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Energy Savings Performance Contracts: Financing Perspective

Agenda

- Energy Savings Performance Contracts (ESPCs)
- Parties, Structure & Process
- Measurement and Verification
- The World of Risk – Performance, Credit & Collateral, Project and Risk Mitigation
- Renewable Power Generation: State and Federal
- Hot Buttons – lessons learned
- Case Studies

Energy Savings Performance Contracts

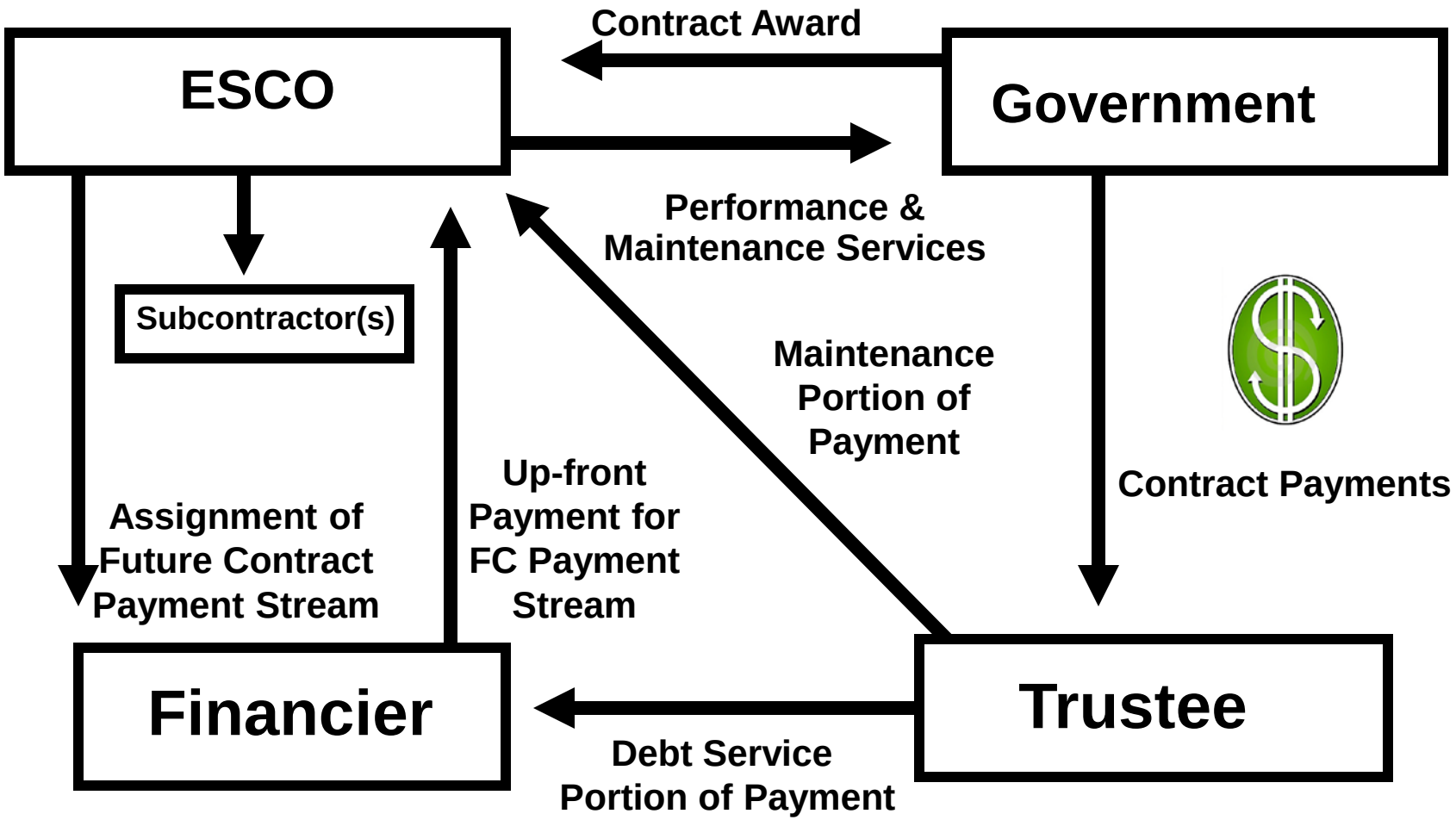
Traditional ESPC: permits a Federal customer to own upgraded energy-consuming infrastructure in Federal buildings (heating, cooling, lighting, etc.) without paying up front costs of purchasing and installing new equipment; the Federal customer pays the ESCO for the upgrade over a period of up to 25 years—but only if there is a net reduction in energy and maintenance expenditures.

