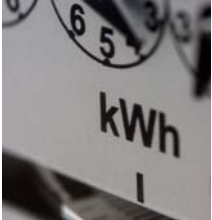




Energy Management - Street Light Electric Procurement

December 4, 2006





Outline

- **Background information**
 - Texas energy market structure
 - Why now?
 - What this procurement is not... What it is
- **How energy markets work**
- **Street Light procurement process**
 - Procurement method
 - Green power option
- **Recommendation and future steps**

Background

Texas Energy Market Structure

- September 1999, Senate Bill 7 created opportunities for competition in electric retail (deregulation) effective January 2002

Independent Power Producers and Investor Owned Utility Generators



Transmission & Distribution Service Provider (TDSP)



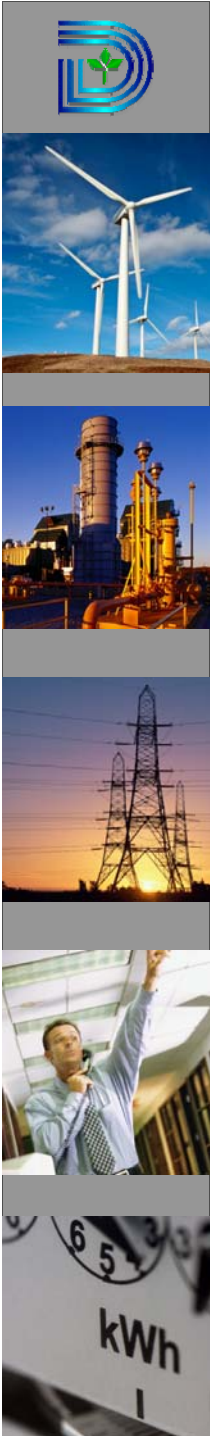
REGULATED

Retail Electric Provider (REP)



DEREGULATED

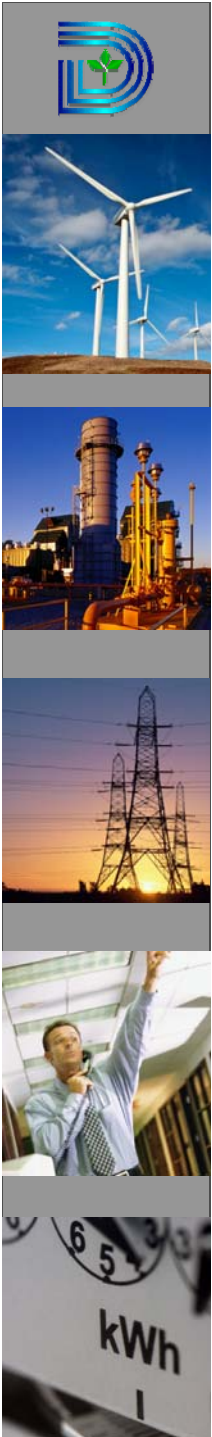




Background

Why Now?

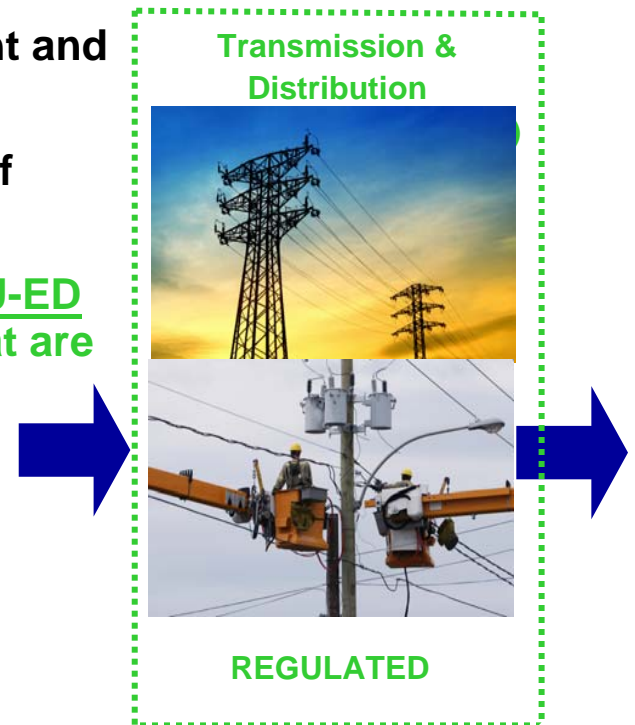
- Since 2002, all accounts (except street lights) have been under Public Power Pool (P3) aggregation program
- April 2006, Council approved withdrawal from P3 at end of December 2007
- Energy for Street Lights has been purchased from TXU at Price To Beat (PTB) rate
- TXU Energy PTB is ending January 1, 2007
- TXU Energy made unsolicited offer to enter energy agreement that provides price certainty
- Recommend executing contract for Street Lights for 2007
 - Price certainty
 - Lower costs (if current trends hold)
 - Will end at same time as other Dallas load contracts

