



Funding, Support, and Motivation for PV on Landfills in Puerto Rico



Solar on Puerto Rico's Landfills Workshop

Museo del Deporte de Puerto Rico Auditorium, Guaynabo, Puerto Rico

Charlie Bartsch
Senior Advisor for Economic Development
US Environmental Protection Agency

Tom Harris
Project Leader
National Renewable Energy Laboratory

Tuesday, Nov. 1, 2011

Overview of Joint Presentation

- Funding and Support

- Contaminated property project financing: Considerations
- Evolving public sector role in promoting RE
- Federal Programs
 - HUD Community Development Block Grants
 - Economic Development Administration programs
 - US Department of Agriculture rural development programs
 - Environmental Protection Agency environmental programs
- Federal Tax Incentives

- Roles and Motivation for an RE Project

- The Roles
- Approaches
- Other sources of funds
- Motivations

Funding and Support

Federal brownfield and RE facilitation

- Financing Considerations
- Public sector role in promoting RE
- Federal Programs
- Federal Tax Incentives

Theme...



Using federal tools to meet today's site redevelopment financing challenge

- Leveling financial playing field between greenfields and formerly used properties for redevelopment purposes, in the face of real or perceived environmental risks
- Securing capital to meet critical 1st stage, pre-development property needs, leverage follow-on financing
- Maneuvering, jump-starting projects in current challenging financial/credit climate

Contaminated Property Project Financing

Considerations

Or...

Why Do Lenders and Investors Act the Way They Do
When You Say “*potentially contaminated*”?

PROCESS CONSIDERATIONS:

- Does the project make good credit sense?
 - Do the numbers pencil out? Does it pass economic muster?
- Are regulators comfortable with the proposed approach?
 - Can contamination be addressed sufficiently, and protectively, over the life of the project?

Contaminated Property Project Financing

Considerations

Or...

Why Do Lenders and Investors Act the Way They Do
When You Say “*potentially contaminated*”?

PROCESS CONSIDERATIONS (cont.):

- Is the bank officer comfortable with:
 - Developer expertise in projects on contaminated sites?
 - Environmental/technical consultants?
 - Proposed end-use for renewable energy ?
- Will environmental insurance be used?
 - Does it make financial sense for the project?
 - Will it address, bring comfort re: perceived/real risks?

Contaminated Property Project Financing

Considerations

Or...

Why Do Lenders and Investors Act the Way They Do When You Say *“potentially contaminated”*?

TOOLS CONSIDERATIONS:

- What legal tools will be used?
 - NFA letter, indemnifications, deed restrictions, institutional controls, covenants not to sue?
- What private financial tools will be used?
 - Escrows, collateral discounts?
- What public financial tools will be used?
 - Grants, loans, tax credits, guarantees, other mechanisms?
 - Application/approval timeframe and process?

Contaminated Property Project Financing

Considerations

Or...

Why Do Lenders and Investors Act the Way They Do When You Say
“potentially contaminated”?

OVER-RIDING CONCERNS:

- Certainty of collateral value over time
 - Any residual impact re: ICs, cleanup strategies?
- Soundness of marketing plan
 - Energy demand/cost competitiveness/reliability
- Ongoing compliance with institutional controls
- Cleanup cost/financing and timing concerns
 - VCP process, other permitting/approvals
- Use of public programs
 - Grant application, approval, and disbursement time; tax incentive reliability and constraints

Evolving Public Sector Role in Promoting RE

- Provide resources directly
 - grants; forgivable/performance loans

Also.....

