

ERIP Business Breakfast Session

Retrofit Examples

March 4, 2010

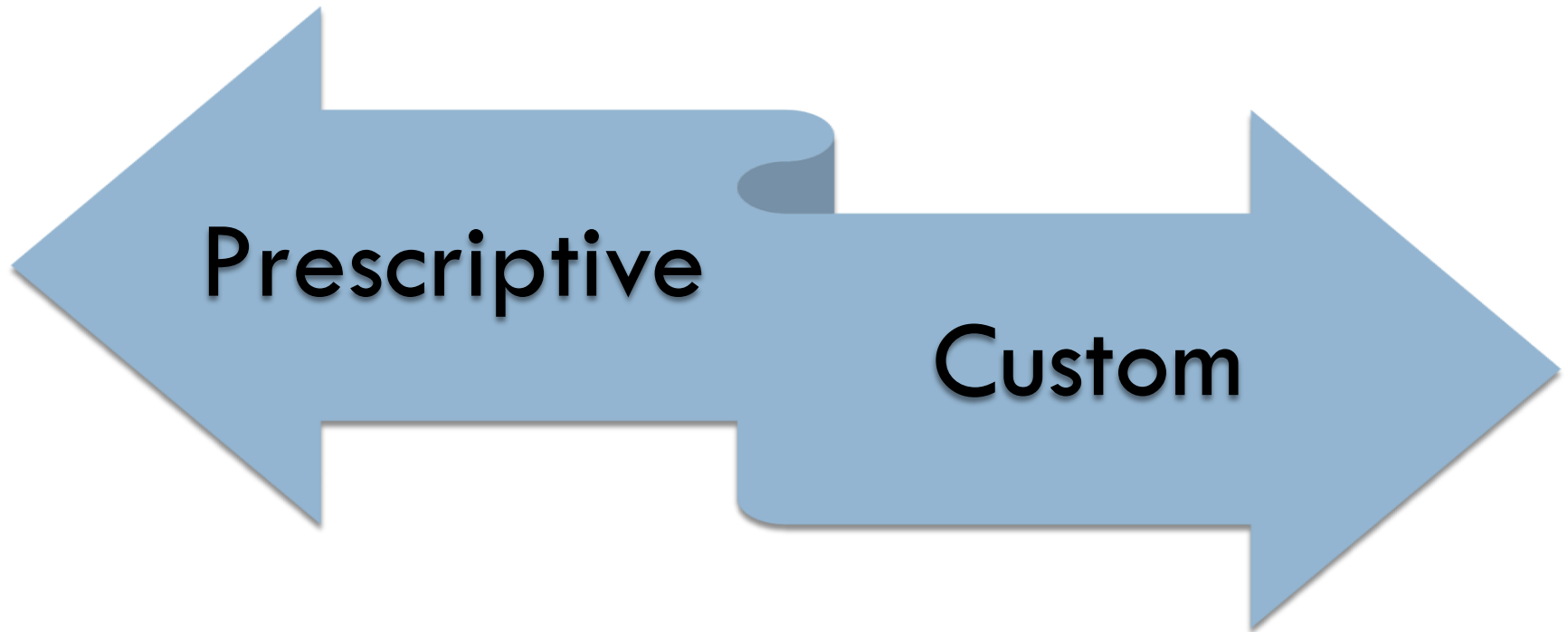
Burman Energy Consultants Group

- Founded 2002, serves a primary market of LDCs
- Headquartered in King Township
- Team of 9 with wide range of expertise
 - ▣ Engineering and Operations
 - ▣ Finance and Regulatory
 - ▣ CDM programming, administration and reporting
 - ▣ Project Management
- Strategic affiliations with industry partners
- Commercial Member EDA
- C of A from the Professional Engineers of Ontario

