



Submission for  
2009 Cronin Award  
for Procurement Excellence

## Energy Strategy

Date of Implementation:  
July 1, 2004

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**Commonwealth of Pennsylvania**  
Department of General Services  
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Submitted on July 2, 2009

# The Commonwealth of Pennsylvania's Energy Strategy

## EXECUTIVE SUMMARY

**INTRODUCTION:** The Department of General Services (DGS), Bureau of Procurement (BOP) is responsible for procuring and managing the Commonwealth of Pennsylvania's energy.

**BACKGROUND:** The Commonwealth's model for energy procurement had not changed in fifty years; however, the energy market was shifting from demand driven to supply driven. Recently, the projected price increases associated with the removal of rate caps on electricity due to de-regulation became a major concern that will have a significant impact on the Commonwealth's Operating Budget. Accordingly, DGS began to research and identify



innovative procurement methodologies to reduce energy costs. The challenge was to develop and implement an energy strategy that provided cost savings for the various energy markets; while ensuring that the awarded suppliers had the capacity to meet the Commonwealth's supply requirements.

**PROGRAM DESCRIPTION:** DGS developed and implemented an Energy Strategy for the following energy markets: liquid fuels, natural gas, electricity, green renewable energy and coal. This newly developed strategy combines the following procurement methodologies: future commodities market, electronic on-line bidding, electric grid membership, procurement via non-utility entities and curtailment service options.

DGS works through its suppliers to utilize the New York Mercantile Exchange (NYMEX) commodity futures market to lock in pricing for liquid fuels during times of favorable market conditions. This strategy enables DGS to gain control of the total fuel commodity cost and allows DGS to reduce market exposure and the impact of spikes in pricing.

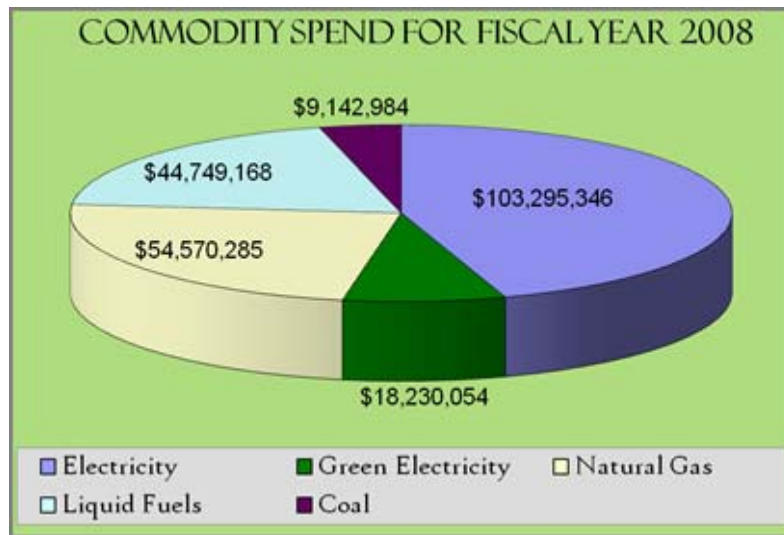
Historically, DGS conducted electronic on-line bidding to procure natural gas. DGS is currently utilizing a multi-faceted strategy in which DGS receives electronic quotations from suppliers in both fixed and variable price formats with varying term lengths. This multi-faceted approach provides the following: budget certainty, risk management and the ability to capitalize on market downturns.

DGS is initiating the electric grid membership strategy; enabling DGS to procure directly, where practical to eliminate the "middle man" and their associated mark-ups. Further, it allows DGS to develop and execute a long-term procurement strategy, mitigating market risk.

Contracting with non-utility entities, promotes competition among suppliers; thus providing a five percent to ten percent reduction versus the standard tariff rates of the utility provider.

**RESULTS:** Since January of 2004 DGS' new Energy Strategy provided \$18.9 million in savings for natural gas and \$1.4 million for electricity, totaling \$20.3 million. In fiscal year 2009, the strategy provided a savings of \$4.5 million for coal, anthracite and bituminous. Further, DGS procured green renewable energy credits equating to a significant percent of the Commonwealth's utilization as indicated for the following fiscal years: 2008: 30%, 2009: 40% and 2010: 50%.

The Commonwealth of Pennsylvania's energy spend for 2008 is indicated below:



## INNOVATION

The Commonwealth of Pennsylvania's energy model remained stagnant for over fifty years; however, the energy markets were shifting from demand driven to supply driven. DGS proactively assumed the leadership role to revamp the Commonwealth's Energy Strategy to align with the supply driven energy market. DGS' initial action was to create an energy procurement team. This team consists of six procurement professionals, with four members being solely dedicated to energy procurement and staying abreast of the developments within the energy markets.