- Reduce lender's risk
 - loan guarantees; companion loans
- Reduce borrower's costs
 - interest-rate reductions or subsidies; due diligence help
- Improve the borrower's financial situation
 - re-payment grace periods; tax abatements and incentives; training credits and funding; and technical assistance help
- Provide comfort to lenders or investors
 - loan guarantees; performance data



Most Commonly Used Federal Programs

- HUD/community development programs
 - **CDBG** – Economic/community development, planning, support services, housing
- EDA/economic development, infrastructure programs
 - Public works/economic adjustment/planning
- USDA/rural development programs
 - **Business and industry** loans, loan guarantees
 - **Community facilities** grants and loans
 - **Business development** programs
- EPA/environmental programs
 - **Brownfields** – grants for site assessment, cleanup, RLF capitalization
 - **Water RLFs** – capitalization for water quality-related projects

HUD Community Development Block Grants

- Direct formula-based CDBG grants to entitlement jurisdictions
 - Entitlement cities (50,000+) and urban counties (200,000+) get automatic annual grants
- Direct formula-based grants to states for small city needs
 - Small communities (> 50,000) compete for funds distributed by states/territories

HUD Community Development Block Grants

- Projects must meet one of 3 HUD objectives:
 - Benefit low- and moderate-income persons
 - Prevent/eliminate slums and blight
 - Meet an urgent community need
- Renewable energy potential:
 - Help finance all phases of brownfield/contaminated site redevelopment/project implementation, as long as consistent with HUD objectives

Site Redevelopment-related CDGB Activities

- Demolition and removal
- Rehabilitation of public and private buildings
- Planning
- Construction or reconstruction of infrastructure, neighborhood centers, recreation/public works facilities
- Can include coping with contamination as part of site preparation or infrastructure development
- Can be lent to private companies in some circumstances
- **For the state/small cities program –**
 - Each state sets its own project funding priorities, defines its own program requirements, within CDBG objectives and these activities

CDBG – Reality Check and Points to Consider

- Projects are locally determined
- Considerable local competition exists for funds
 - Many long-time, repeat local recipients ; hard for a “new use” to break in
 - National program faces funding cutbacks
- Low-mod benefit is primary HUD objective (minimum use of 70% of CDBG funds)

Economic Development Administration

- **Public works** grants - finance industrial site re-development, building reuse, and infrastructure preparation
- **Economic dislocation** program – capitalizes economic adjustment RLFs for distressed areas
- **Rural planning** to support revitalization, through Economic Development Districts (EDDs)
- **Renewable energy potential** – can finance business-based, job promoting projects, support additional planning activities

Redevelopment- related EDA-eligible Activities

- Revitalize, upgrade, and expand infrastructure needed to retain/attract jobs
- Attract new business and industry
- Site preparation, including demolition and removal
- Construction and rehabilitation of public and private facilities (such as industrial parks)
- Planning

EDA Economic Development Reality Check

- Limited funding, significant competition
- Applications accepted on a rolling/quarterly basis
 - Pre-approval at regional office level
- Projects driven by job-generating potential, minimum \$/job requirements
- Unemployment key eligibility/selection factor
- Can integrate brownfields redevelopment activities into EDA-funded comprehensive economic development strategies

USDA Rural Development Programs

USDA rural development funds must meet broadly defined program objectives -- 4 key programs can do this within a contaminated site/brownfields context:

- **Community facility loans and grants** – for a range of development and community benefit projects
- **Business and industry loans** – to public or private organizations, for activities such as industrial park site development/rehabilitation or access ways
- **Intermediary re-lending program** – intermediaries such as local governments are loaned money to re-lend to companies, in order to finance business facilities
- **Rural development grants (RBEGs/RBOGs)** – given to provide operating capital and finance emerging private business and industry

Redevelopment-related Rural Development-eligible Activities

- **Planning** for redevelopment or revitalization – for businesses and community facilities
- **Site clearance/preparation**, including demolition
- **Rehabilitation/improvement** of sites or structures
- **Construction** of real estate improvements
- **Installation of amenities** to enhance development

- **Renewable energy potential**: could all be used to meet site cleanup and redevelopment needs, complementary activities to reuse effort

USDA Rural Development Reality Check

- Applications are made to state USDA offices on a rolling basis
 - USDA state offices have significant influence in the project funding decisions
- Population is the key determining factor
 - Maximums vary; 20,000 or less is optimum; typically, the smaller the community, the more competitive it is
- Private entities eligible for B&I assistance, non-profits for all assistance
- Full range of business, commercial, industrial, “essential” community facility projects eligible