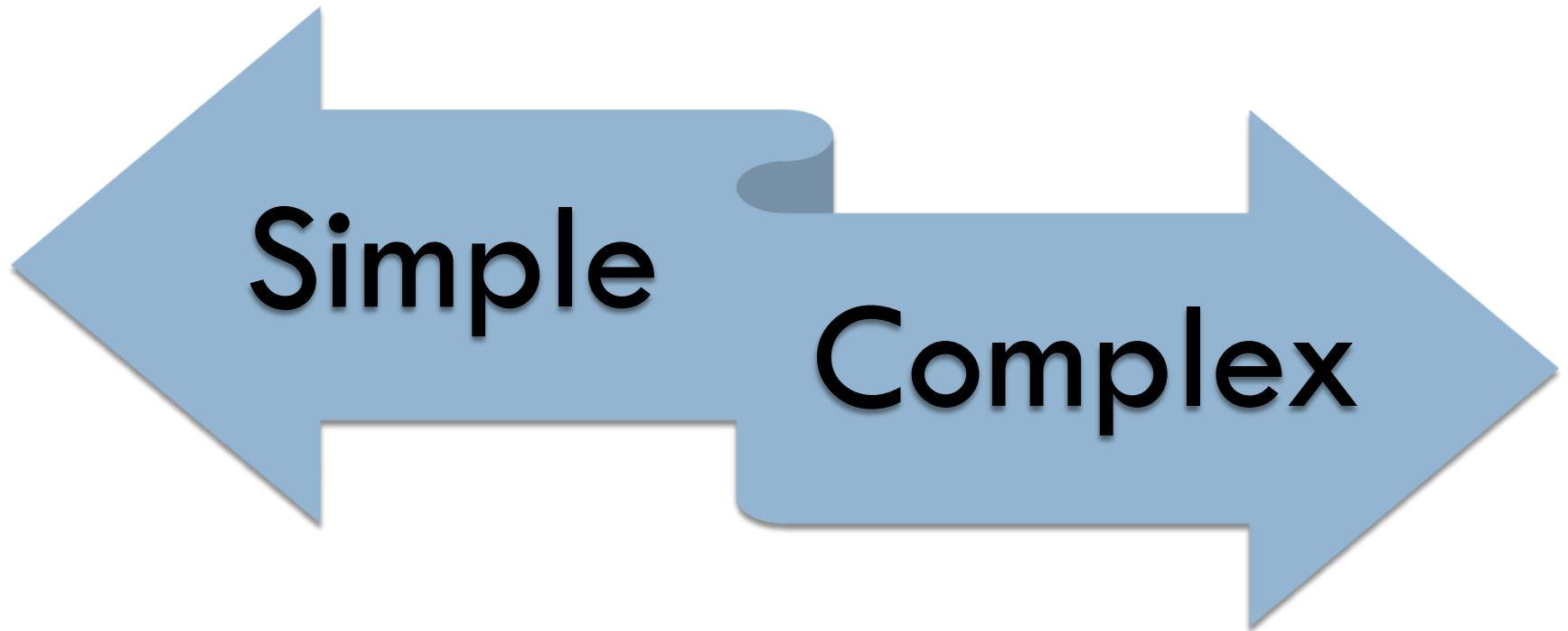
CDM Program Management

- Largest evaluator of LDC energy efficiency programs for Ontario businesses
 - ▣ Evaluate ERIP program for 23 LDCs
 - ▣ Evaluated over 500 Custom & Prescriptive ERIP Applications
 - ▣ Piloted first ever Toronto Hydro ERIP Project in Province
- TRC evaluation and annual CDM reporting support for over 30 LDCs
- Developed proprietary TRC analysis tool
- Prepare LRAM and SSM submissions for rate filings

