**
 - **Fighting for Tribe's legal right to provide service**
 - **Financing existing assets**
- **Advantages**
 - **Tax revenues to Tribe**
 - **Land/water payments plus penalties for overuse**
 - **Price escalation option/control over pricing**
 - **Ability to renegotiate**

Energy Project Development Options

Tribe as Landowner: 3rd Party Develops/Owns/Invests

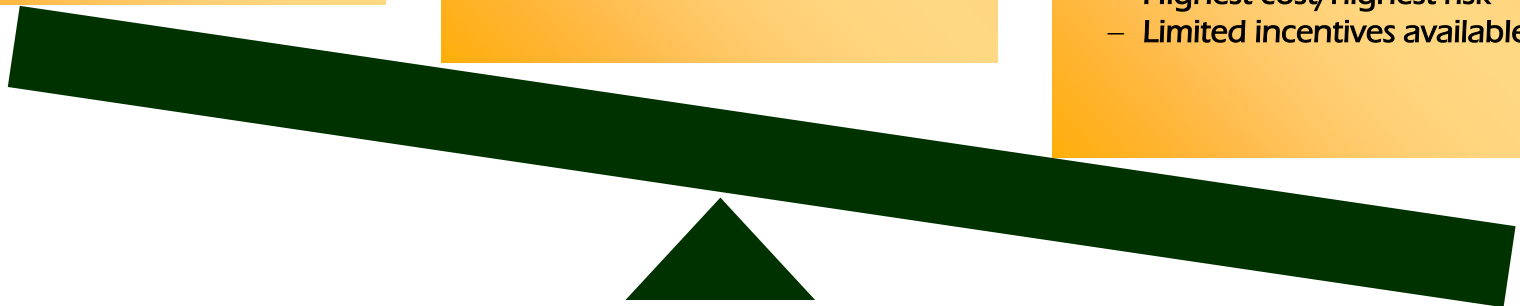
- Benefits to Tribe:
 - Least risk
 - Fixed annual payments
 - Federal tax benefits to project
 - Speed of development
 - Funding sources
- Considerations:
 - Limits revenues
 - Limits capacity building opportunity

Tribal Developer: 3rd Party Investor/Owner

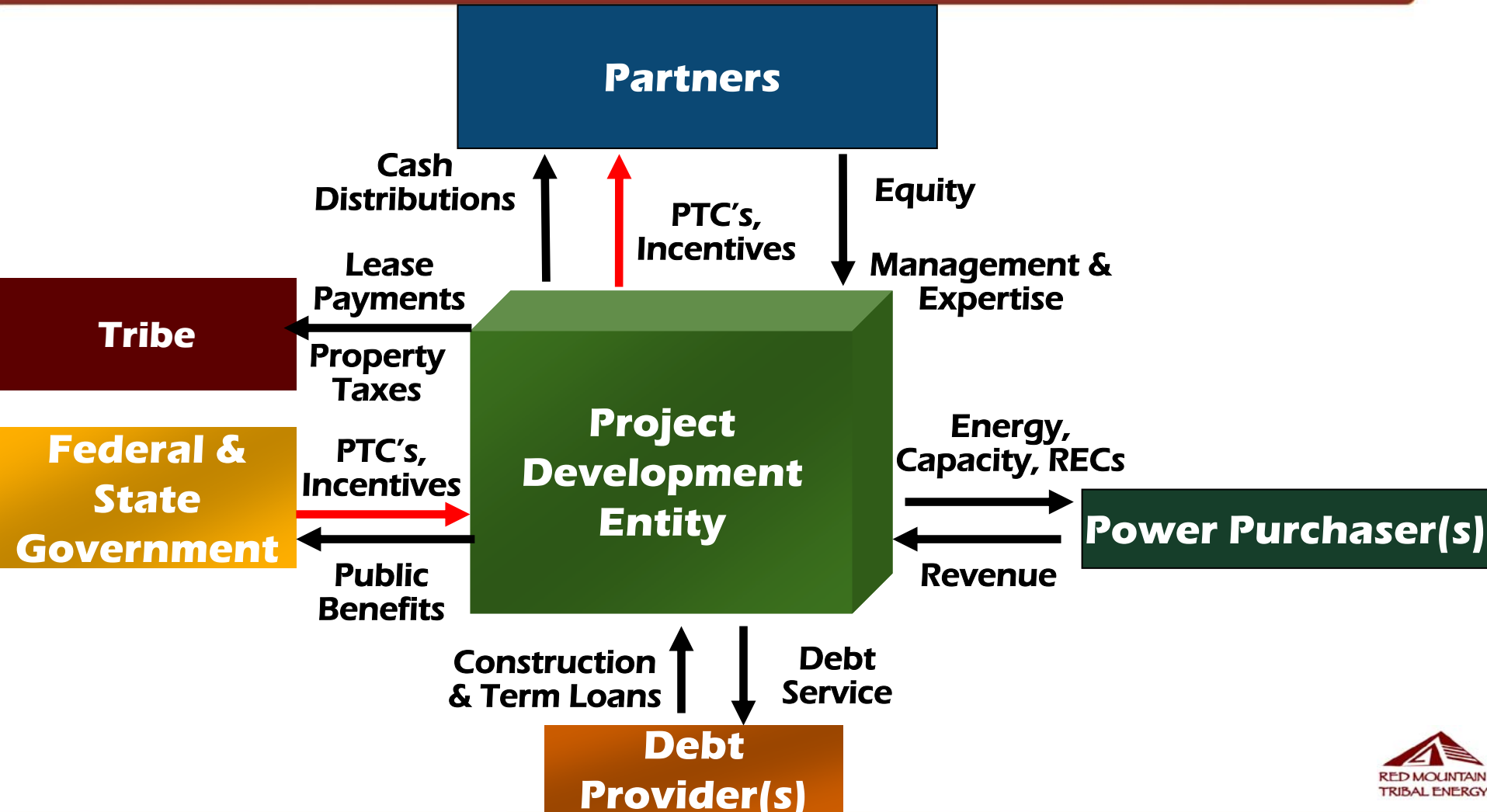
- Benefits to Tribe:
 - Fees + lease revenues
 - Capacity building
 - Operating risk borne by others
 - Funding sources available
 - Federal tax benefits to project
- Considerations:
 - Development costs at risk
 - No guarantee of success