EPA Brownfield Programs

- Assessment grants – up to \$200,000
 - To characterize, assess, conduct area-wide cleanup and redevelopment planning, to carry out community involvement activities
- Cleanup grants – up to \$200,000
 - To carry out cleanup activities, oversee cleanup construction, monitor and enforce institutional controls, buy environmental insurance
 - Require 20% cost share – cash, services/in-kind
- Revolving loan fund (RLF) grants – up to \$1 million
 - To capitalize RLFs to make no- or low-interest loans
 - Up to 40% of RLF may be used as cleanup sub-grants

EPA Clean Water, Drinking Water – State RLFs

- State funds capitalized by EPA each year
- States set RLF priorities within broad EPA guidelines
- Individuals and non-profits among eligible loan recipients
- Can finance loans up to 20 years; activities can include brownfield mitigation to correct or prevent water quality problems, including groundwater contamination
- Eligible activities include –
 - site assessments
 - disposal of USTs
 - excavation/removal/disposal of contaminated soil or sediments

EPA Brownfield/ SRF programs – Reality check

Brownfields

- Limited funding may not cover all costs
- Competition underway now, applications due Nov. 28
 - Significant competition for funds, which will be awarded next spring

Water SRFs

- States set RLF project priorities, determine recipients of RLF proceeds
- 20% priority for green infrastructure, low-impact projects projects
- EPA's water office is developing strategies for GI financing which may be useful

Three Federal Tax Benefits for RE Projects

- Energy efficiency/renewable energy tax credits
- New Markets Tax Credits
- Brownfield cleanup expensing



Renewable Energy Tax Incentives

Renewable energy bonus depreciation deduction

- Solar electric, and other technologies, are classified as “5-year property” under IRS/MACRS system
 - 50% “bonus” depreciation provision added in 2008: half the cost of the property can be deducted in the year placed in service, balance over 4 years

On-site renewable investment tax incentives

- **30%** of costs of on-site solar, fuel cell, small wind renewable systems, thru 12/31/16
- **10%** for geothermal heat pumps, microturbines, thru 12/31/16
- **10%** credit for CHP installation, thru 12/31/16, in year it becomes operational

Energy Incentives – Fine Print and Caveats

- Cash option for solar incentives – 1603 grants – ends 12/31/11
- To qualify for 1603 grants, projects must be registered and demonstrate eligibility by either:
 - Showing that “physical work of a significant nature” has begun
 - Satisfying a “safe harbor” provision by verifying that more than 5% of total project cost has been

New Markets Tax Credits

Gives investors federal tax credits (39% over 7 yrs) for equity investments in designated Community Development Entities (CDEs), for use in low-income communities

- CDEs use their allocations to make loans or investments in “qualified businesses” and development activities –
 - Community facilities such as health or child care
 - Charter schools
 - For-profit and non-profit businesses
 - Homeownership projects

\$3.5 billion awarded to 99 CDE allocatees in Feb. 2011; 28 states targeted for investment

NMTCs – Puerto Rico Allocatees

2010 round: announced Feb. 2011

(no CDEs specifying Puerto Rico)

2009 round: announced Oct. 2009

Community Development Funding LLC – *\$10 million*

PR Redevelopment Fund LLC – *\$10 million*

Puerto Rico community Development Fund LLC – *\$45 million*

For information on specifics... www.cdfifund.gov

NMTCs – fine print and caveats

- Challenging CDE designation, application process requires significant capacity, technical expertise
 - Time consuming, costly, and complex
- Matchmaking a good CBO strategy – find a CDE with an allocation!
 - Recipients must allocate credits within 5 years
- Historically, 50% + of all allocations have supported for-profit and non-profit real estate and business development – 99% in 2011 awards
 - Significant capital investment in distressed urban, rural areas
 - Nearly all investments at preferential rates/terms