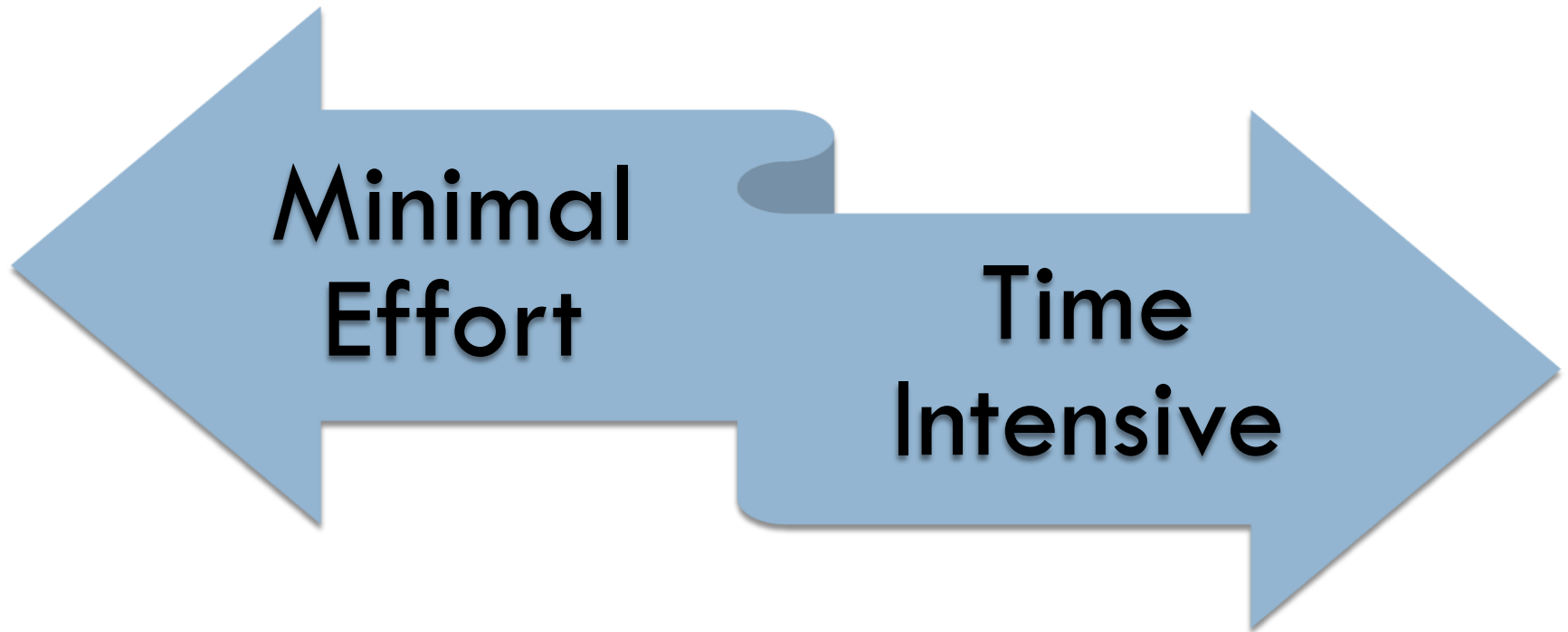
ERIP Sample Applications



ERIP Sample Applications



ERIP Sample Applications



ERIP Sample Applications



Example 1: Large Industrial Building

Prescriptive Lighting Project

Replace qty 56 - T12 Fixtures with T5 Fixtures

T-5 MEDIUM AND HIGH BAY FIXTURES		Model # Lamp/Ballast	Manufacturer Lamp/Ballast	Fixture Count	Unit Incentive	Total Incentive
New Fixtures with standard T5 ballast and lamps or high output ballast and lamps. Medium bay applications are those where the bottom of the luminaire is 16 to 25 feet above the floor. High bay applications are those where the bottom of the luminaire is greater than 25 feet above the floor.	4 lamp T-5 fixtures	F54W/T5/841/ECO ICN-4S54-2LSJ	Advance / GE	56	\$ 105 per fixture	\$5,880
	6 lamp T-5 fixtures				\$ 105 per fixture	\$0
	8 lamp T-5 fixtures				\$ 105 per fixture	\$0
	10 lamp T-5 fixtures				\$ 105 per fixture	\$0
	12 lamp T-5 fixtures				\$ 105 per fixture	\$0

Example 2: Agribusiness - Farm

Prescriptive Agribusiness Project

Install Recirculation Ventilation Fans in Barns

RECIRCULATION VENTILATION FANS		Model #	Manufacturer	Installed Fan Capacity (CFM)	Unit Incentive	Total Incentive
High Volume Low Speed (HVLS) vertical ceiling mount fans min. 8' diameter - All applications.	For summer convective cooling of livestock and poultry personnel	EN600X5016 & EN600X5006	ENVIRA-NORTH SYSTEMS LTD.	1327255	\$12.5 per 1000 cfm	\$16,591