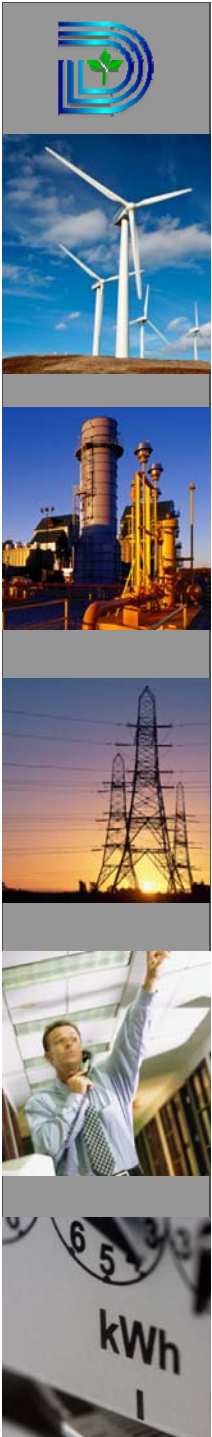


Background

What This Procurement Is Not...

- Procurement is not for electricity accounts/load already contracted through P3 until December 2007
- This procurement is not for maintenance of Street Lights
 - Energy supply does not include street light and fixture maintenance or replacements
 - City is billed separately for maintenance of non-TXU-ED owned lights
 - Maintenance and pole rental costs for TXU-ED owned lights are part of TDSP charges that are a pass through by REP on electric bill





Background

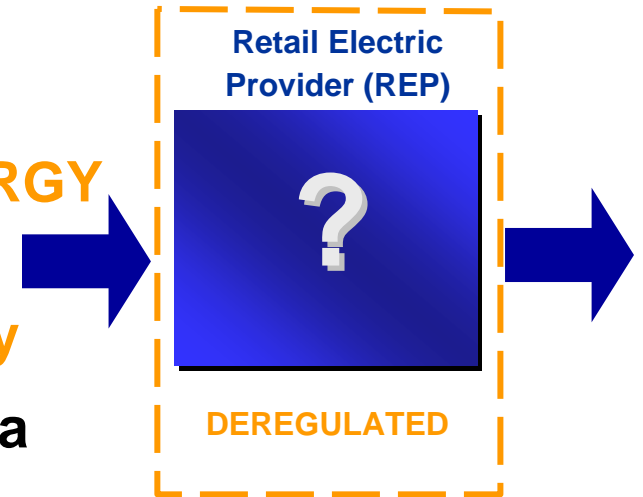
What This Procurement Is...

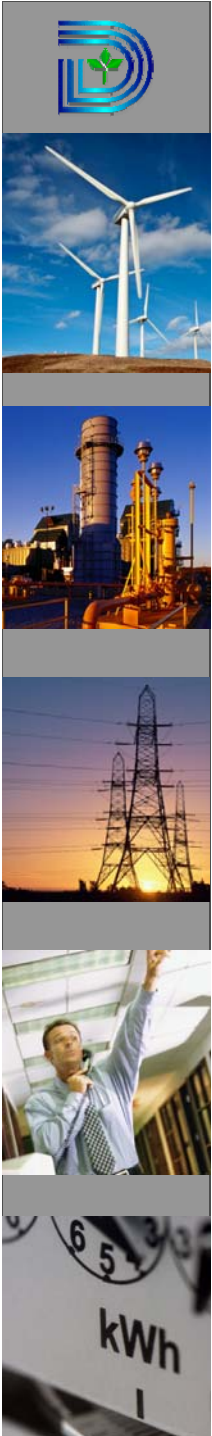
- **Street Light energy**

- This contract is **ONLY** for **ENERGY SUPPLY**
- The **REP ONLY** supplies energy

- **This procurement process will be a pilot program**

- Test procurement procedures and methodology for city-wide energy supply
- New city-wide agreement needed beginning January 1, 2008