Brownfield Cleanup Cost Expensing Incentive

- ***What it is*** – deduction pegged to cleanup costs, which allows new owners to recover cleanup costs in the year incurred
- ***Uniqueness*** – only federal brownfield incentive targeted to private site owners.
- ***Goal*** – effort by Congress to attract new owners to abandoned, contaminated brownfield sites
- ***Value*** – aims to level economic playing field between greenfield and brownfield sites through favorable tax treatment of cleanup costs

Brownfield Cleanup Expensing Incentive

- Value of the incentive
 - Offsets cleanup costs
 - Tax advantages of remedies can be integrated into project design
 - Encourages developers to pursue contaminated property reuse strategies
- Can deduct instead of adding the cost to the basis of the property
- Now in effect thru 12/31/11; last extension (Dec. 2010) made it retroactive to 1/1/09

BCEI – What it Does...

- Allows deduction of “**qualified environmental cleanup costs**” in the year incurred or tax paid
- Expensable costs can include:
 - Site assessment, cleanup, monitoring costs
 - Costs related to install/monitor institutional controls
 - State VCP fees and associated costs
 - Removal of demolition debris

BCEI – Fine print and caveats

- Sites must be **brownfields**
 - *Sites on NPL, or proposed for listing, are ineligible*
- “Start-and-stop,” short-term extensions undermine expensing certainty and effectiveness
 - *It has always been reauthorized – but who knows now?*
- Deduction may be recaptured as ordinary income when property is sold or otherwise disposed of –
 - *Taxed as ordinary income rather than at capital gains rate, if taxpayer would have received an addition to basis if this deduction had not been elected*
 - *Lack of clarity on timeframe inhibits use*

Roles and Motivations

101 ways to get PV on a landfill

- The Roles
- Approaches
- Other sources of funds
- Motivations

Coverage

Show us the money...

Solar Financing Overview

- Stakeholders
- Approaches
 - (Financed) host purchased and owned
 - Lease or PPA
 - Utility purchased and owned
- Other sources of funds
- Key Questions and Motivations
- Understanding Overlapping Roles and Motivations

The dream of...

Ownership

- Stakeholders/Roles
 - Host
 - **Financiers**
 - Developer
 - **Owner**
 - Operator
 - Offtaker