Tribal Developer/ Investor/Owner

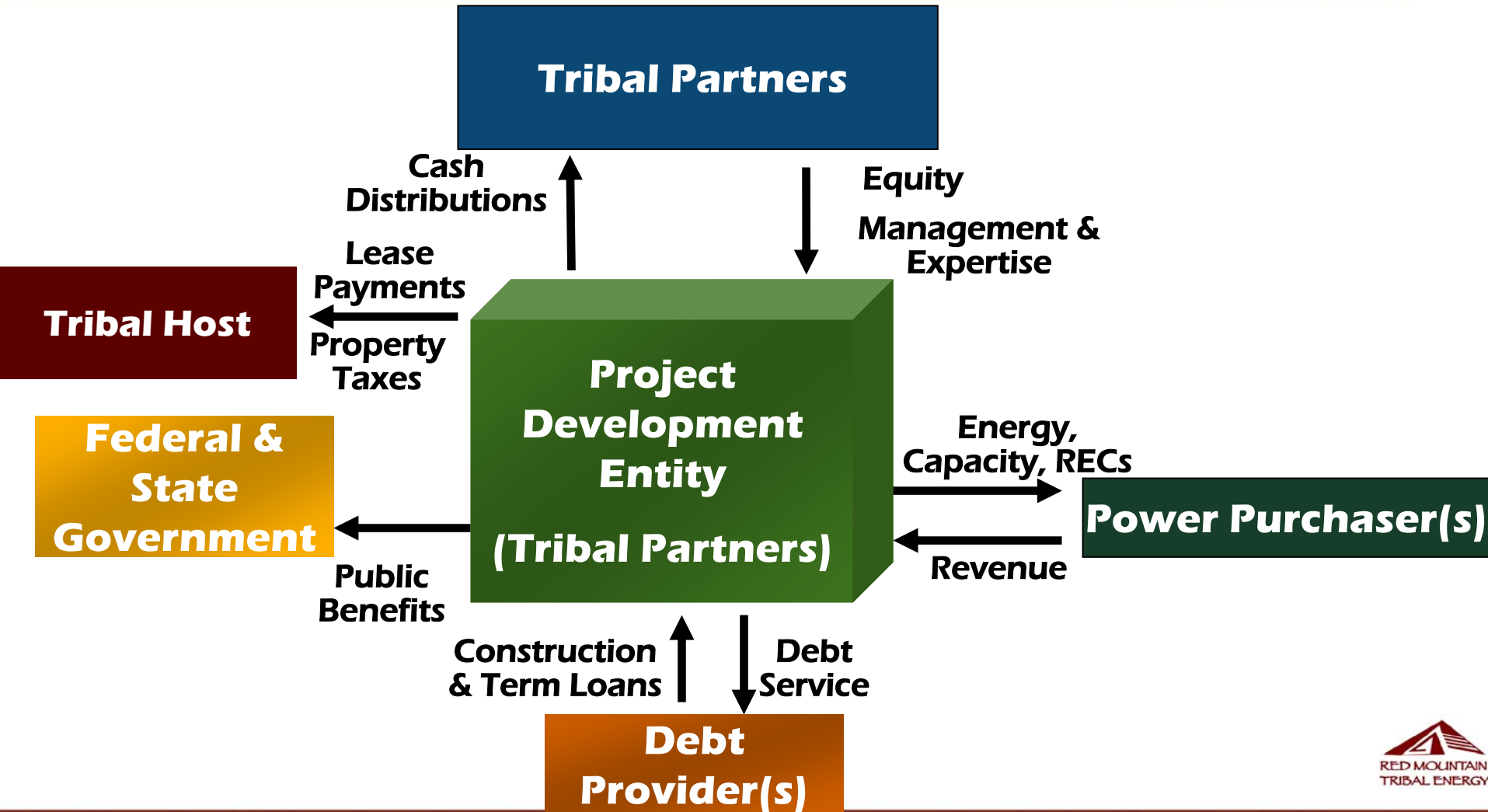
- Benefits to Tribe:
 - Allows tribes to invest significant capital
 - Greatest economic development & employment opportunity
 - Full control
- Considerations:
 - Time consuming
 - Highest cost/highest risk
 - Limited incentives available