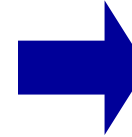


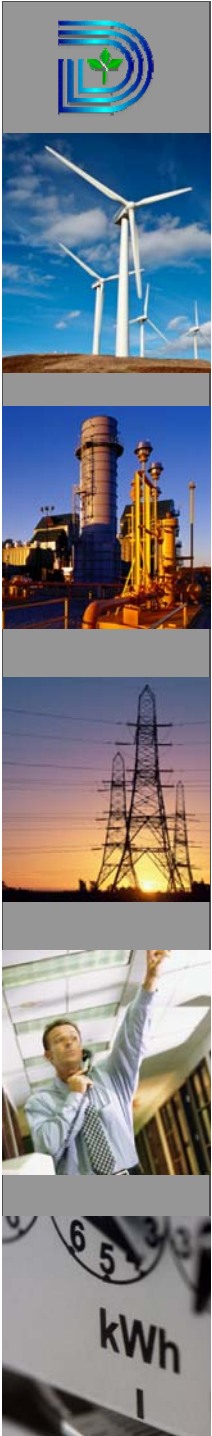


Background

City Street Lights

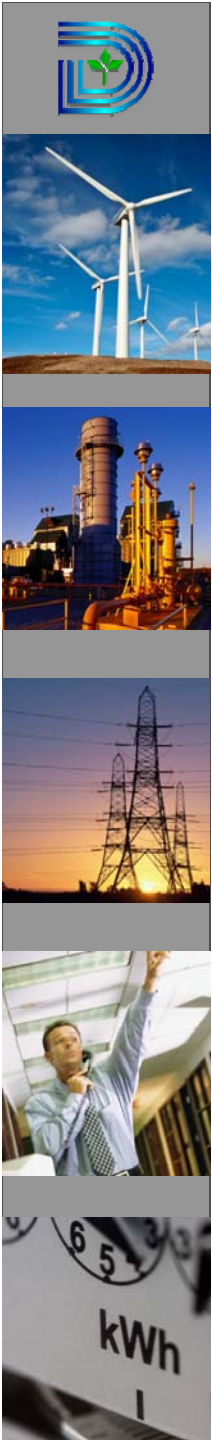
- **Approximately 85,000 lights**
 - 9,000 owned by State
 - 6,000 owned by City
 - 70,000 owned by TXU-ED (Electric Delivery) – leased by City
- **~84,000,000 kwh/yr (84,000 MWH/yr) or 10% of city-wide electricity use**
- **This contract is for energy for all 85,000 lights**