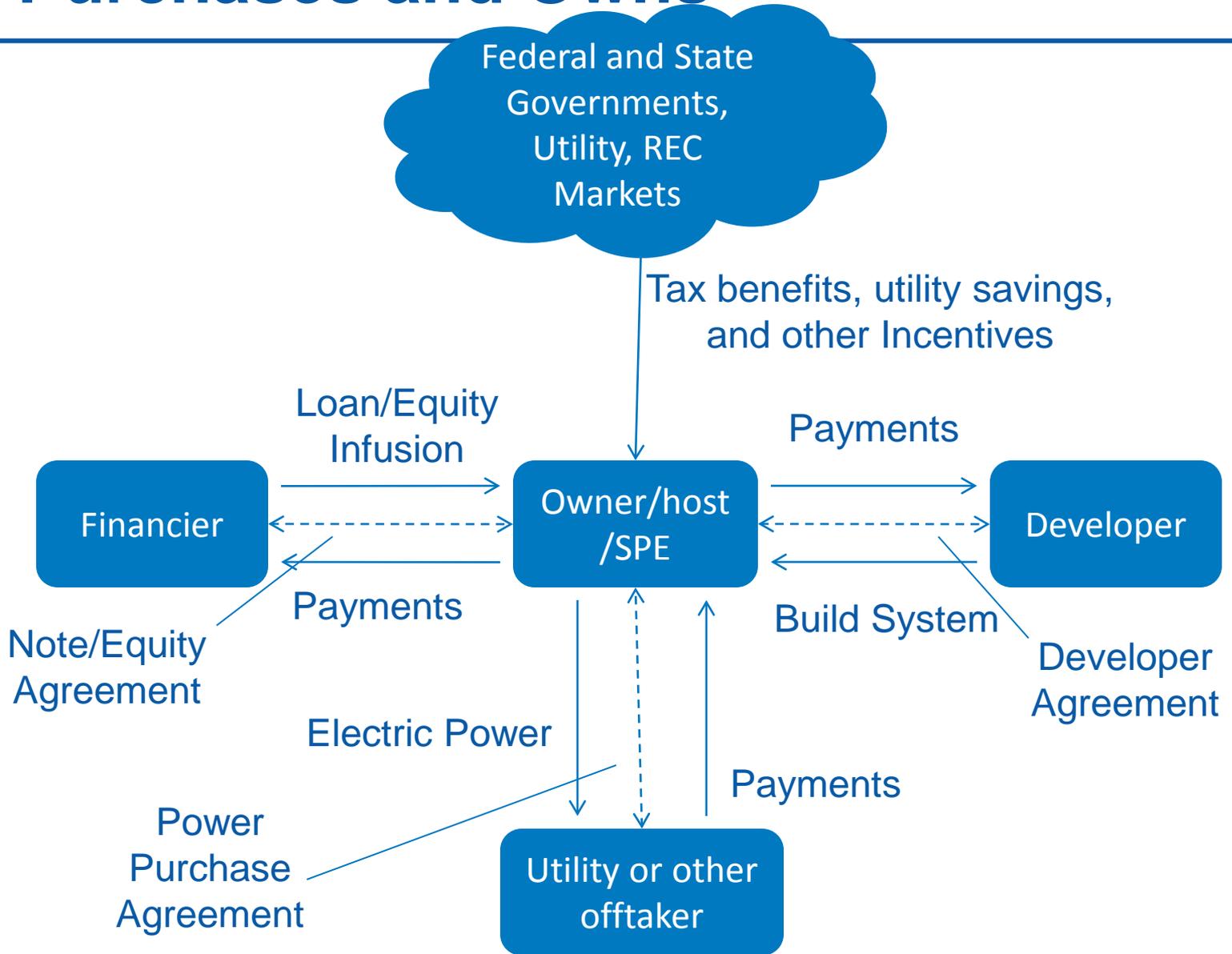
Stakeholders

The Players

- Host
- Financier
- Developer/Builder
/Installer
- Owner
