

Councils co-operating for best value from utility-owned road lighting

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Overview

1. SSROC Street Lighting Improvement Program
2. Current lighting technology & costs
3. Top 4 lessons from the world of utility lighting



- **35 councils in SLI Program**
- **230,000 lights**
- **40% of NSW lighting**
- **In 2013-14 Councils will pay:**
 - \$43m for lighting capital & maintenance charges
 - +
 - \$23m for energy & network charges



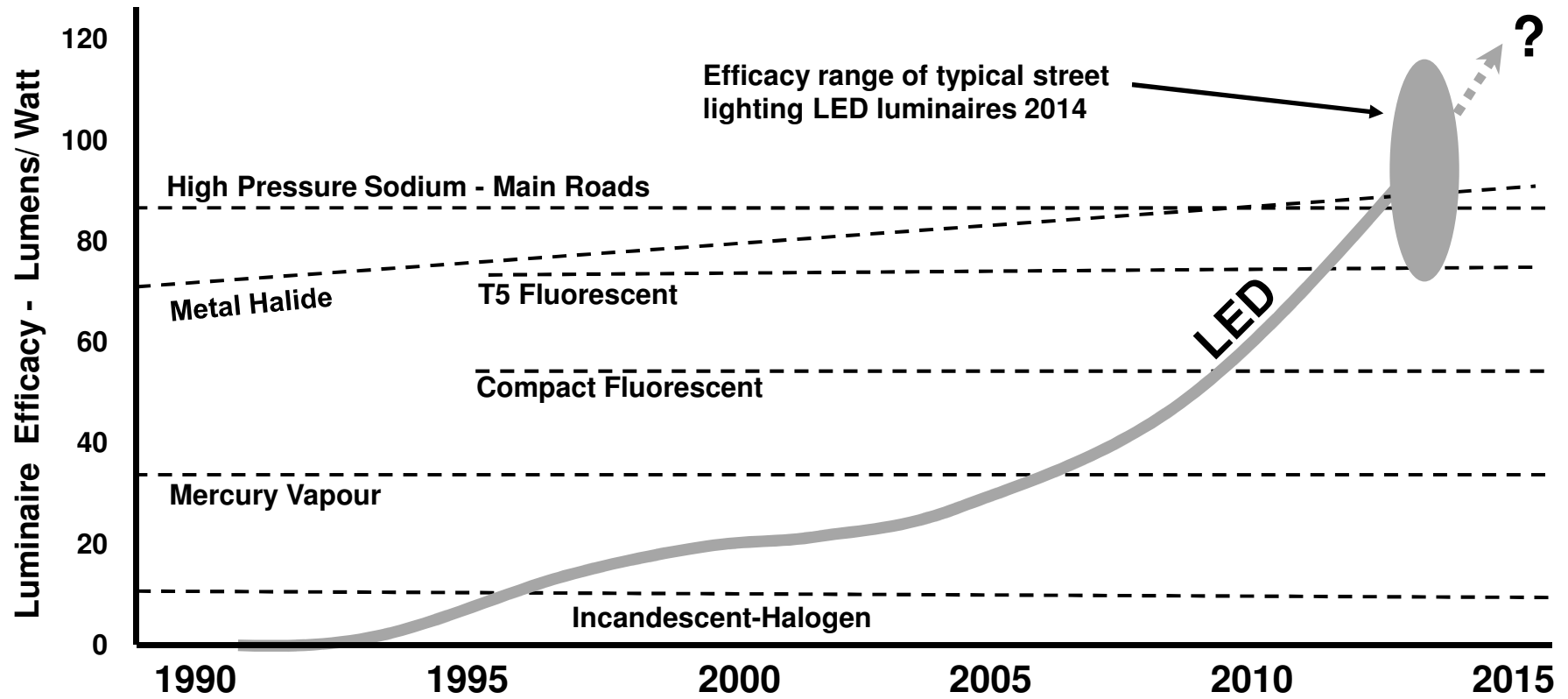
SSROC Street Lighting Improvement Program

- Origins in common council concerns about utility:
 - Lighting technology choice
 - Maintenance
 - Reporting/information provision
 - Pricing
- Problems originate in lack of clear governance arrangements for lighting after electricity assets taken over by State governments in the 1990's
- Rapid technology change heightening tensions

SSROC SLI Program Priorities

- 1) Negotiate improved technology & maintenance approach with utility with the aim of improving lighting, reducing energy consumption and controlling costs
- 2) Seek opportunities to accelerate deployment of more efficient lighting
- 3) Improve governance arrangements
- 4) Represent councils in pricing reviews

Delivered Efficacies of Australian Street Lighting Luminaires



Largest Committed LED Deployments

	Location	Country	Total Luminaires
1	New York City	USA	250,000
2	Los Angeles	USA	141,000
3	Chennai	India	110,000
4	Birmingham	UK	95,000
5	Buenos Aires	Argentina	91,000
6	Nova Scotia Power	Canada	85,000
7	New Brunswick Power	Canada	72,000
8	Boston	USA	64,000
9	Sheffield	UK	58,000
10	Guangdong	China	48,000
11	Las Vegas	USA	42,000
12	California Dept of Transport	USA	42,000
13	Seattle	USA	41,000
14	Austin	US	35,000
15	Leicester	UK	33,000

Only 2 of Top 15 are Utility Deployments

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Lighting Technology Agreements in Sydney

LIGHTING CATEGORY	STATUS
MAIN ROADS (28% of total but 50%+ energy)	<ul style="list-style-type: none"> • HPS + Constant Light Output power supply • 23-56% energy savings • Total Cost 5-11% lower
INTERMEDIATE ROADS (2% of total)	<ul style="list-style-type: none"> • 70W ceramic metal halide • 38% energy savings • Total Cost 17% lower
RESIDENTIAL ROADS (66% of total)	<ul style="list-style-type: none"> • 29W LED as of October 2013 • 38%-70% energy savings compared to previous • Total Cost 3% lower

Residential Road Lighting Costs in Sydney

Luminaire	Capital	Maintenance	Bracket	Energy(W)	Hours	Energy Cost (incl retail energy, network distribution, market, losses & environmental charges)	TOTAL YEARLY COSTS
LED 29W	\$48.03	\$34.01	\$23.35	29	4341	\$19.39	A\$124.78
42W CFL	\$26.42	\$47.03	\$23.35	46.4	4341	\$31.02	A\$127.82
80W MV	\$13.51	\$42.66	\$23.35	95.8	4341	\$64.04	A\$143.56
70W HPS	\$13.49	\$49.36	\$23.35	86	4341	\$57.49	A\$143.69

Utility-World Lesson #1: Total Cost Perspective

- Regulated pricing approach forces total cost of ownership perspective on all parties
- Much to dispute in utility pricing assumptions but total cost perspective is useful

Utility-World Lesson #2: **Cost Benefits of Scale**

- Utility luminaire costs are up to 40-50% lower than low-volume purchases
- Councils have found cost benefits in working together by splitting market research, advisory, legal and tendering costs

Utility-World Lesson #3: Information

- Information collection & provision essential to regulated system and has many benefits
 - Detailed structured inventories
 - Public management and maintenance plans
 - Regulatory disclosure of cost-breakdowns

Utility-World Lesson #4: Aesthetics?

- Historically, council-dominated lighting markets tended to spend much more on luminaires
- Aesthetic choices appear to be a key driver of these higher costs
- LEDs are an opportunity to rethink this