How Energy Markets Work

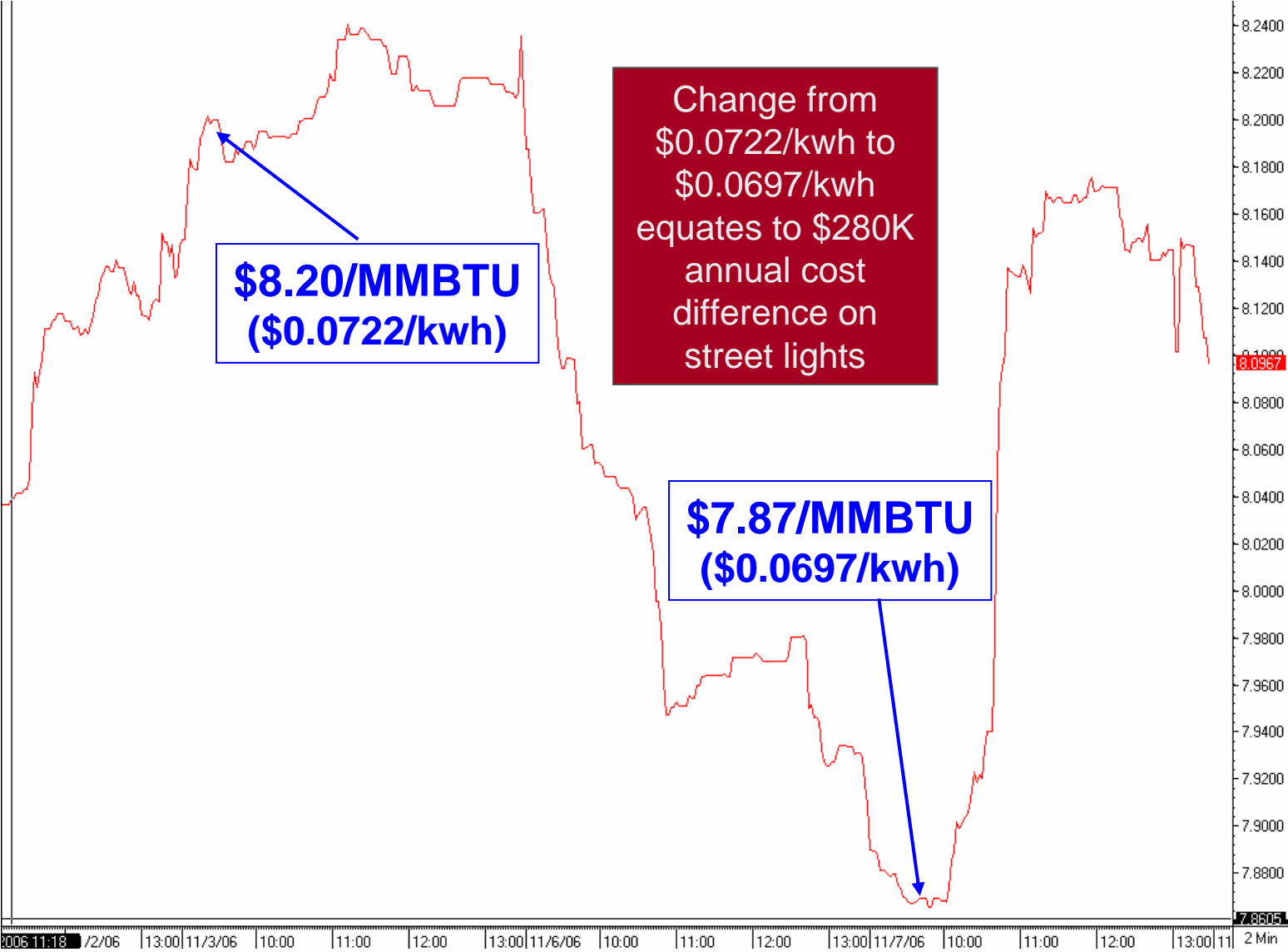
- **REPs don't own generation – have to buy supply**
- **REPs don't buy until they have customer**
- **Supply pricing dependent upon:**
 - **Generation market factors**
 - **Fuel market factors**
- **Generation market changes day to day (unit availability/generation mix, etc.)**
- **Fuel market changes by minute**
 - **New York Mercantile Exchange (NYMEX) gas futures contracts**
 - **Most volatile commodity (+/- 10% in a day not uncommon)**

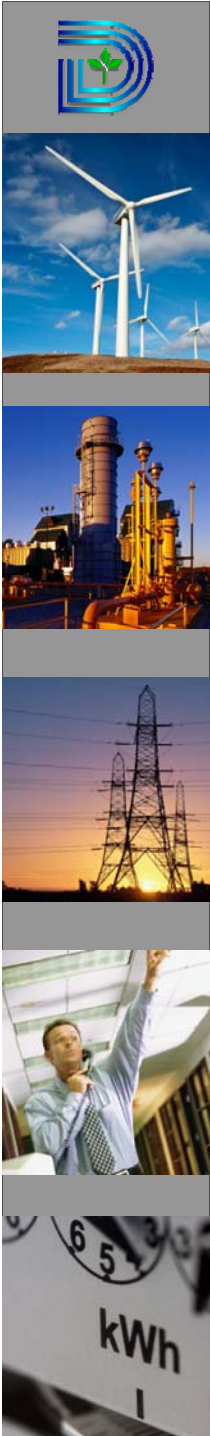


How Energy Markets Work

Natural Gas Prices & Electric Prices

Gas market and electric price changes over 4 days

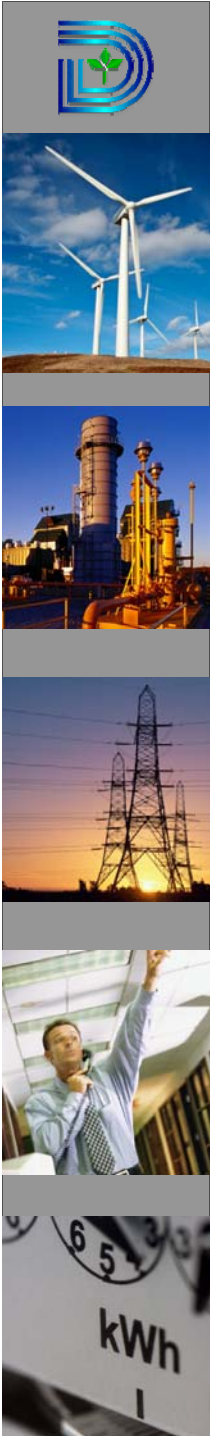




How Energy Markets Work

Contracting with Volatility

- **Primary contracting options:**
 - Fixed price
 - Index pricing
- **Fixed pricing simplest**
 - Decision must be made quickly (i.e., within 5 minutes)
 - Significant premium charged for holding price open
 - Prices can be withdrawn by REP if market moves up
- **Gas index pricing**
 - Very common
 - Formula based
 - Allows time to make a decision without bids changing
 - Can be held open for a day with little risk



