

# Alternatives to Electrification of Landfill Gas

**Obtaining Investment for LFG to Direct Use, Pipeline Injection and CNG**

LMOP National Landfill Gas Energy Workshop  
March 19, 2015 – New Orleans, Louisiana

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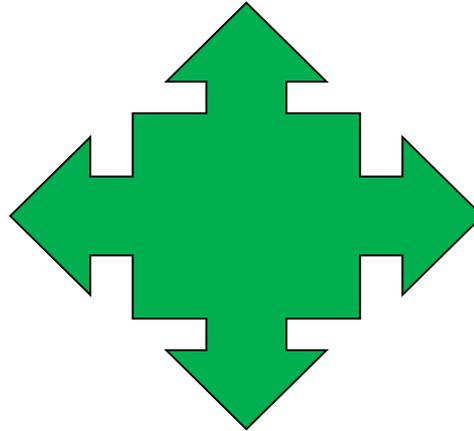
# Overview

- Challenges and Risks
- Regulatory and Market Drivers
- Planning Process
  - Diligence and Feasibility
  - Contracted Revenue
  - Structuring Considerations
- Common Deal Structures
- Other Options and How to Move Forward

# Challenges and Risks

Technology, Legal and  
Political Risks

Budget Constraints  
and Contracted  
Revenue



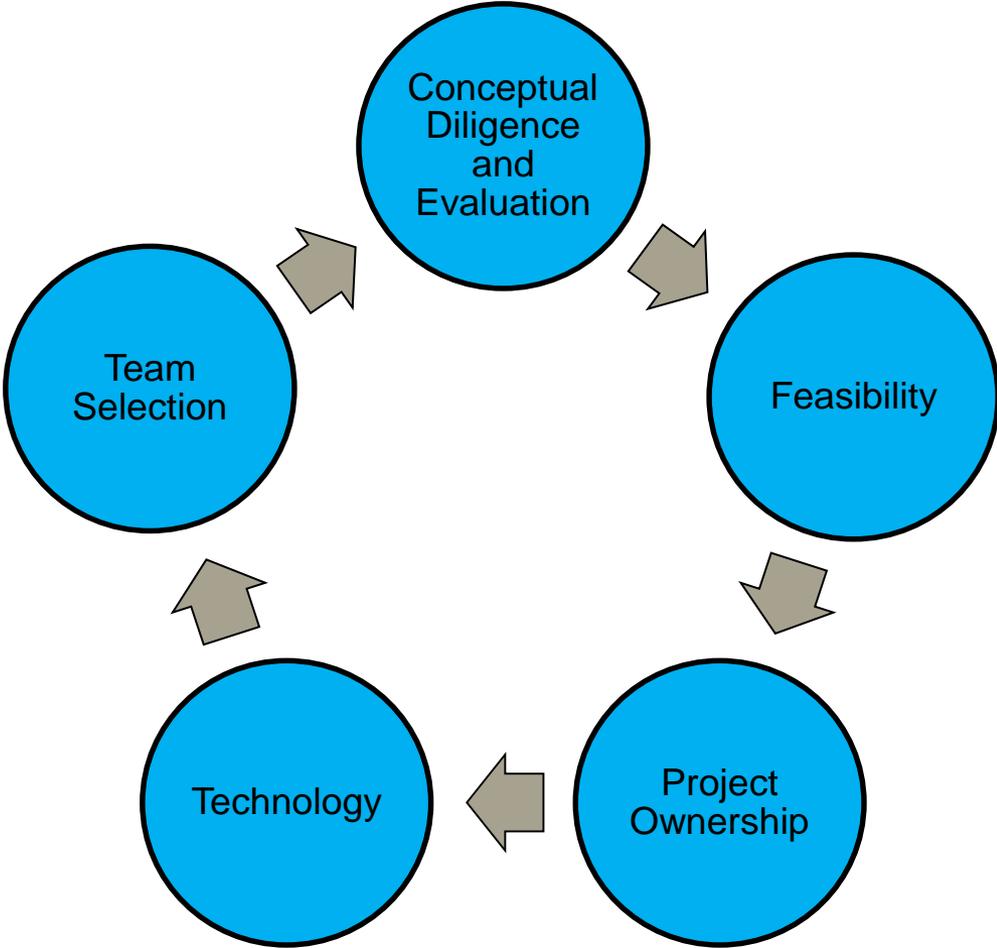
Ownership and  
Operation

Energy Costs and Project  
Timing

# Regulatory and Market Drivers

- Regulatory
  - RFS2 and RINs
  - RPS
  - LCFS
  - Organics Diversion
  - Sunset of tax credits for electricity production
- Market Drivers
  - Maximizing Use of Gas
  - Use for On Site and Vehicles: Cost Reduction
  - Proximity of Users and Cost to Transport Gas
  - Diversion of Waste from Landfills
  - Lower Electricity Prices

# Planning Process



# Planning Process

- Conceptual Diligence and Evaluation
  - Contracted Feedstock and Offtake; Site Control
- Feasibility: technology, regulatory, economic, project dynamics and energy market
- Ownership: Public vs. Private
  - Public-Private Partnership; DBOO/DBOOT
  - Financing sources and structures: debt, leasing, equity, tax equity, vendor financing and project finance
- Owner's and Investor's Interests
  - Control of financing, the facility and use of gas
  - Maximizing rate of return and use of subsidies
  - Minimizing risk of execution
  - Ease of exit

# Connecting Financing Documents to Potential Project Agreements

- Site Lease, Permitting and Technology Licensing
- Construction (i.e., EPC) Agreement Concerns
- Feedstock Supply, Service and Offtake Agreements
- Market Financeability Provisions
- Interconnection and Transportation
- RPS, LCFS and RIN Verification, Monitoring and Certification