DGS' energy procurement team proactively explored innovative procurement methodologies to address the drastic price increases associated with the volatile energy markets and the impending de-regulation. This proactive and creative approach resulted in DGS implementing leading edge programs for various energy markets.

DGS' new Energy Strategy leverages the Commonwealth's procurement power and provides flexibility and expedites the procurement process. The new energy Invitation to Qualify contract (ITQ) has a ten year term and provides flexibility by: contracting with pre-qualified suppliers allowing DGS to procure commodities when prices are low and as needed, and contracting with third party suppliers versus with the utility companies. Additionally, the ITQ expedites the procurement process by: contracting with pre-qualified suppliers which eliminates the time

consuming solicitation process, and allowing services to be paid by a utility P-card. Further, the contract language enables the Commonwealth's Cooperative Sourcing to Achieve Reductions in Spend (COSTARS) members to participate. COSTARS members are defined as local public procurement units and state-affiliated entities.

A component of the Energy ITQ Strategy is the electric grid membership, which enables DGS to develop and execute a long-term procurement strategy. This strategy enables DGS to procure electric at "real time" daily prices. Additionally, it eliminates the "middle man" and their associated mark-ups. This membership allows DGS to procure electric generation directly.

DGS' Green Renewable Energy strategy is to procure renewable energy credits. In fiscal year 2008, DGS procured green renewable energy credits equating to thirty percent of the Commonwealth's utilization. These green renewable energy credits consisted of ten percent from wind sources and ninety percent from biomass sources. Subsequently, for fiscal years 2009 and 2010, DGS procured forty percent and fifty percent respectively. All of these credits are Environmental Protection Agency (EPA) eligible. The Green Renewable Energy contract enables the Commonwealth to increase the number of credits purchased as required. The Commonwealth is the only state on the Green Power Partnership & EPA's top twenty-five list and is ranked number twelve.<sup>1</sup>

The flexibility of the ITQ contract allows the Commonwealth to utilize a multi-faceted strategy for natural gas procurement. DGS receives online quotes from suppliers in both fixed and variable price formats with varying term lengths. DGS evaluates and selects the best value quote, often resulting in a combination of fixed and variable price awards. Fixed quotes provide budget certainty and protection against risk while the variable quotes afford DGS the ability to manage risk by layering pricing via the NYMEX futures market. The ITQ Contract structure allows DGS to solicit quotes for natural gas on an as required basis with short lead-times. This enables DGS to capitalize on market downturns and mitigate the risk of price increases due to seasonal demand and weather related supply changes.

DGS recently implemented a pilot for participation in the Electricity Curtailment Service Program. By participating in this program, the electric grid offers financial compensation for reducing electricity usage during times when peak demand threatens to cause power outages and when real-time market prices are the highest. This program promotes managing costs through innovative methods and energy conservation. The pilot is in the initial season, with four Commonwealth facilities participating. DGS anticipates introducing the program to the entire Commonwealth in 2010.

DGS' Energy Strategy significantly contributes to the Commonwealth's goal of managing and reducing energy costs by: creating strategies tailored to the specific dynamics of each commodity, and through flexible and expeditious procurement processes.

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<sup>1</sup> National Top 50 Green Power Partnership US EPA

## **TRANSFERABILITY**

DGS has proactively assumed a leadership role in energy management as a model for other state and local governments. Over the years, DGS has taken the steps necessary to fit best practices of private sector energy cost management into the government purchasing model. The Energy ITQ contract, which covers the Commonwealth's needs for commodity supply of electricity, natural gas, renewable energy credits, and the needs for other energy related services, essentially serves the purpose of establishing a list of pre-qualified bidders. This process removes the need to obtain contract approval and signatures each time quotes are requested; shortening the time needed to execute procurements and improving our ability to respond to market trends. Any governmental or public procurement entity whose governing law or code allows them to enter into this type of contract can structure something similar.

DGS has also structured its purchases of diesel fuel, heating oil, gasoline and coal to fit the general market landscape for each within the scope of a standard low-bid price contract. For coal, DGS bids its requirements on a facility by facility basis due to the unique specifications necessary at each location. In recent years DGS has made a concerted effort to work with both the supply base and internal users in order to tailor the specifications to more closely align with a product that is widely available. For diesel fuel, heating oil and gasoline, DGS bids its requirements based on geographic groupings of counties. A great deal of analysis has been done on how the supply base bids in geographic terms in order to group counties in a manner that maximizes both supplier competition and coverage for rural areas. The landmark "large volume" fuel contract that allows DGS to lock in commodity futures pricing is essentially structured and bid in the same manner as an index based fuel contract. The major difference is that the geographic groupings are larger in order to ensure that minimum volume requirements can be met. These approaches and contract structures can easily be repeated by other public purchasing entities.

