

# Offsite Renewable Purchasing

All Energy 2016  
5<sup>th</sup> October 2016

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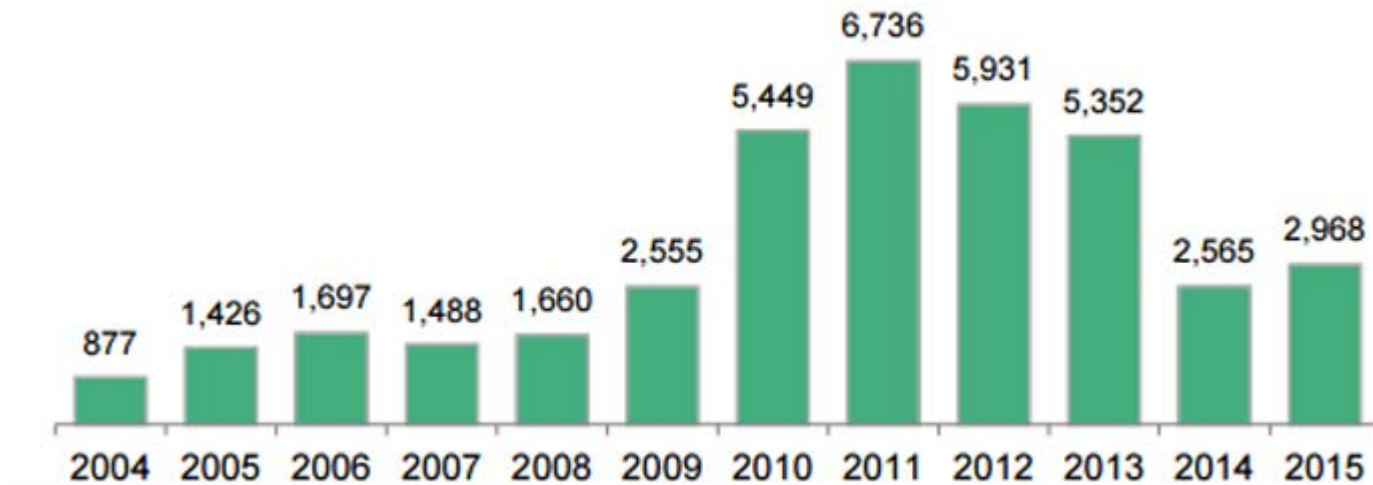


## THIS PRESENTATION

- Why?
- The UTS-Singleton Project
- Some Details of Offsite Solar
- Conclusions

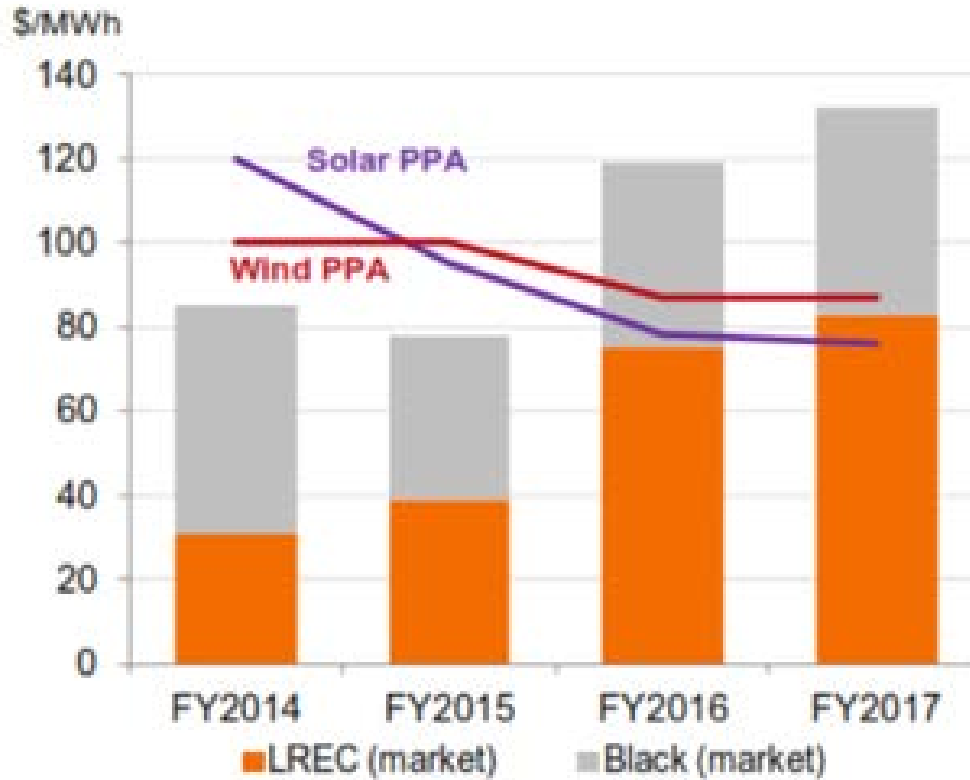
# CURRENT INVESTMENT STALLING

Figure 1: Total new clean energy investment in Australia (USD m)