Renewables in ESPCs: utilizes Energy Service Agreements or Power Purchase Agreements to reduce the cost of green power to the Federal customer for up to 25 years; the asset must be owned by a tax-paying entity to monetize tax incentives.

Renewables in ESPC Task Orders

- In most ESPCs title to the asset conveys at acceptance. In order to capture the tax benefits, title must convey to a tax-paying entity.
- The Federal customer will have the option to purchase the asset for fair market value at anytime after five years. Alternatively, at the end of the contract they can purchase the asset, extend the service agreement, or return the asset.
  - The Federal customer will amortize an amount less than the full cost of the renewable asset.
- The ESCO shall be responsible for the operations and maintenance of the renewable asset.

Parties, Structure & Process



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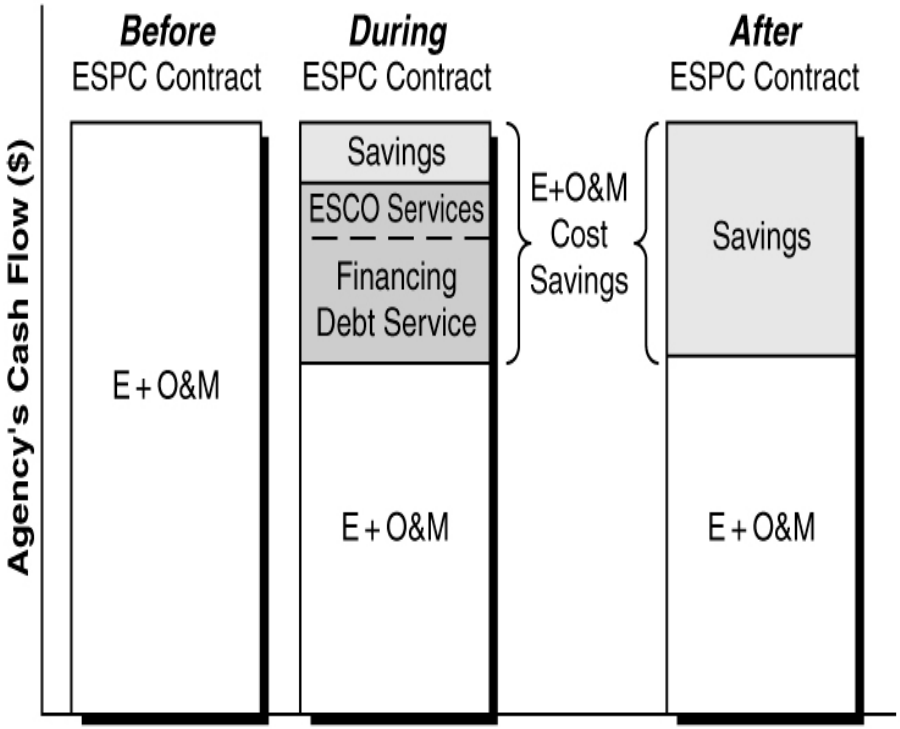
Measurement & Verification

- ESPCs are financed using avoided cost as revenue to service debt
- A critical part of this financing tool is the ESCO-provided savings guarantee
- M&V assures the buyer that savings have been met before payment is made to ESCO
- Usually a 3rd party engineering firm performs the M&V of savings
- If the ESCO has guaranteed the savings, ESCO may be liable for any shortfall



Energy, Operations & Maintenance Costs during an ESPC

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The World of Risk

- **Project & Performance Risk**
  - Risk is reduced after acceptance
  - Ongoing performance, i.e., operations & maintenance and any savings/production guarantee
  - Financial Strength of ESCO and Subcontractors
  - Project economics and technologies
- **Credit & Collateral Risk**
  - Blended commercial & governmental differ
  - Repossession difficult
  - After acceptance, viability for LT performance requirements
  - Size and term of financing
- **Governmental Risk**
  - Agency budget, population served, mission criticality, facility essentiality, contract language/vehicle, tax credit reliance, local laws or codes