How Energy Markets Work

Gas Index Pricing Formula

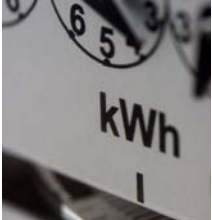
$$\text{Electricity Price} = (\text{GP} \times \text{HR}) + \text{RA}$$

GP – Gas Price as traded on the NYMEX

HR – Heat Rate relates gas input to electricity output

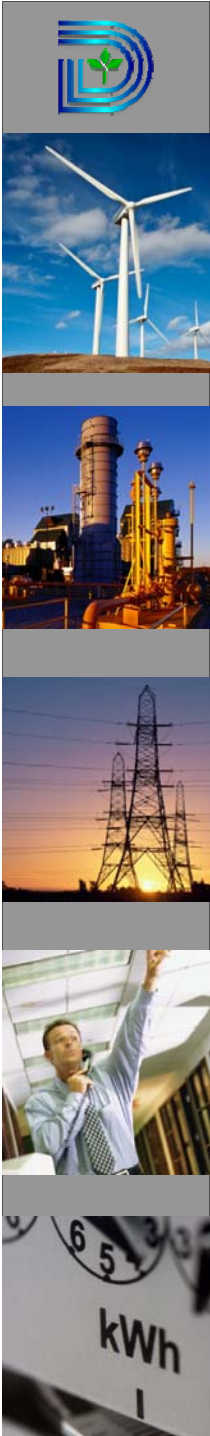
RA – Retail Adder – accounts for ancillary services, REP profit, other costs to get retail power

- HR and Retail Adder fixed in REP bid
- Gas price set when lock occurs
 - Based on NYMEX trading at time of lock
 - Buyer (i.e. City) must have authority to execute gas lock



Procurement Method

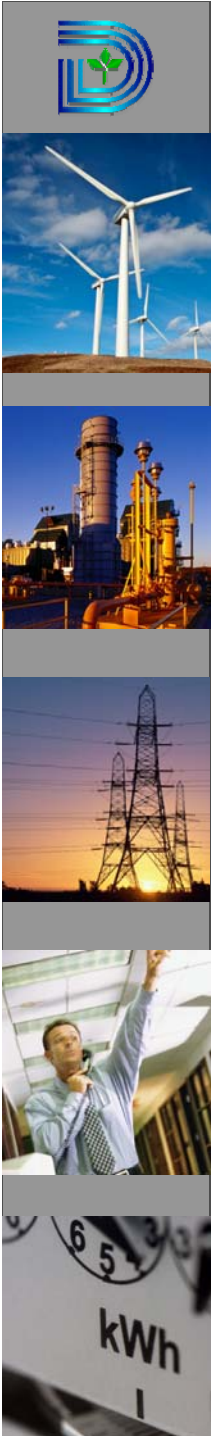
- **Recommend gas index pricing methodology be piloted for this procurement of energy**
- **Index pricing requested from four REPs**
 - **Current City procedures limit its ability to execute fast enough for fixed prices**
 - **\$0.001/kwh change in price = \$84,000/yr**
 - **Fewer contracts to approve**
 - **State law – electricity does not have to be procured through normal methods**



Procurement Method

Price Lock Solution

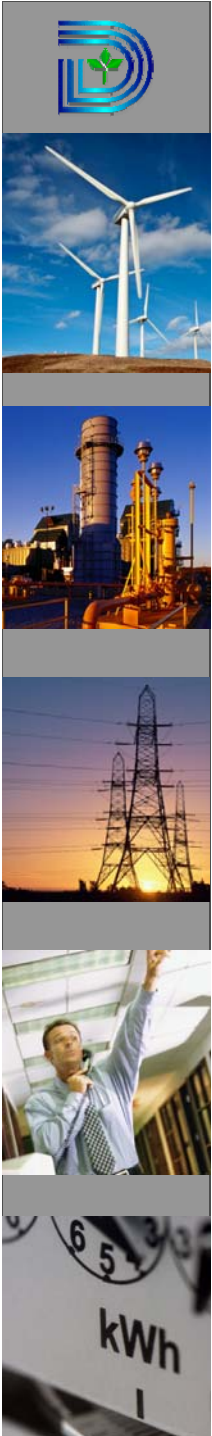
- **Prices locked automatically over 5 days following contract approval**
 - Given market volatility City should not ‘bet’ on a good price on a given day
 - Mitigates risk of price run up on day of signing
- **Price will be based on settlement (closing price) for each of 5 days of trading following signing (12/14 to 12/20)**
- **12 month average price for 2007 will be averaged over 5 day period**
 - Prices will be set by December 20, 2006 at close of business
 - Price verified by consultant team