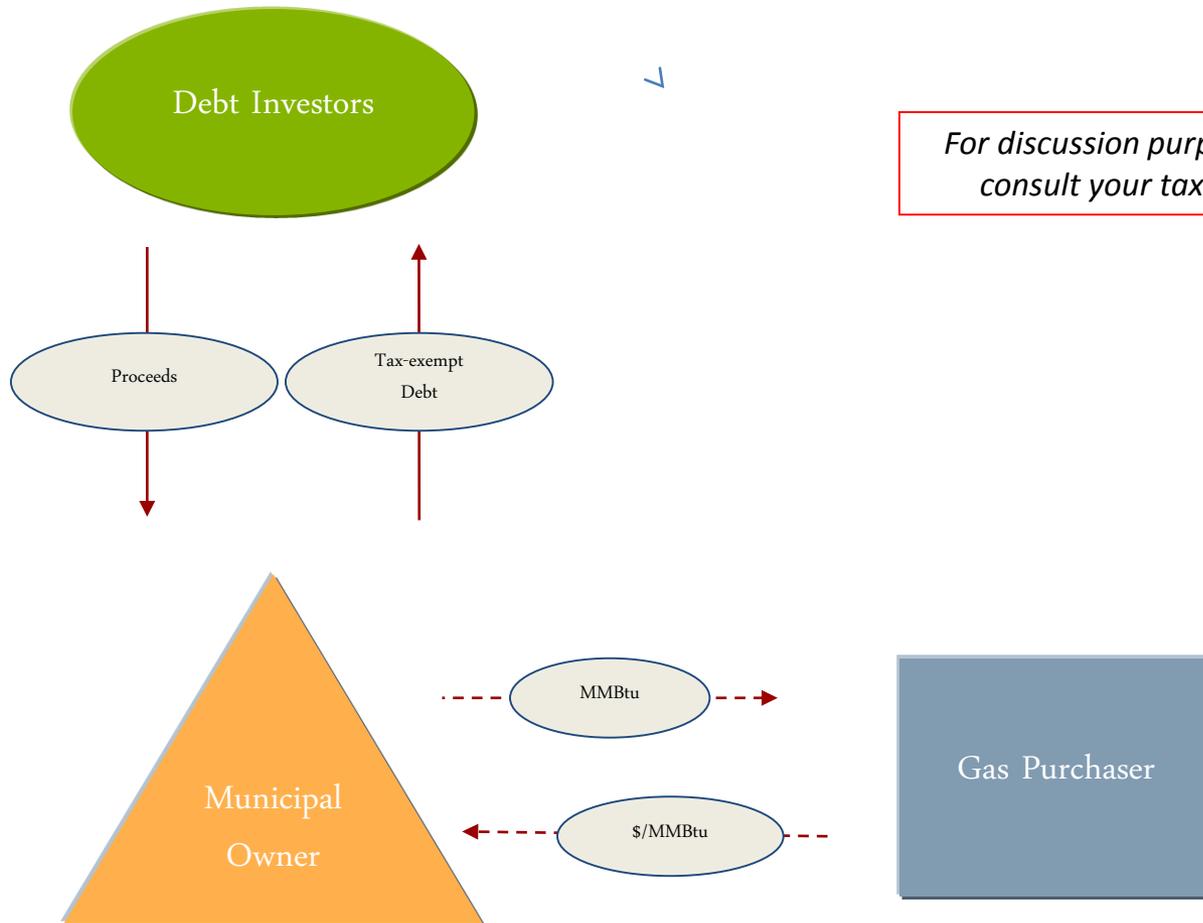
# Financing Considerations

- Equity
  - Developer or Owner Equity
  - Third Party Strategic or Passive Investment
- Debt
  - Commercial or Bank Debt
  - Municipal Debt
  - Green Infrastructure
    - State revolving loan funds
  - State Green Bank/Financing Authorities
    - Credit enhancements; risk mitigation
    - Loan guarantees
  - Federal Programs with USDA or DOE
- Partnerships with non-governmental entities, including fleet owners
- Will third party investors and lenders provide value for RINs or LCFS

# Bond Incentives

- Pre-pay transactions: proceeds of bonds are used to pre-purchase gas from the generator
  - Bond proceeds are used to purchase natural gas in advance of delivery
  - Purchase is made by or for a governmental utility for use in the utility's service area
- Output facilities (e.g., generating, distribution and transmission facilities) proceeds of bonds are used for capital expenditures for such facilities
  - \$15 million limitation: generally, not more than \$15 million of an issue for an output facility may be used for a private business use
  - Private business use is use directly or indirectly in a trade or business that is carried on by any person other than a governmental unit
- QECBs: less sensitive to ownership
- Solid waste exempt facility bonds: flexible but first useful product or useful energy rules do limit their reach