- Operator
- Offtaker



Host Purchases and Owns



Roles

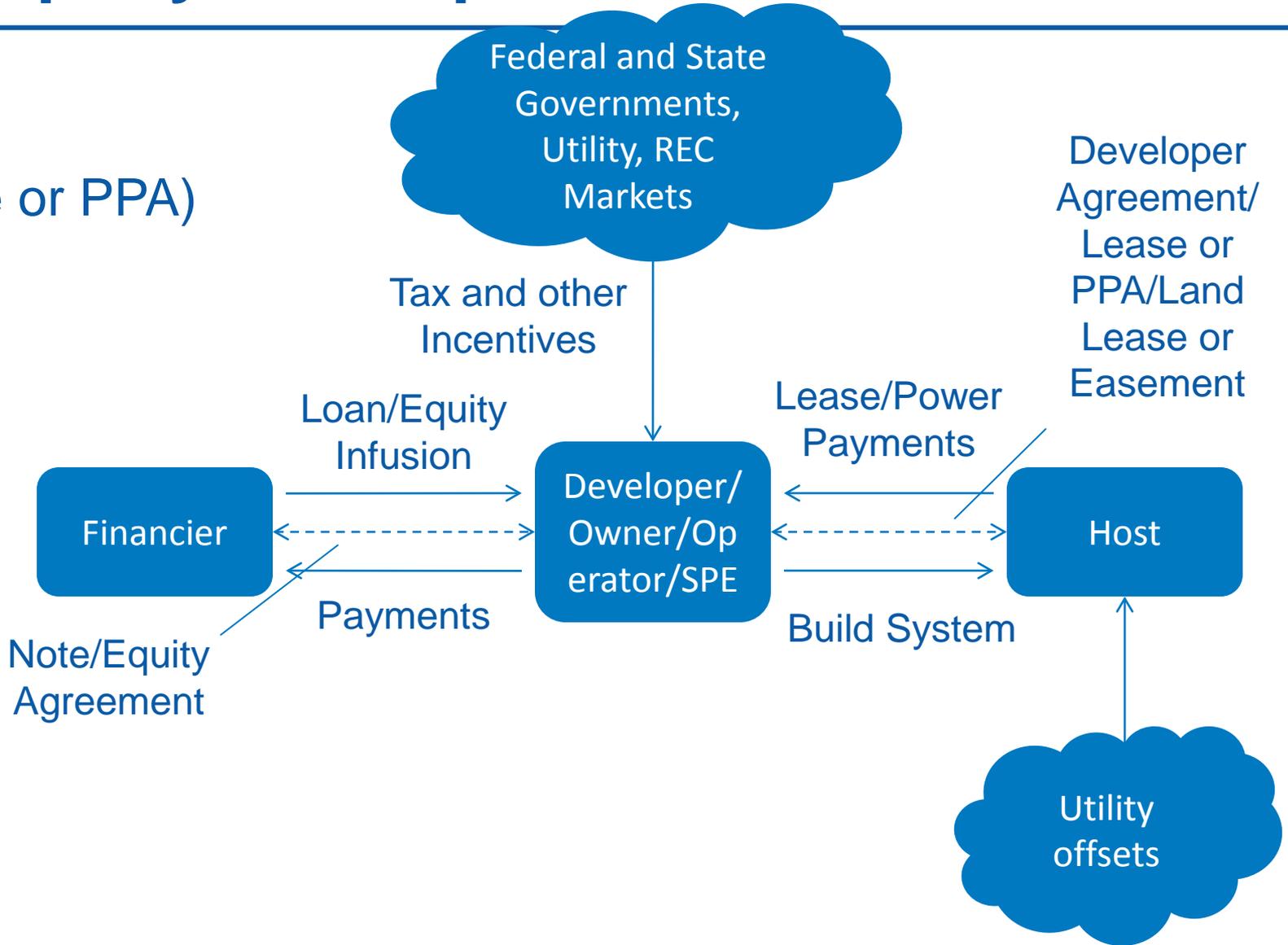
Approaches