Procurement Method

Green Power Option

- One of City's core values is Environmental Stewardship
- Purchasing renewable energy demonstrates this value along with our commitment to clean air issues
- It signals energy market that demand for renewable energy exists
- Requesting renewable energy pricing option
- 40% renewable power projected to cost less than \$200K/yr or estimated 3.4% of anticipated energy cost for Street Lights
 - Moving beyond 40% renewable might create artificial demand and escalate renewable prices at this time; City can increase its use of renewable energy over time

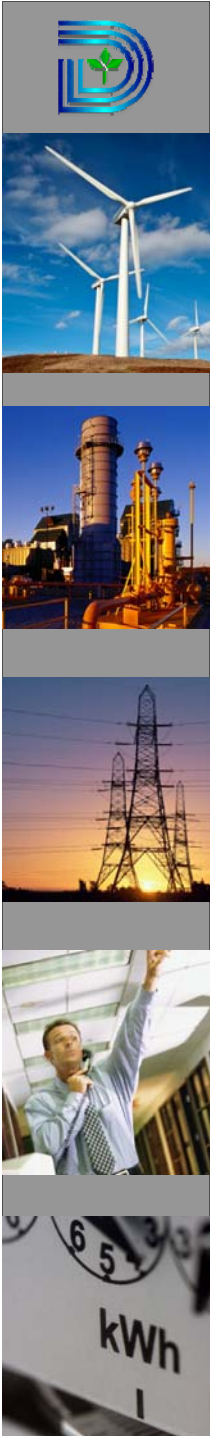


Procurement Method

■ Proposed Process/Schedule:

12/5/2006	Final indicative refresh on pricing.
12/12/2006	Take final index bids evening for decision at next day's Council meeting.
12/13/2006	Council meets and decides on supplier.
12/13/2006	After council decides, CMO signs contract and it is sent to winning supplier.
12/20/2006	Price established

- **Agenda will have multiple items for energy – one item for each of potential energy providers**
 - All provider contracts will have been signed by energy company ready for City to execute
 - Council will approve only one
- **Winner selected, contract signed, gas index formula set**
 - Final price not set until gas price locked



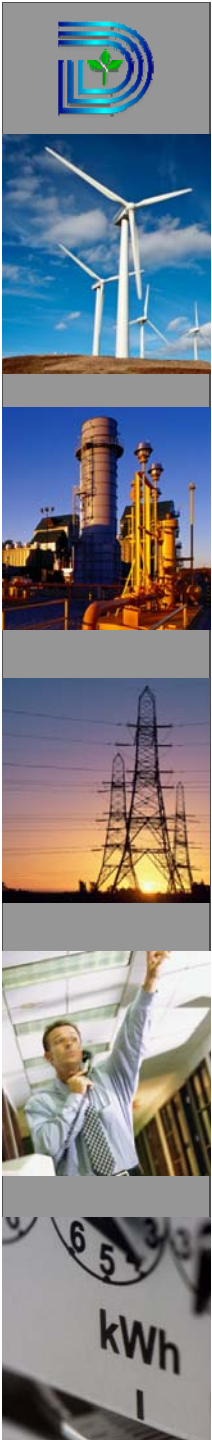
Recommendation and Future Steps

- **Recommend approval on December 13 of Street Light energy procurement based on gas index pricing methodology**
 - **Contract for 12 months to expire end of December 2007 simultaneously with accounts currently assigned to P3**
 - **Natural gas based formula for Street Light energy with price to be determined 5 days after Council approval**
 - **40% renewable energy credits to be included**
- **Future Steps**
 - **Evaluate success of pilot approach and use of gas index pricing**
 - **Establish City's strategies for independent procurement for entire load to address city needs beginning January 2008**
 - **Determine methodologies for future procurements; i.e., fixed price, gas index price, delegate authority to CMO; City's risk tolerance, etc.**
 - **Summer or Fall 2007 execute contract for City-wide electric procurement starting January 2008**