## **SERVICE IMPROVEMENT**

DGS' Energy Strategy enhances the Commonwealth's ability to manage and budget energy costs by: minimizing price fluctuations, securing firm prices where advantageous, managing the risks associated with the availability of supply, and stabilizing long term supply issues.

The Energy Strategy is flexible and provides many benefits which contribute to operational efficiencies and effectiveness. The flexibility of the Energy Strategy expedites the procurement process. This is achieved by empowering Procurement Agents to obtain quotes from qualified suppliers, identify the best value and release the purchase order. An additional benefit is utilizing a utility P-Card. Utilizing the P-card ensures that suppliers are paid promptly; thus eliminating the past due payment issues. Further, DGS' ability to secure firm prices significantly decreases the number of invoicing errors.

DGS is in the initial season of a pilot program known as the Electricity Curtailment Services Program. In this program, the electric grid offers financial compensation for reducing electricity usage at times when peak demand threatens to cause power outages and when corresponding

real-time market prices are the highest. This program aligns with the Commonwealth's parallel program of energy conservation as a key necessity to manage energy costs. Four Commonwealth facilities are participating in the pilot program. DGS intends to introduce the program to all Commonwealth facilities in 2010.

DGS' Energy Strategy will continue to evolve to ensure operational efficiencies and effectiveness while being responsible financial stewards. These components contribute to the Commonwealth's ability to manage and budget energy costs.

## COST REDUCTION

The success of DGS' Energy Strategy is demonstrated by the monetary savings provided to the Commonwealth. Since January of 2004 DGS' new Energy Strategy provided \$18.9 million in savings for natural gas and \$1.4 million for electricity, totaling \$20.3 million. In fiscal year 2009, the strategy provided a savings of \$4.5 million for coal, anthracite and bituminous. Further, DGS procured green renewable energy credits equating to a percent of the Commonwealth's utilization, as indicated for the following fiscal years: 2008: 30%, 2009: 40% and 2010: 50%.

DGS' Energy Strategy provides monetary savings, flexibility and convenience while managing the risks associated with fluctuating prices and supply. These benefits are achieved by leveraging the Commonwealth's significant procurement power and developing cost reduction and risk strategies specific for each energy market. DGS' price reduction strategies for the various energy markets are provided below:



- Liquid Fuels
  - Utilizing the future commodities market strategy enables DGS to gain control of commodity cost and provides the flexibility to purchase when market price is low
  - Awarding multiple suppliers, promotes competition among suppliers and provides a diversified portfolio and convenience while mitigating the risk associated with price increases
- Natural Gas
  - Historically conducted electronic on-line bidding which encouraged competition among suppliers; thus providing aggressive price reductions
  - Currently utilizing a multi-faceted strategy in which DGS receives electronic quotations from suppliers in both fixed and variable price formats with varying term lengths
    - Fixed pricing provides budget certainty and risk protection, while variable pricing enables DGS to manage risk by layering pricing via the NYMEX futures market

- DGS selects the best value quotation; often resulting in a combination of fixed and variable price awards
  - Enables DGS to solicit quotations as required with short lead times; allowing DGS to capitalize on market downturns and mitigate the risk of price increases associated with seasonal demands and weather related supply issues
- Electricity
  - Purchasing power directly from the electric grid eliminates the “middle man” and enables DGS to sell any power produced by the Commonwealth
  - Awarding contracts to non-utility suppliers promotes competition among suppliers; historically providing a price reduction of five percent to ten percent
  - Conducting electronic on-line bidding with major suppliers promotes competition among suppliers resulting in price reductions
- Green Renewable Energy
  - Purchasing green renewable energy credits enables DGS to increase the number of green energy credits via the Green Power Partnership & EPA Program
  - Electric grid membership allows DGS to sell any green renewable energy produced at state facilities
- Electricity Curtailment Service Program
  - DGS recently implemented a pilot program for Commonwealth participation, in which the electric grid offers financial compensation for reducing electricity usage at times when peak demand threatens to cause power outages and when real-time market prices are the highest
  - Participation in this program aligns with the Commonwealth’s strategy of managing costs through innovative methods of generating revenue and energy conservation
  - Pilot program is in the initial season and consists of four Commonwealth facilities

The savings achieved through DGS’ multi-faceted Energy Strategy significantly contributes to the Commonwealth’s initiative to manage and reduce energy costs.