Other Sources of Funding

Motivations

Third party builds/purchases/owns

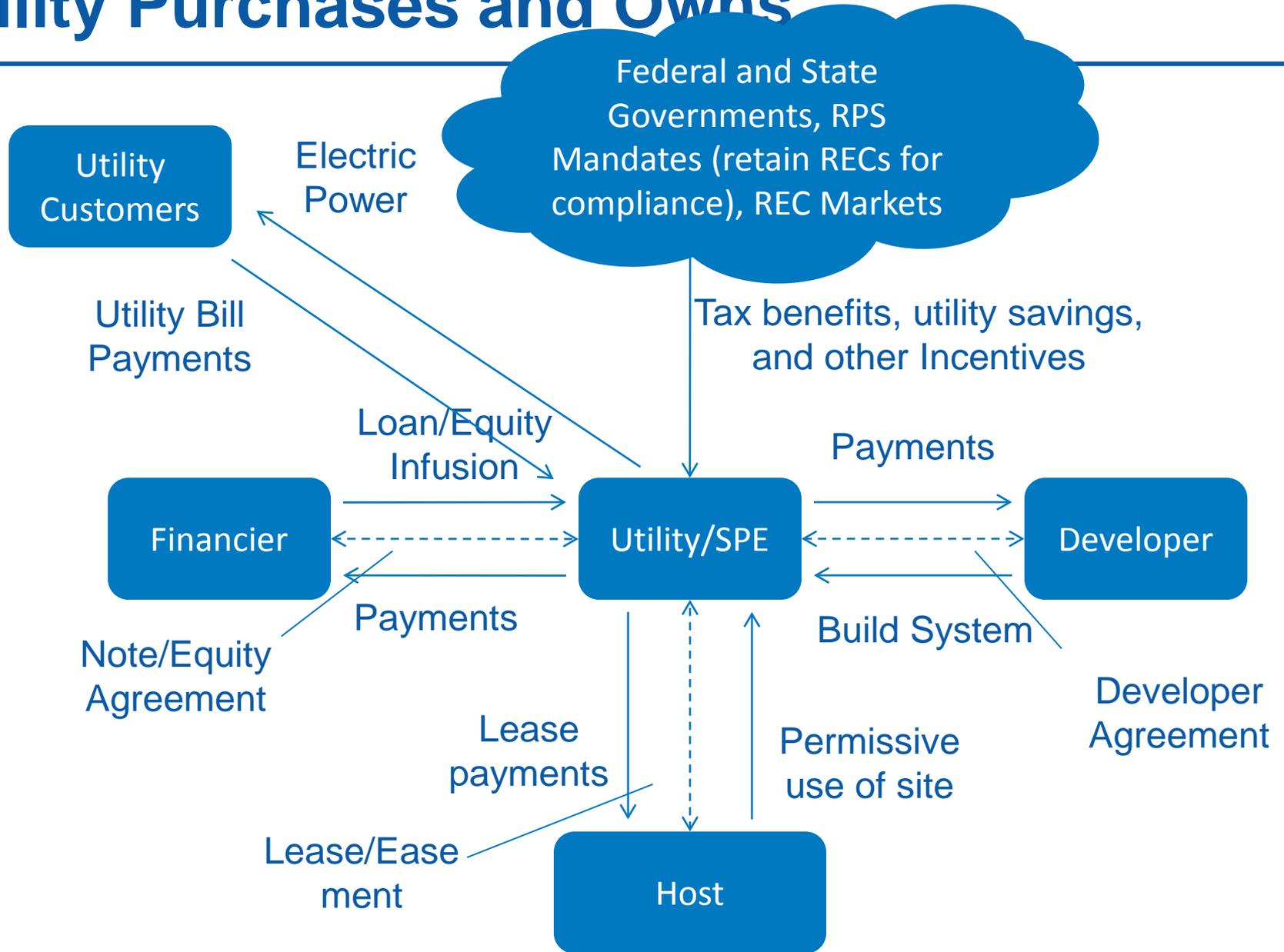
(Lease or PPA)