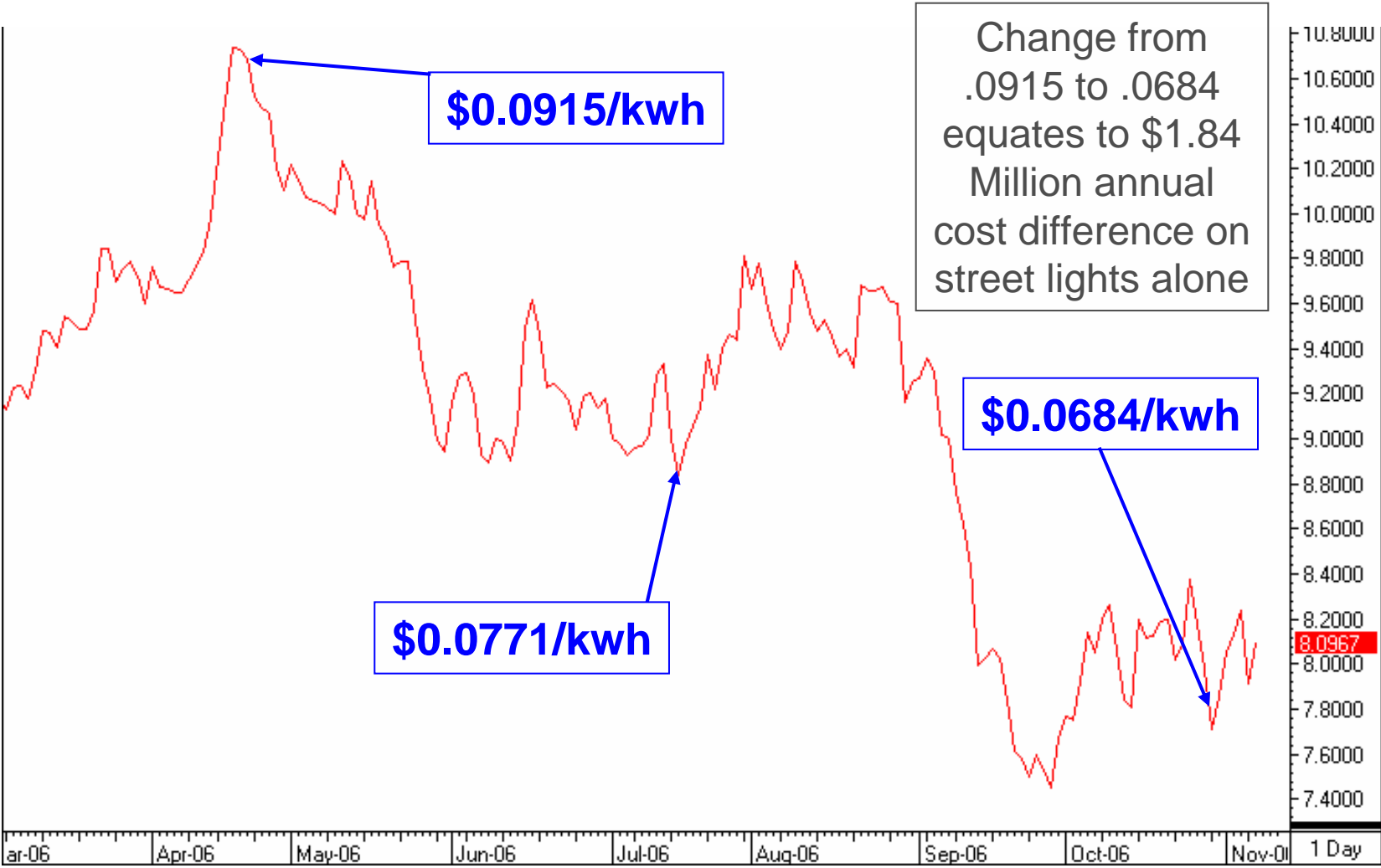
Appendix

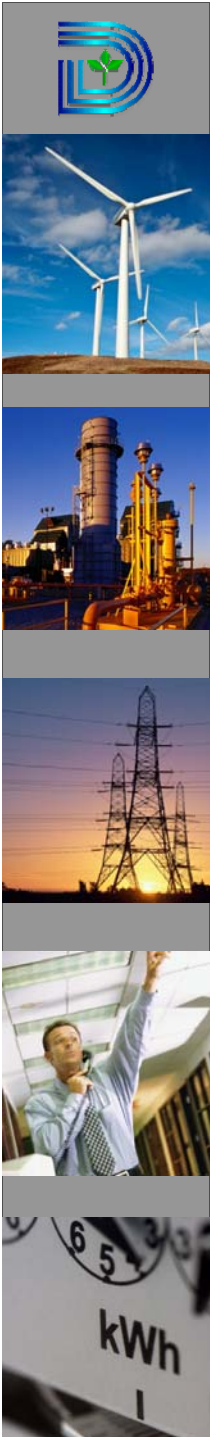




Natural Gas Prices & Electric Prices

Gas market and electric price changes over 9 months

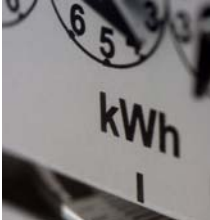




How the Market Works

- NYMEX trades gas for future months
- Allows supplier to lock in prices for future delivery
- 2007 prices based on avg. 2007 futures (12 month strip)

Month	Last	Change	High Price	Low Price	Previous Price	Trade Time	Trade Date
Dec 06	7.794s	-0.161	7.840	7.700	7.955	1:50 PM	11/10/2006
Jan 07	8.314s	-0.121	8.350	8.220	8.435	1:59 PM	11/10/2006
Feb 07	8.374s	-0.114	8.380	8.280	8.488	1:59 PM	11/10/2006
Mar 07	8.229s	-0.109	8.230	8.140	8.338	1:59 PM	11/10/2006
Apr 07	7.749s	-0.109	7.740	7.690	7.858	1:59 PM	11/10/2006
May 07	7.714s	-0.112	7.700	7.630	7.826	1:59 PM	11/10/2006
Jun 07	7.799s	-0.112	7.790	7.710	7.911	1:59 PM	11/10/2006
Jul 07	7.894s	-0.107	7.880	7.780	8.001	1:59 PM	11/10/2006
Aug 07	7.954s	-0.107	7.960	7.920	8.061	1:59 PM	11/10/2006
Sep 07	8.004s	-0.107	8.010	7.980	8.111	1:59 PM	11/10/2006
Oct 07	8.099s	-0.107	---	---	8.206	1:59 PM	11/10/2006
Nov 07	8.574s	-0.102	8.550	8.510	8.676	1:59 PM	11/10/2006
Dec 07	9.044s	-0.097	9.000	8.980	9.141	1:59 PM	11/10/2006
Jan 08	9.319s	-0.092	9.225	9.225	9.411	1:59 PM	11/10/2006