Example 3: Recreational Club house

Prescriptive Lighting Project

Install various Prescriptive Elements

EXIT SIGNS		Model #	Manufacturer	Count	Unit Incentive	Total Incentive	
PAR CFLs - to be used in indoor lighting applications	Eligible signs shall be 5 watts or less, including LED retrofit kits, replacement fixtures and photoluminescent signs with no supplemental lighting.	5 Watt or less	GRAWSPN3R	Lumacell	25	\$ 25 per sign	\$625
	11 Watt or less PAR CFL					\$4 per lamp	\$0
	12 -20 Watt PAR CFL					\$4 per lamp	\$0
	20-39 Watt PAR CFL	15716-4 EL/A PAR38	Phillips	12	\$4 per lamp	\$48	
REDUCED WATTAGE AND HIGH PERFORMANCE T-8 FIXTURES		Model # Lamp/Ballast	Manufacturer Lamp/Ballast	Fixture Count	Unit Incentive	Total Incentive	
(Reduced Wattage and High Performance T8 Lamps and electronic ballasts must comply with Consortium for Energy Efficiency qualifying list[1])							
New or Retrofit Fixtures. Re-lamp and re-ballast or new fixtures with Consortium for Energy Efficiency listed high performance or reduced wattage T8 lamps and electronic ballasts. Not more than four lamps per fixture. Lamps and electronic ballast must comply with Consortium for Energy Efficiency qualifying list ¹ .	Single-lamp High Perf. T-8 fixtures	F32T8/ADV841/XEW IOPA1P32SC35M	Philips Advance	12	\$ 15 per fixture	\$180	
	Two-lamp High Perf. T-8 fixtures	F32T8/ADV841/XEW IOPA2P32SC35M	Philips Advance	135	\$ 17 per fixture	\$2,295	
	Three-lamp High Perf. T-8 fixtures				\$ 19 per fixture	\$0	
	Four-lamp High Perf. T-8 fixtures	F32T8/ADV841/XEW IOPA4P32SC35M	Philips Advance	92	\$ 21 per fixture	\$1,932	
TOTAL LIGHTING SYSTEM WORKSHEET INCENTIVE REQUESTED						\$5,080	
The manufacturer and model numbers must be clearly indicated. In order to receive an incentive, you must submit purchase INVOICES indicating model numbers and quantities with PROOF OF PAYMENT (required for incentive payment) or ESTIMATES (required for pre-approval) for purchased equipment. In either case, submit MANUFACTURER'S TECHNICAL SPEC SHEETS demonstrating that the equipment meets the program requirements. All products must be legal for sale in Ontario and must meet all applicable Codes and standards (CSA, cUL, etc.) in order to be eligible for an incentive.							

Example 4: Apartment Complex

Custom Lighting Project

Relamp qty 5,271 lamps from 32W to 28W

Equipment Removed						
Manufacturer	Model	Number of Units	Size of Unit (KW)	Total KW before	Operating Hours	Total KWH before
SYLVANIA	FO32841XPEC	5,221	0.0320	167	3,900	651,581
SYLVANIA	FBO32841XPE	50	0.0320	2	3,900	6,240
				169		657,821

Equipment installed							Project Savings	
Manufacturer	Model	Number of Units	Size of Unit (KW)	Total KW after	Operating Hours	Total KWH after	KW Saved	KWH Saved
SYLVANIA	FO28841XPSS	5,221	0.0280	146	3,900	570,133	21	81,448
SYLVANIA	FBO30841XPS	50	0.0300	2	3,900	5,850	0	390
				-		-	-	-
				148		575,983	21	81,838

Based on 2009 Funding:

21kW saved x \$250/kW saved

Incentive Amount: \$5,250

Example 5: Variable Speed Drive

Custom Project

Install Air Compressor (132kW nominal) with Variable Speed Drive

Equipment Removed

Manufacturer	Model	Number of Units	Size of Unit (KW)	Total KW before	Operating Hours	Total KWH before
Quincy	QSI1500	1	190.2667	190.27	8760	1666736

Equipment installed

Project Savings

Manufacturer	Model	Number of Units	Size of Unit (KW)	Total KW after	Operating Hours	Total KWH after	KW Saved	KWH Saved
Kaeser	SFC132	1	82.77917	82.779	8760	725146	107.4875	941590.5

Based on 2009 Funding:

107kW saved x \$250/kW saved

Incentive Amount: \$26,750

Other Custom Projects

- Arena low emissive ceiling
- Chiller Replacements
- Building thermal envelope improvements
- Light Harvesting
- Specific processing equipment
- Decommissioning oversized equipment
- Fuel conversion
- Right-sizing

Questions?

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