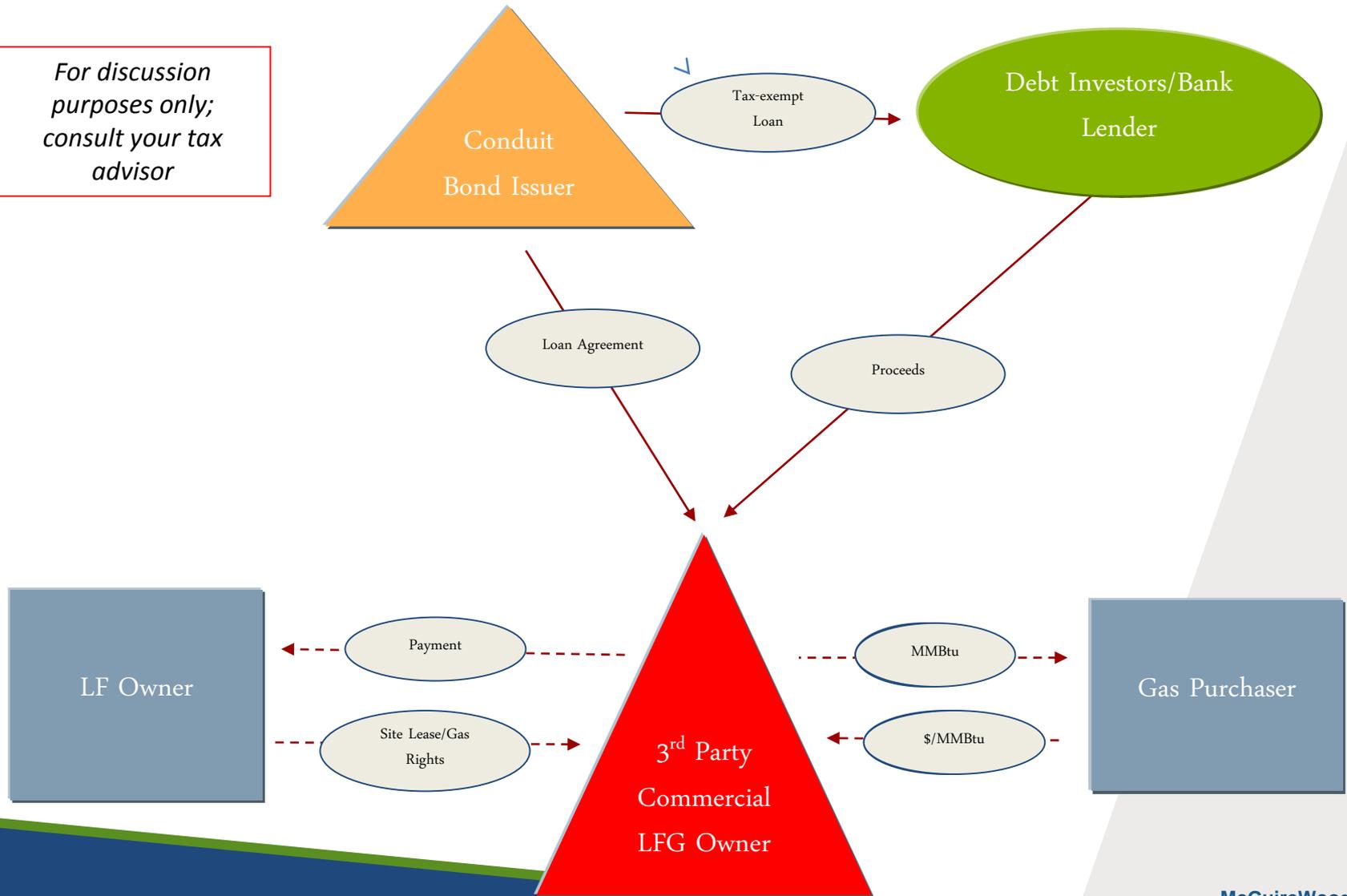
# Governmental Structure – Tax-exempt Bonds