Feb 08	9.326s	-0.092	9.310	9.310	9.418	1:59 PM	11/10/2006
Mar 08	9.129s	-0.092	---	---	9.221	1:59 PM	11/10/2006
Apr 08	7.859s	-0.067	---	---	7.926	1:59 PM	11/10/2006
May 08	7.739s	-0.062	---	---	7.801	1:59 PM	11/10/2006
Jun 08	7.794s	-0.062	7.756	7.756	7.856	1:59 PM	11/10/2006
Jul 08	7.879s	-0.062	7.841	7.841	7.941	1:59 PM	11/10/2006
Aug 08	7.924s	-0.057	7.881	7.881	7.981	1:59 PM	11/10/2006
Sep 08	7.979s	-0.057	7.936	7.936	8.036	1:59 PM	11/10/2006
Oct 08	8.054s	-0.052	8.000	8.000	8.106	1:59 PM	11/10/2006
Nov 08	8.409s	-0.052	---	---	8.461	1:59 PM	11/10/2006
Dec 08	8.764s	-0.052	8.730	8.720	8.816	1:59 PM	11/10/2006
Jan 09	8.989s	-0.057	---	---	9.046	1:59 PM	11/10/2006
Feb 09	9.004s	-0.057	---	---	9.061	1:59 PM	11/10/2006
Mar 09	8.777s	-0.057	---	---	8.834	1:59 PM	11/10/2006
Apr 09	7.537s	-0.012	---	---	7.549	1:59 PM	11/10/2006



Energy for Street Lights

Method

- **Locking gas price is not a financial hedge for the City. It is:**
 - A transaction for physical supply
 - Suppliers may be transacting on financials but not City of Dallas

- **Two options applicable for locking gas:**
 - Authority to execute lock delegated by Council
 - Locks made as desired
 - Lock made automatically by Council's approval of the contract
 - Risk of run up on day of approval