Developer Agreement/
Lease or PPA/Land Lease or Easement

Note/Equity Agreement

Utility Purchases and Owns



Roles

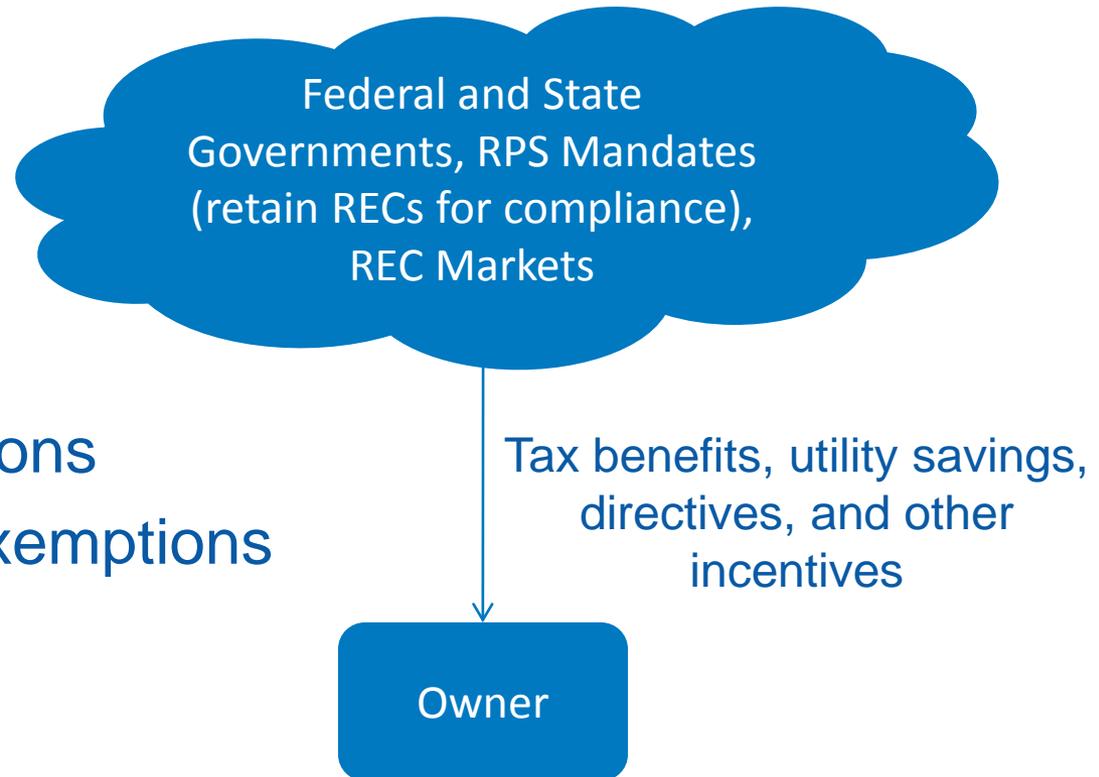
Approaches

Other Sources of Funding

Motivations

Other sources of funds

- ITC/Grant in Lieu
- ACRS
- PTC
- RPS/RECs
- Property Tax Exemptions
- Sales and Use Tax Exemptions
- Rebates



Key Questions and Motivations

Key Questions

- Each entity's goals & motivations?
- Taxable entity?
- Tax appetite?
- Site load?
- Legality of third party ownership?
- Legality of utility ownership?
- Contemplated sale of equipment?

Motivations

- Land lease payments
- Offtake payments/equip lease payments
- REC payments
- Retail utility offsets
- RPS compliance
- Generation
- Green image

Host purchase and own

	Landfill	Developer	Owner	Operator	Utility
Host	~	N	Y	Y/N	N
Developer	N	~	N	Y/N	N
Owner	Y	N	~	Y/N	N
Operator	Y/N	Y/N	Y/N	~	N
Offtaker	N	N	partial	partial/N	~
Financier	Y/N	Y/N	Y/N	Y/N	N

- ITC/Grant in Lieu
- ACRS
- PTC
- RPS/RECs
- Property tax exemptions
- Sales and use tax exemptions
- Rebates
- Profits

- Land lease payments
- Offtake payments/equip lease payments
- REC payments
- Retail utility offsets
- RPS compliance
- Generation
- Green image

Roles

Approaches

Other Sources of Funding

Motivations

Third party purchase and own

	Landfill	Developer	Owner	Operator	Utility
Host	~	N	N	?-N	N
Developer	N	~	Y/N	Y/N	N
Owner	N	Y/N	~	Y/N	N
Operator	Y/N	Y/N	Y/N	~	N
Offtaker	N	N	N	N	~
Financier	N	Y/N	Y/N	Y/N	N

- ITC/Grant in Lieu
- ACRS
- PTC
- RPS/RECs
- Property tax exemptions
- Sales and use tax exemptions
- Rebates
- Profits

- Land lease payments
- Offtake payments/equip lease payments
- REC payments
- Retail utility offsets
- RPS compliance
- Generation
- Green image

Utility purchase and own

	Landfill	Developer	Owner	Operator	Utility
Host	~	N	N	N	N
Developer	N	~	Y/N	Y/N	Y/N
Owner	N	Y/N	~	Y/N	Y
Operator	N	Y/N	Y/N	~	Y/N
Offtaker	N	N	N/A	N/A	N/A
Financier	N	Y/N	Y/N	Y/N	Y/N

- ITC/Grant in Lieu
- ACRS
- PTC
- RPS/RECs
- Property tax exemptions
- Sales and use tax exemptions
- Rebates
- Profits

- Land lease payments
- Offtake payments/equip lease payments
- REC payments
- Retail utility offsets
- RPS compliance
- Generation
- Green image

Contacts

- Charlie Bartsch, US Environmental Protection Agency (EPA/OSWER - HQ) bartsch.charlie@epa.gov, (202) 566-1054
- Tom Harris, National Renewable Energy Laboratory (NREL) tom.harris@nrel.gov, 303-275-4272