PRESENTATION ON ELECTRICITY RATES AND FINANCIAL CONSIDERATIONS

GENERAL COMMITTEE
October 21, 2013

Graham Seaman
Senior Manager, Sustainability
Ext 7523

AGENDA

1. **Electricity consumers - facilities and streetlights**
2. **Annual electricity budget**
3. **Electricity Rate Components**
4. **Major drivers – Commodity and Global Adjustment**
5. **Budget Impact – 2014**
6. **Mitigating Strategies**

Facilities and Streetlight

Facilities use electricity for HVAC, pool pumps, lighting, ice rink chillers, computers, kitchens and more.

25,000 streetlights, 90 traffic lights and flashers

Annual Budget

We set our annual electricity budget by:

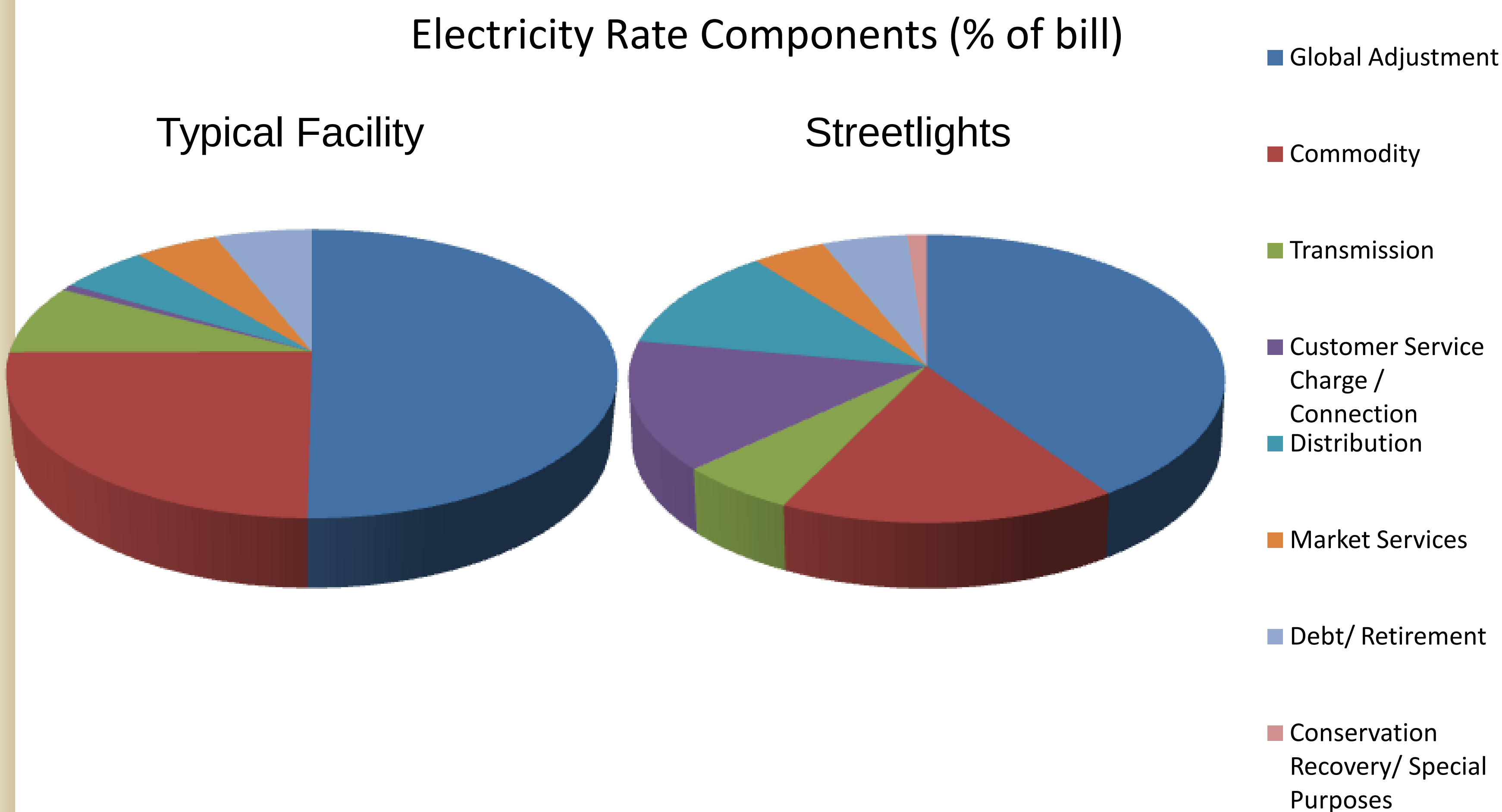
Modelling the volume (kWh) of electricity consumed by our facilities and estimating the rate ($/kWh)

To model the facility volume we analyze and project the three year rolling average and make adjustments for service level changes and conservation projects.

To model the streetlight volume we build from the past years consumption, add in new streetlights assumed from developers and subtract expected savings from the 12,000 plus LEDs retrofit project.

To estimate the rate we consult with experts and other businesses.

Markham's annual electricity budget is $5,979,839 , which is 3.3% of the overall operating budget of $180,795,409.