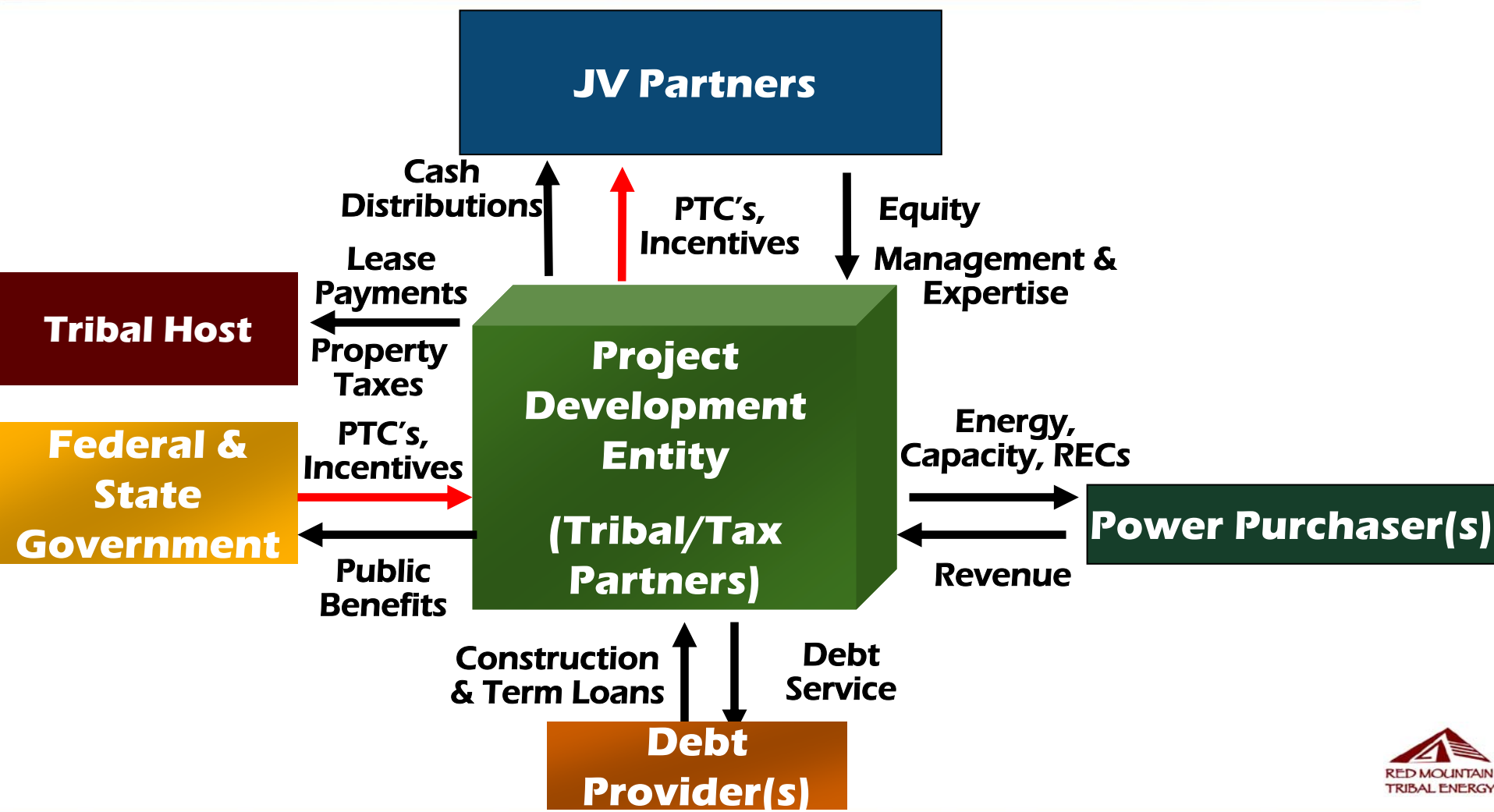
Traditional Tribal Energy Project Structure