*For discussion purposes only;  
consult your tax advisor*

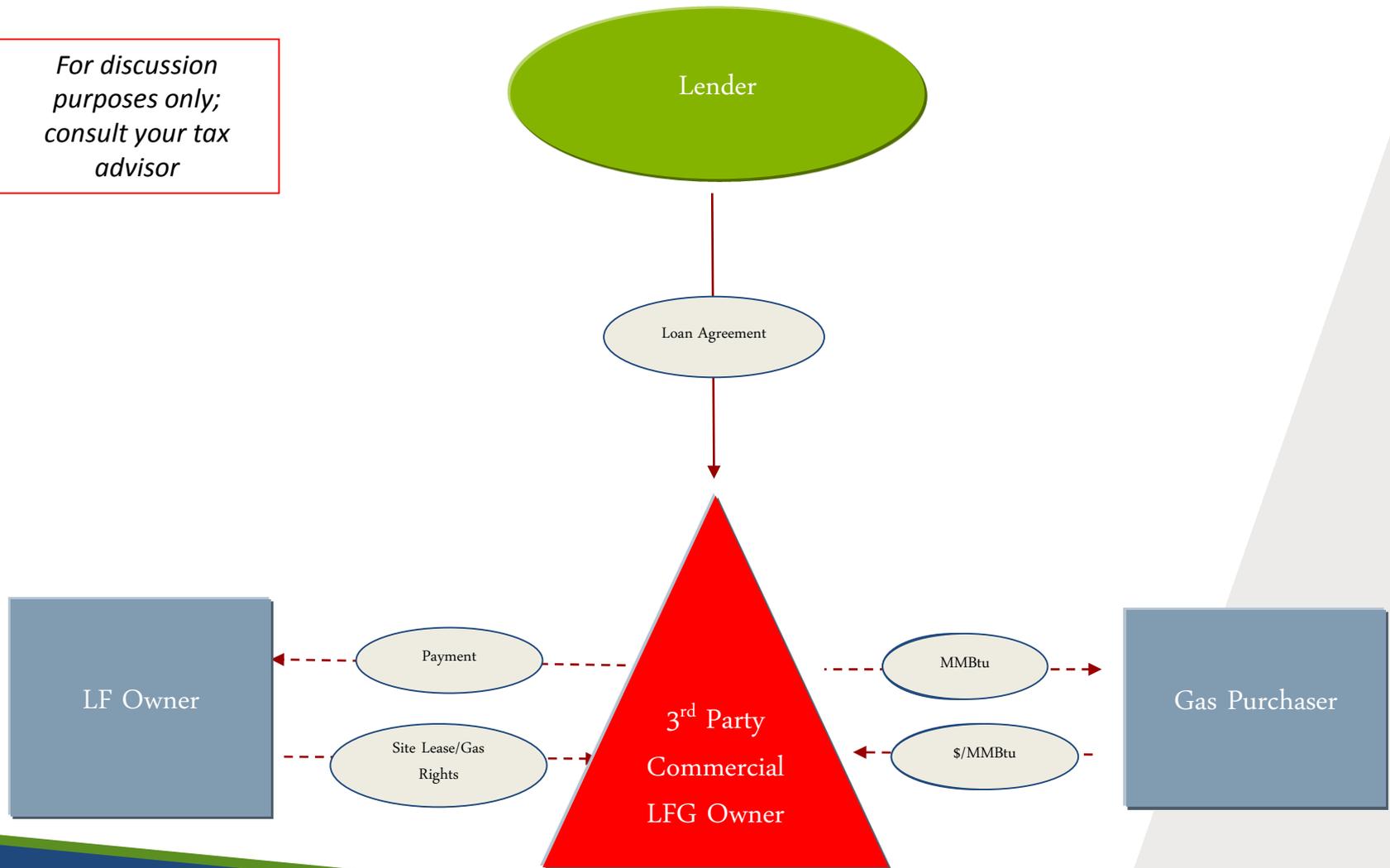
# Commercial Ownership Structure – Tax-exempt Bonds