- Global Adjustment and Commodity are 75% of facility utility bill
- Global Adjustment and Commodity are 57% of streetlight utility bill

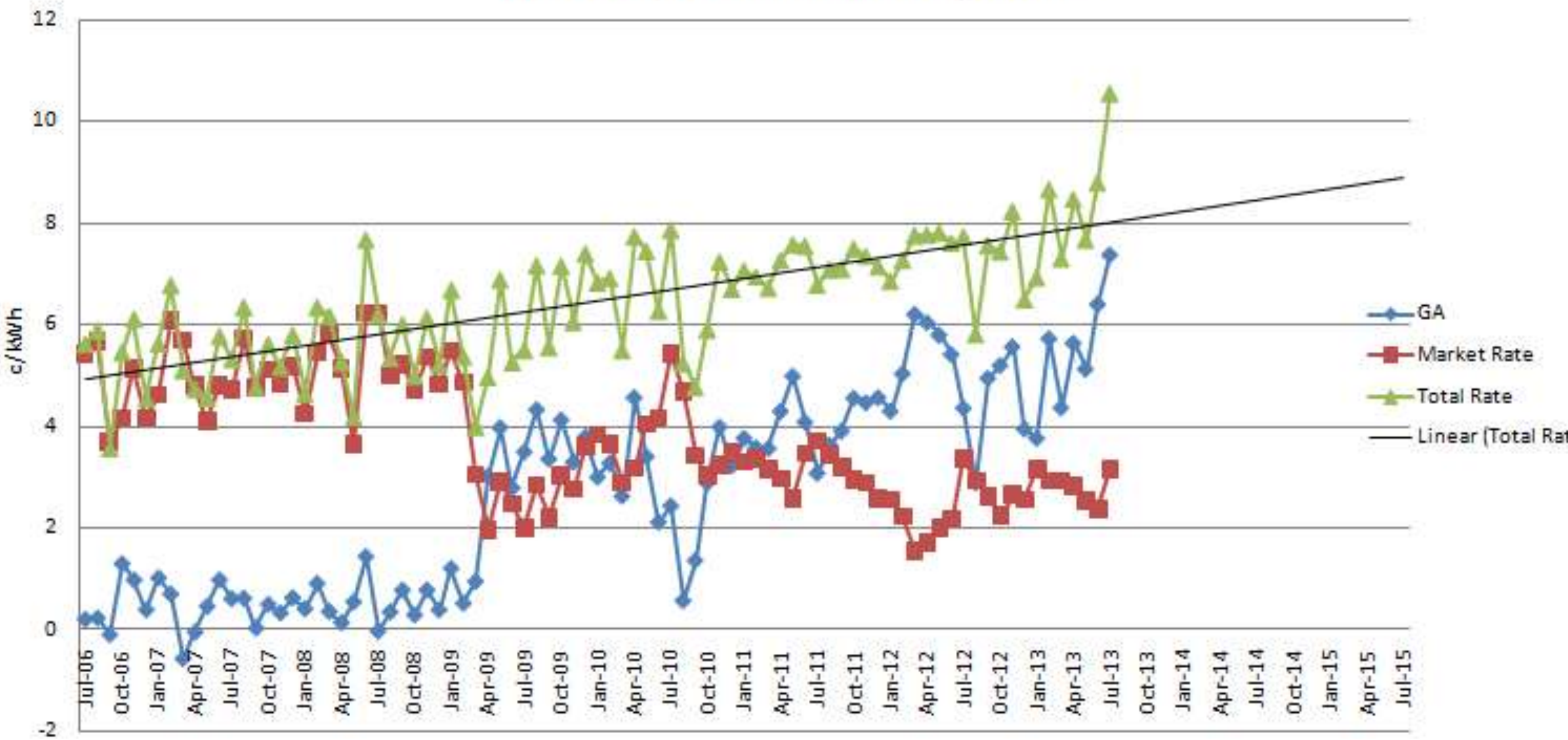
Commodity and Global Adjustment

Commodity or the Hourly Ontario Energy Price (HOEP) is a wholesale price paid by local utilities to supply their consumers, market prices fluctuate with demand which is influenced by time of day, weather and economic activity.

Global Adjustment (GA) accounts for differences between the market price and power generation contracts including in small part conservation and demand management and the Feed-In-Tariff (FIT) programs.

Commodity and Global Adjustment Trend

Global Adjustment Monthly Rates



2014 Budget Impact

	2013 Approved Budget	2013 Budgeted Rate	2013 Budgeted Volume (kwH)	2014 Proposed Rate	2014 Proposed Budget*	Budget Increase
Facility Hydro	$ 3,824,845	$ 0.1230	31,096,301	$ 0.1353	$ 4,206,845	$ 382,000
Streetlight Hydro	$ 2,154,994	$ 0.1180	18,262,661	$ 0.1467	$ 2,554,994	$ 400,000

2014 Proposed Budget includes:

•$103k of projected savings for completed 2013 and planned 2014 facility conservation measures

•$560k of projected savings from LED streetlight retrofit to be completed early in 2014, but excludes fixture growth

Mitigating Strategies

- **Own utility companies that hold generation contacts (MDEI and PowerStream)**
- **Own generating contracts (solar FIT)**
- **Conservation and Demand Management to offset rate increase as much as possible - capture all incentives available**
- **Hedge the commodity, can not hedge GA**
- **Improve our utility budgeting and overall utility management via a cross-commission Corporate Energy Team**