Tribal Ownership Project Structure



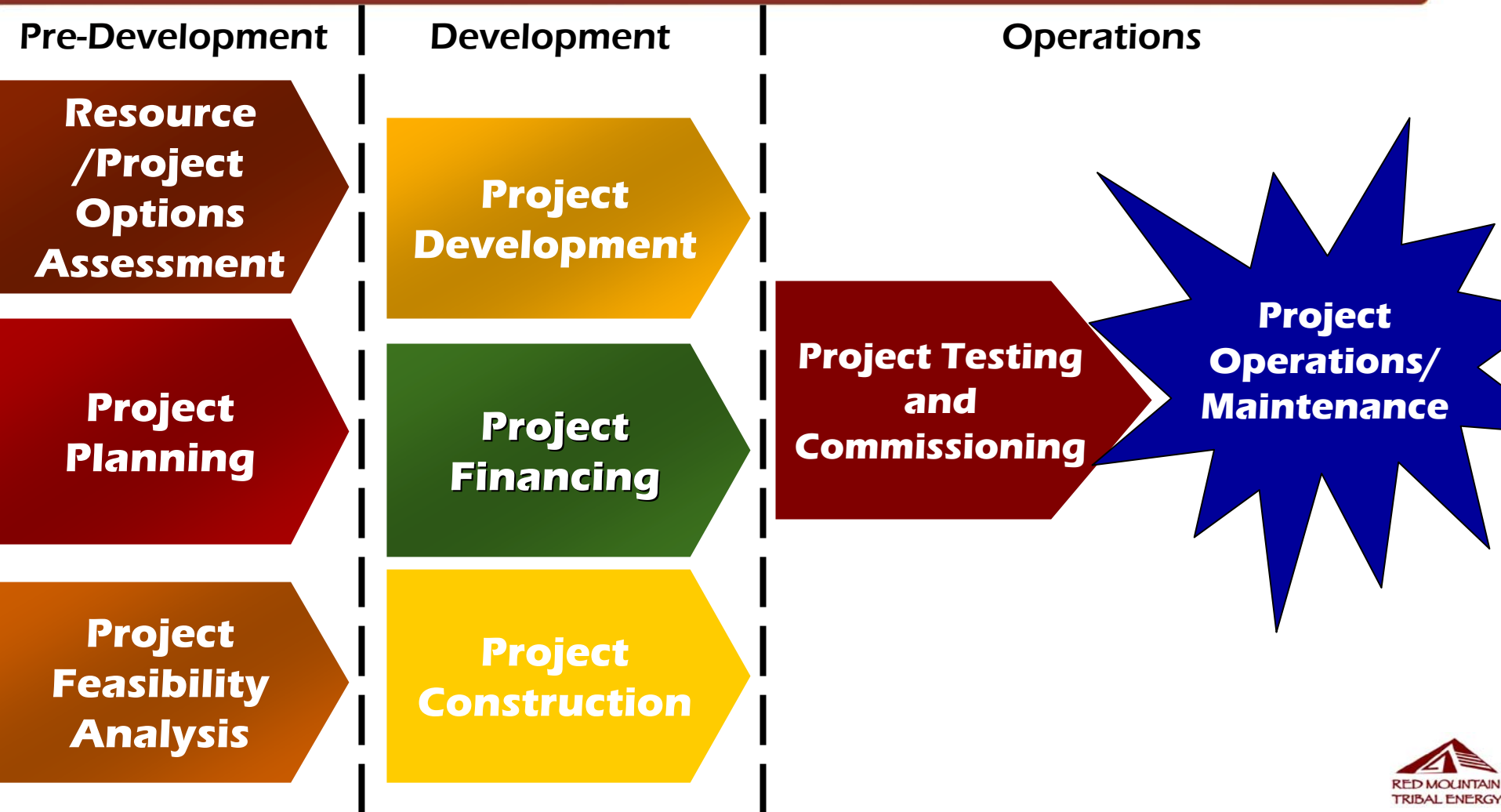
Tribe/Tax Partner JV Energy Project Structure