Risk Mitigation for Project Finance

Assumes standard due diligence has been completed

- Bonding – Dual if Federal customer is also party
- Independent Engineer – review design, progress, certify milestones for draw payments
- Credit of ESCO and Subcontractors
- Technology/economics ongoing performance requirements
- Federal customer sign off on milestones – protection in the event of a T4D
- Step in rights
- ACA Alt 1
- Hold back of substantial amount of final milestone/draw payment. More for non IGC.
- Termination language

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States: Renewable Power Generation

Environmental concerns are driving public policy at the state level

Many states (28 plus DC) have adopted mandatory renewable portfolio standards (RPS) and these tax incentives vary drastically from state to state.

- RPS is a state policy that requires utilities to obtain a minimum percentage of their power from renewable energy resources by a certain date. Penalties are imposed for non-compliance
- A utility can satisfy RPS standard by Renewable Energy Credits (REC). These credits can, in special cases, also qualify for VER (Verified Emission Reduction) related to GHG, for example landfill gas production
- Currently discussion regarding association of GHG with REC ongoing in California

Discussions recently ongoing with respect to a national RPS which will require all states to generate 20% of their electricity from renewable power by 2020, further stressing the need for renewable power

- The economics of U.S. renewable energy projects rely heavily on tax benefits

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Federal: Renewable Power Generation

Environmental concerns are driving public policy at the federal level

Federal Tax Benefits: There are two major categories of federal tax incentives currently in place

- Projects can claim "*one*" of the following tax based incentives:
  - Production Tax Credits (PTC) are based on megawatt hour of electricity generated and currently equal to $21/MWh. PTCs are claimed over 10 yrs
  - Investment Tax Credit (ITC) is based on capital cost of project and not on generation of electricity. ITC value is claimed as one time tax credit of 30% of eligible capital cost on the day when project placed in service
  - Grant is exactly the same value as ITC but, unlike ITC, is available to developers in the form of cash instead of tax credits and expires earlier than ITC
- 5 yr Accelerated depreciation for most capital items

- The economics of U.S. renewable energy projects rely heavily on tax benefits

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The American Recovery and Reinvestment Act of 2009 – Renewable Energy Sector Updates

Resource Type	In Service Deadline	Credit Amount (PTC)	Credit Amount (ITC)
Wind	December 31, 2012	2.1¢/kWh	30% of capital cost
Closed-loop Biomass	December 31, 2013	2.1¢/kWh	30% of capital cost
Open-loop Biomass	December 31, 2013	1.0¢/kWh	30% of capital cost
Geothermal	December 31, 2013	2.1¢/kWh	30% of capital cost, 10% after December 2013
Solar	December 31, 2016	30% ITC	30% of capital cost, 10% after December 2016

Note that a project can elect to receive ITC credit in lieu of PTC. Further, a project can elect to receive Grant in lieu of ITC.

Grant is available to projects that start construction by Jan 1, 2011 and is placed in service by deadlines mentioned above for each project.

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Federal Customer Economic Benefit

Tax incentives upon completion of project

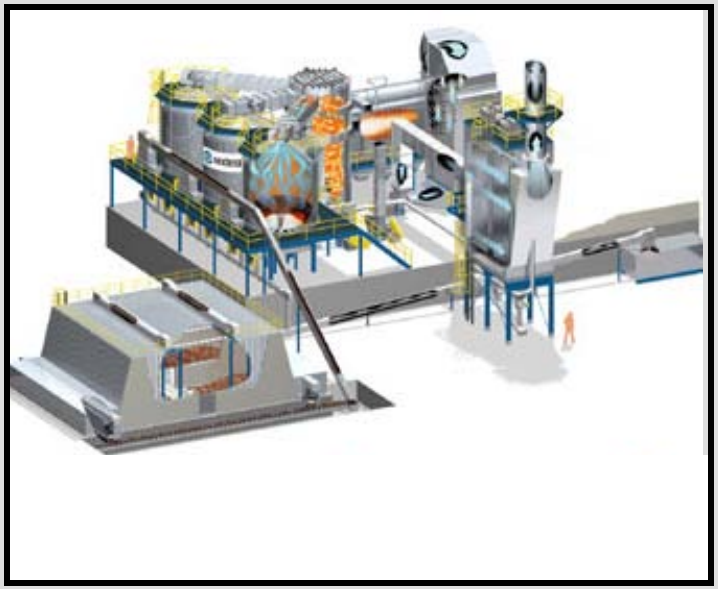
- ITC or Treasury Cash Grant – 30% of project cost
- Depreciation – double in year one and spread out over a period of five years
- RECs – vary by state RPS
- No disposal of obsolete asset