*For discussion purposes only; consult your tax advisor*



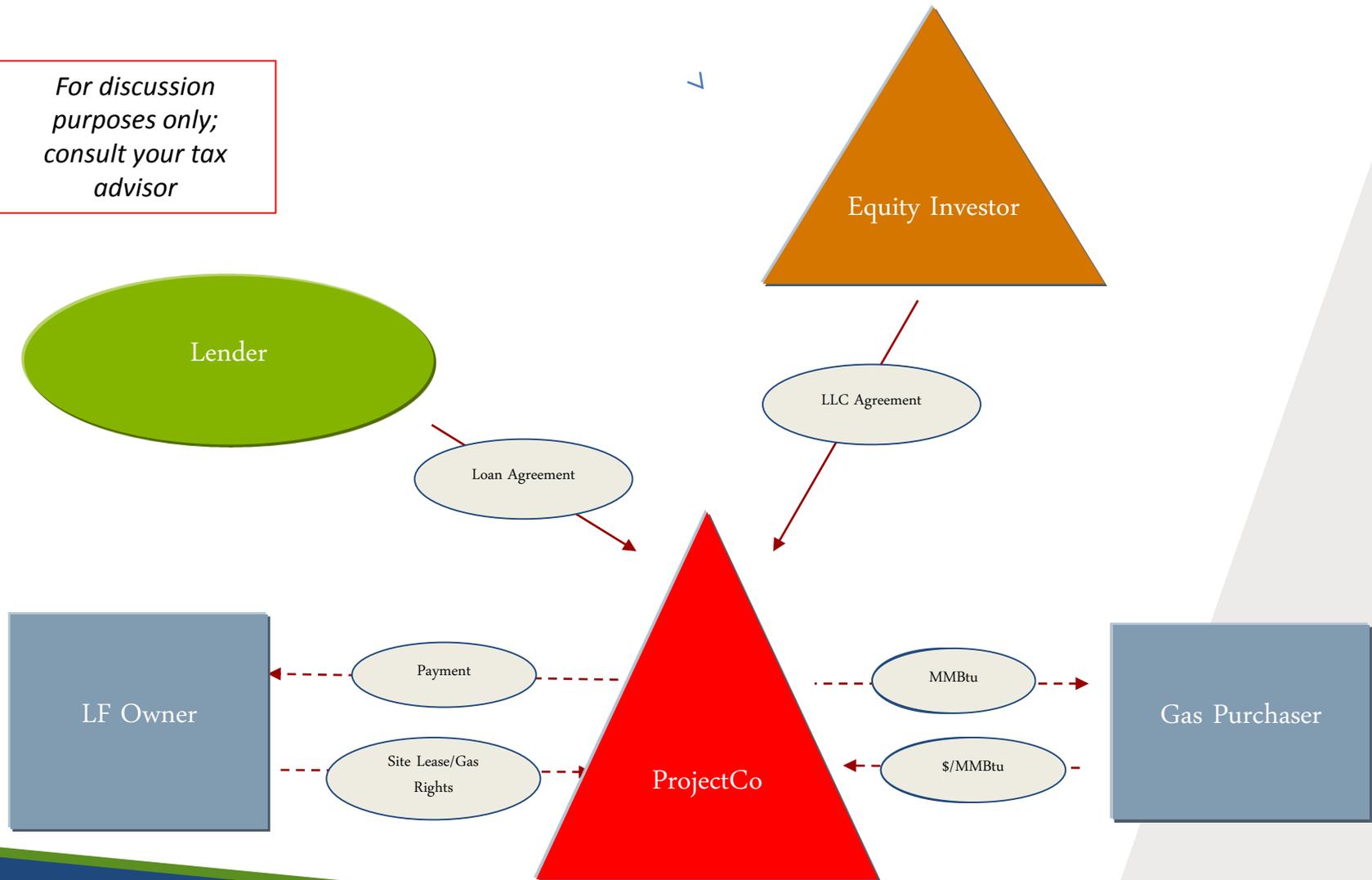
# Commercial Ownership Structure – Bank Lender

*For discussion purposes only; consult your tax advisor*



# Third Party Debt & Equity

*For discussion purposes only; consult your tax advisor*



# Moving Forward

- What is the purpose of the project?
- Is the technology proven?
- What is the creditworthiness of any obligor, vendor or counterparty?
- Define the roles of all participants and stakeholders and identify acceptable risks; is there political will and community support?
- What are the sources of financing and optimal incentives?
- Is the transaction structure simple relative to the size of transaction and the experience of the transaction parties?
- Have you accounted for market and regulatory factors that are in flux?
- Do you have the right team?

# Questions or Comments?

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