PPA Impacts of Project Structure Options

- **The riskier the project appears, the more difficult it will be to establish PPAs**
 - **Development risk – will project be built?**
 - **Technology risk – is technology proven or still under development?**
 - **Environmental risk – With tribal support, are environmental reviews/approvals more achievable?**
 - **Financial risk – Tax/project structure considerations can significantly impact price/project economics**
- **Tribes are an unknown variable for utility power purchasers**
 - **Very few tribal energy projects**
 - **Role of the tribe has been passive in the past**
 - **Difficulty in demonstrating energy project development experience**
 - **Partnering with an experienced developer can help build knowledge and credibility**

Project Development Process



Typical Development Tasks

Power purchase discussions/negotiations

Environmental:

- EIS or EA preparation
- Wildlife studies, if needed

Transmission/interconnection studies

Project Development

Legal:

- Project counsel
- Tax counsel

Engineering:

- Owner's engineer
- Due diligence

Financing plans:

- Development capital
- Debt
- Equity placement
- Tax equity placement

Equipment deposits

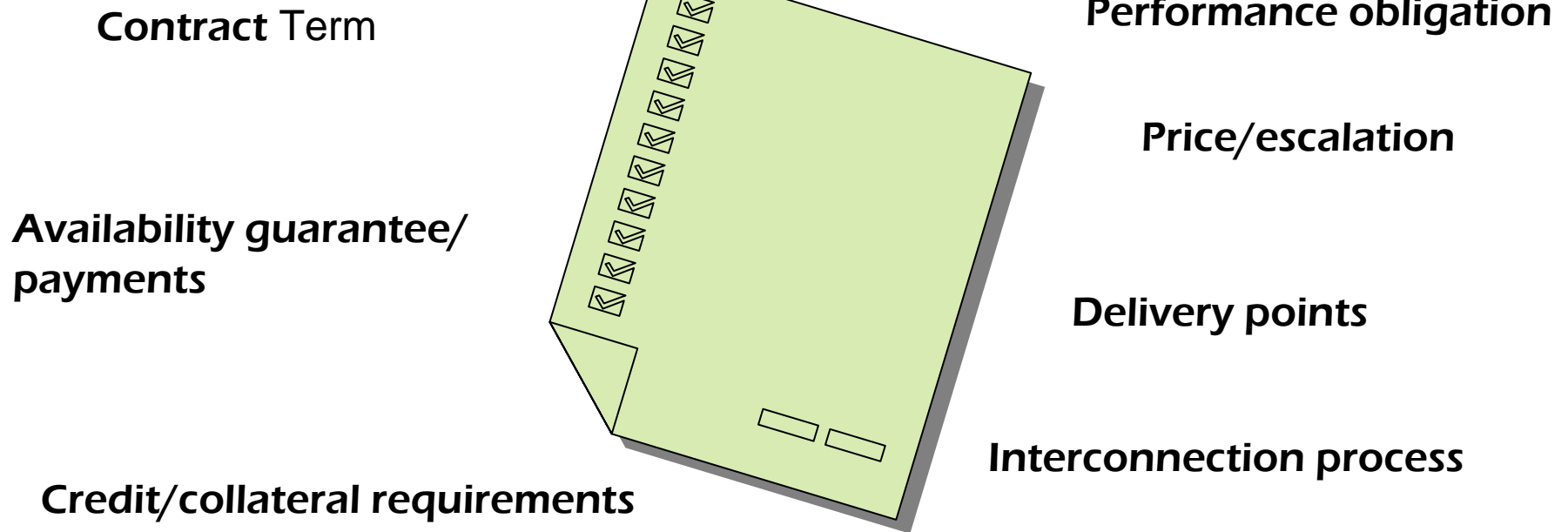
Role of Purchase Power Agreements

- **Today, PPAs are key to obtaining project financing**
- **Merchant plants unlikely to be financed in today's market**
- **To extent possible, PPA term should match financing term**
- **Challenge of renewable vs. conventional PPAs**

PPA Approaches and Options

- **Project area utilities**
 - Bilateral agreements
 - Respond to RFPs
- **SWAPs or displacement**
- **PPA Products**
 - Bundled energy/REC product
 - ✓ Hours per day
 - Capacity and energy only
 - RECs only
 - Monetize value of long-term RECs

Typical PPA Components



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