Deploying IGCC in this Decade with 3Party Covenant Financing

Proposal Overview

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The 3Party Covenant is a financing and regulatory program aimed at reducing financing costs and providing a technology risk tolerant investment structure to stimulate initial deployment of 3,500 MW (about six 550 MW plants) of Integrated Gasification Combined Cycle (IGCC) coal generation power plants in this decade.

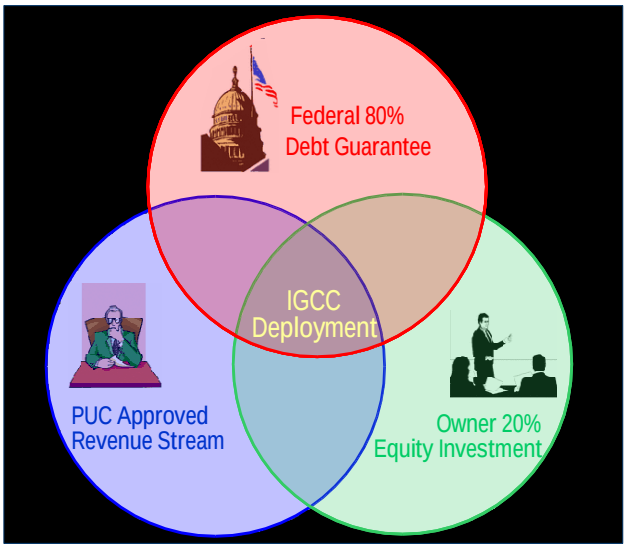
IGCC is a commercially ready, advanced technology for generating electricity with coal that can substantially reduce air emissions, water consumption, and solid waste production from coal power plants. IGCC also provides an important technical pathway for separation and capture of CO_2 emissions to address climate change concerns. Near-term IGCC deployment will help reduce U.S. dependence on imported fuels, relieve pressure on natural gas availability and prices that adversely affect other sectors of the economy, aid national energy and homeland security, and support progress towards addressing global climate change concerns.

3Party Covenant Description

The 3Party Covenant is an arrangement between the federal government, state Public Utility Commission (PUC), and equity investor as follows:

- *Federal Loan Guarantee:* The program for implementing the 3Party Covenant is established through federal legislation authorizing a federal loan guarantee to finance IGCC projects. The terms of the federal guarantee provide for an 80/20 debt to equity financing structure and require that a proposed project obtain from a state PUC an assured revenue stream to cover return of capital, cost of capital, and operating costs. The terms also require the project to capitalize a 10% Construction and Operating Reserve Fund, to have appropriate construction guarantees from the EPC firm hired to design and build the plant, and to meet stringent environmental performance specifications. The terms will also enable the project to have available an additional draw on the federally guaranteed debt ("Line of Credit") of up to 15% of project Overnight Capital Costs (to be matched with an additional equity contribution of 20% of any amount drawn).

Figure 1. 3Party Covenant Illustration



- *State PUC Approval Process:* States interested in participating in the program voluntarily opt-in by adopting utility regulatory provisions for state PUC review and approval of IGCC project costs, which in some states will require legislative action to create appropriate enabling authority. The provisions will enable a state PUC (or potentially another ratemaking body in the case of a municipal utility or rural electric cooperative) to assure dedicated revenues to qualifying IGCC projects sufficient to cover return of capital, cost of capital, taxes, and operating costs. The state PUC provides this revenue certainty through utility rates in states with traditional regulation of retail electricity sales, or through non-bypassable wires charges in states with competitive retail electricity sales, by certifying that the plant qualifies for assured recovery of approved costs