Hot Buttons – Lessons Learned

- Project should stand on its own – a business plan for the system or infrastructure with conservative assumptions yielding market ROIs
- Assumptions on long term tax credits and politics
- Long term payback horizons in an age of quarterly results – mission and strategy questions mixed with credit/collateral
- Documents and structure remain critical for all parties – Federal contract and contract (MPA) between ESCO / Subcontractors and Financier – and are governed by GAAP, tax and FARs/DFARs, etc.
- Environmental and liability issues can complicate
- ESCO and Federal customers' long term planning assumptions and ability to execute
- Information sites: http://www.dsireusa.org/ (Renewables) and http://www1.eere.energy.gov/femp/financing/espcs.html (ESPC)

Case Study #1: Commercial Scale Biomass Gasification for a National Laboratory

- **The Situation:** ORNL is one of the premiere research labs in the world, exploring some of science's most complex questions, including how to advance the US energy infrastructure.
- **The Problem:** With a WWII vintage power system and funding constraints, ORNL was not leading by example in the area of technology development and commercialization, despite abundant renewable resources in the area.
- **The Solution:** Through an ESPC, HA provided the required $100M to allow the ESCO to install a state-of-the-art biomass gasification project, along with other energy upgrades.
- **The Benefit:** ORNL reduced its carbon footprint dramatically by replacing substantial fossil fuel use with local biomass, all while reducing costs.



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Case Study #2: Solar and Cogeneration at Marine Corps Site

- **The Situation** 29 Palms Marine Corps Base is home of the USMC Air Ground Combat Center, the primary desert training base for the U.S.

- **The Problem:** To save on energy costs the base needed a $50M cogeneration plant. But there was no budget, despite the fact that the base would spend multiples of that amount in higher energy bills without an investment.

- **The Solution:** Through an ESPC, HA provided the required $50M.

- **The Benefit:** The base was not only able to reap the benefits of the needed investment but also only has to pay if it receives savings on its energy bill through the terms of the ESPC.

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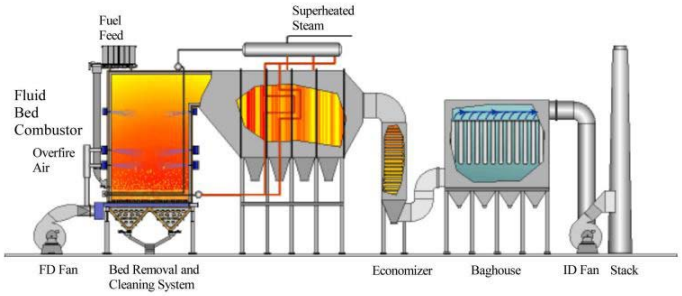
Case Study #3: Biomass Cogeneration Commercial Scale

- **The Situation** The U.S. DOE's Savannah River Site is a former nuclear weapons manufacturing facility with ongoing nuclear cleanup operations requiring use of high pressure steam for vitrification.

- **The Problem** With a 1950s era coal-fired steam plant and funding constraints, SRS was not leading in the area of clean technology development and commercialization, despite more energy efficient technology and abundant renewable resources.

- **The Solution** Through an ESPC, HA provided $125M to install a biomass cogeneration facility capable of producing 240,000 pph of steam and 20 MWs of electricity, along with other upgrades.

- **The Benefit** SRS reduced its greenhouse gas emissions by 100,000 tons per year by replacing substantial fossil fuel use with local biomass, all while reducing ongoing operating costs.



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