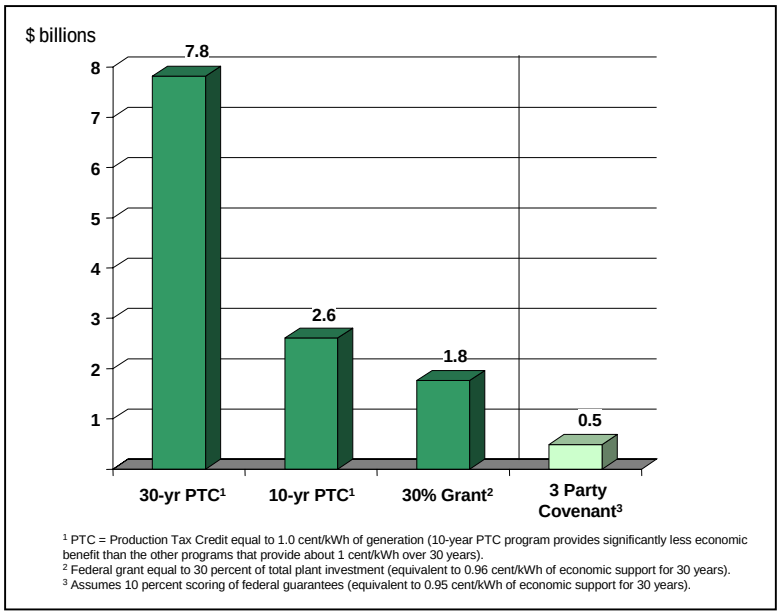
and establishing an adjustment-clause rate mechanism to provide recovery. The initial certification by the state PUC occurs upfront when the decision to proceed with the project is being made, and prudence review by the state PUC and recovery of approved costs occur on an ongoing basis starting during construction.

- *Equity Investor:* The equity investor under the 3Party Covenant is likely to be either an electric utility (or a municipal utility or rural electric cooperative) or an independent power producer that secures a long-term power contract with a utility (or a contract with a comparable credit rating). The investor contributes equity for 20% of project costs and negotiates performance guarantees to develop, construct, and operate the IGCC plant. A fair equity return is determined and approved by the state PUC before construction begins.

The 3Party Covenant is distinguished from other federal financing programs because a principal party is the state PUC which effectively assures the revenue stream needed to service the federally guaranteed debt. The 3Party Covenant is designed to benefit and protect ratepayers by enabling them to receive lower cost (because of access to lower cost financing) and less polluting power without being required to take excessive risk. Ratepayer risks are mitigated under the 3Party Covenant by redundant gasifiers, EPC contractor construction guarantees (and underlying equipment vendor warranties) required to cover construction risks, a 10% Construction and Operating Reserve Fund, a 15% Line of Credit to cover unanticipated construction and operating costs, and the state PUC process for ongoing evaluation of the prudence of the IGCC investment decisions and operation.

Once the state PUC assures revenues to service the federally guaranteed loan, the amount of the loan that must be scored as a federal budget expense is minimized because risk of default is significantly reduced. The budgetary treatment of federal loan guarantee programs is governed by the Federal Credit Reform Act of 1990 (FCRA). FCRA makes commitments of federal loan guarantees contingent upon prior budget appropriations ("scoring") of enough funds to cover the estimated present value cost associated with the guarantees. If loan guarantees under the 3Party Covenant were scored at 10% of the principal amount guaranteed, then $5 billion of loan guarantees (enough for about 3,500 MW) would cost the federal budget $500 million. As shown in Figure 2, this budget impact is significantly less than alternative grant or energy production tax credit based incentive programs that provide incentives of comparable value.

Figure 2. Federal Budget Cost of 1 cent/kWh Support for 3,500 MW of IGCC under Different Policy



Financial Benefits

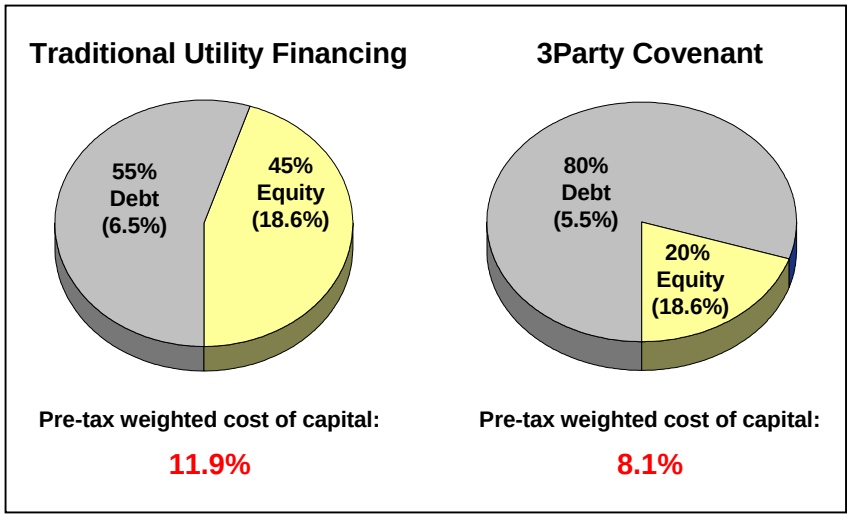
The 3Party Covenant will have the following financial impact:

- Provide for federal loan guarantees with "AAA" credit ratings backed by the full faith and credit of the United States government, which bond markets will rely on (rather than assessing project risks or corporate credit) and will serve to open capital markets to IGCC developers.
- Reduce the cost of capital component of energy costs from new IGCC facilities by about 38% and the overall cost of energy about 25%, making the technology cost competitive with PC and NGCC generation.
- Provide ratepayers the opportunity to benefit from lower cost, cleaner power

than what would be available under traditional utility financing of PC power plants.

- Reduce risks to the federal government (through the state PUC review and approval process providing an assured revenue stream) to minimize the federal budget impact of the program.
- Reduce the equity requirement to 20% (from around 45% under traditional utility financing) through the terms of a non-recourse loan backed by a federal loan guarantee to reduce the investment hurdle for developers.
- Address construction and operating risks by requiring an up-front state PUC prudence review to approve a stream of revenues, require EPC construction guarantees, require a 10% Operating Reserve Fund, and provide for a 15% Line of Credit for IGCC projects.

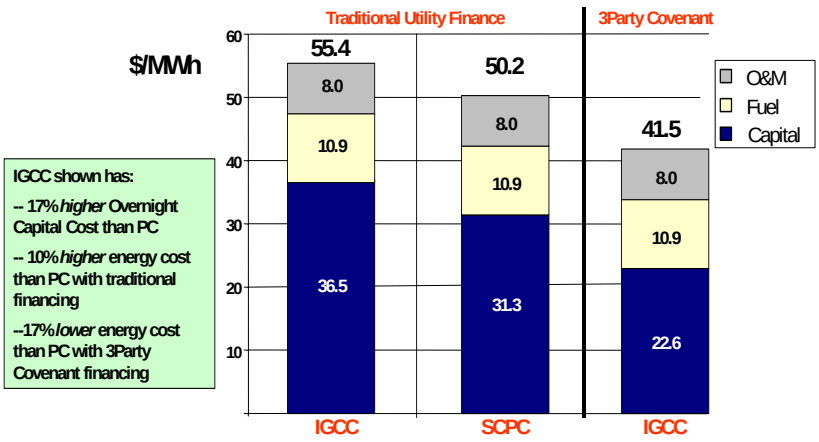
Figure 3. Cost of Capital Reduction under 3Party Covenant



Cost of Energy

- The 3Party Covenant will reduce the cost of capital component of energy costs by about 38%, and reduce the total energy cost about 25% by lowering the cost of debt through the federal loan guarantee (from a typical 6.5% mid-grade utility bond to 5.5% rate associated with federal agency debt) and providing for a significantly higher ratio of debt to equity, which would move from a traditional utility 55/45 ratio to 80/20 under the 3Party Covenant.
- As illustrated in Figure 3, under the 3Party Covenant, 18.6% pre-tax equity (assuming an allowed after-tax return of 11.5% and 38.2% federal and state combined tax rate) will be replaced with 5.5% federal debt for about 25% of project costs, which will reduce the pre-tax, nominal weighted average cost of capital of an IGCC plant from about 12% (traditional utility financing) to 8% (3Party Covenant).
- Figure 4 compares the cost of energy estimates for a Reference IGCC plant under the 3Party Covenant to the cost of energy estimates for Reference PC, and IGCC plant under traditional utility financing scenarios. The figure illustrates that the overnight capital cost of the Reference IGCC plant is 17% *higher* than the Reference PC plant, but it has a 17% *lower* energy cost when financed under the 3Party Covenant.

Figure 4. IGCC Cost of Energy versus PC



Overnight Capital Cost ($/kW)	$1,400	$1,200	$1,400
Fuel Cost ($/mmBtu)	$1.25	$1.25	$1.25
Capacity Factor	85%	85%	85%
Heat Rate (btu/KWh HHV)	8,700	8,700	8,700
Debt Fraction	55%	55%	80%
Debt Cost	6.5%	6.5%	5.5%
Pre-Tax Equity Return	18.6%	18.6%	18.6%