Source: Bloomberg New Energy Finance

# MARKET FORCES

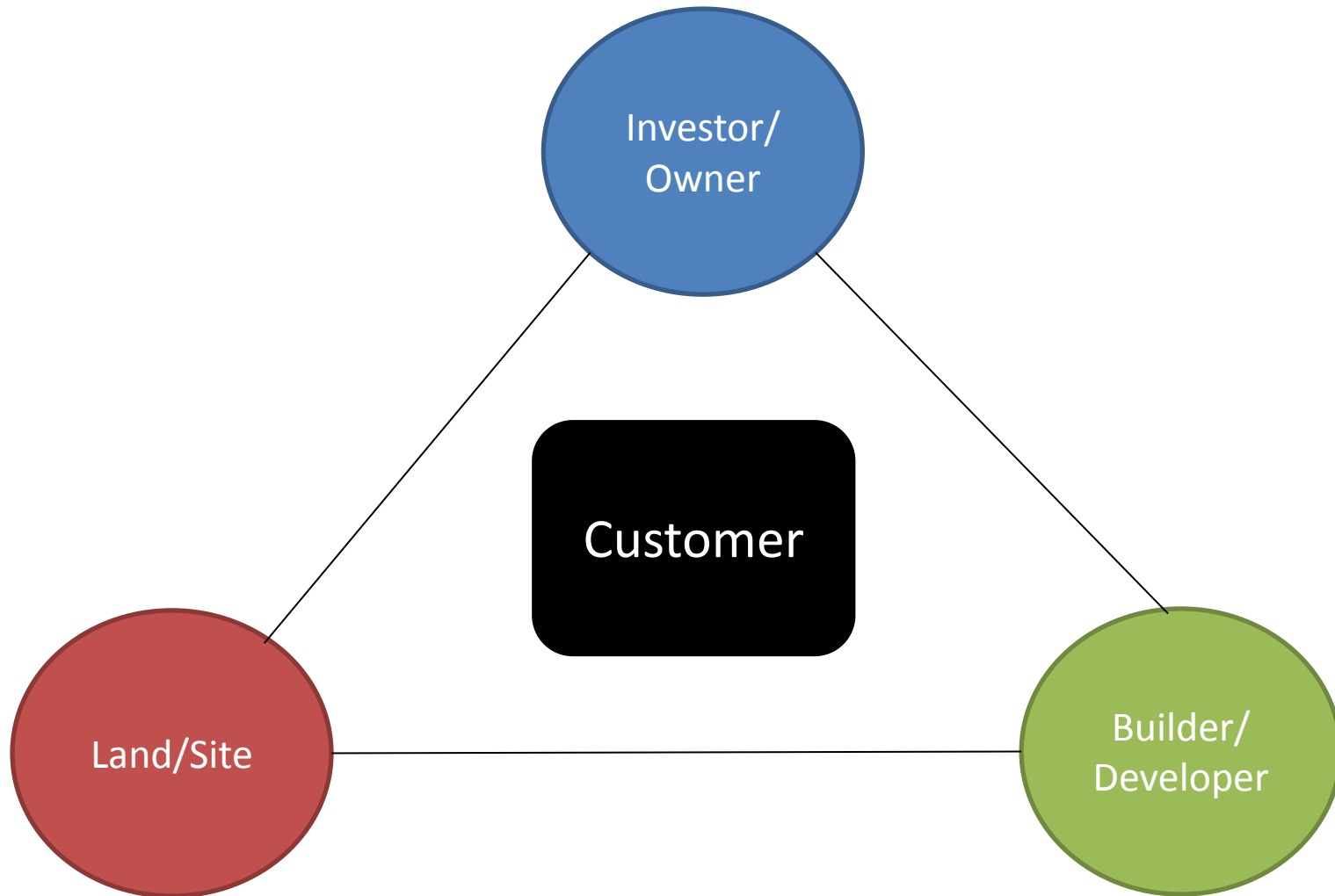


Source: Origin Investor update - June 2016

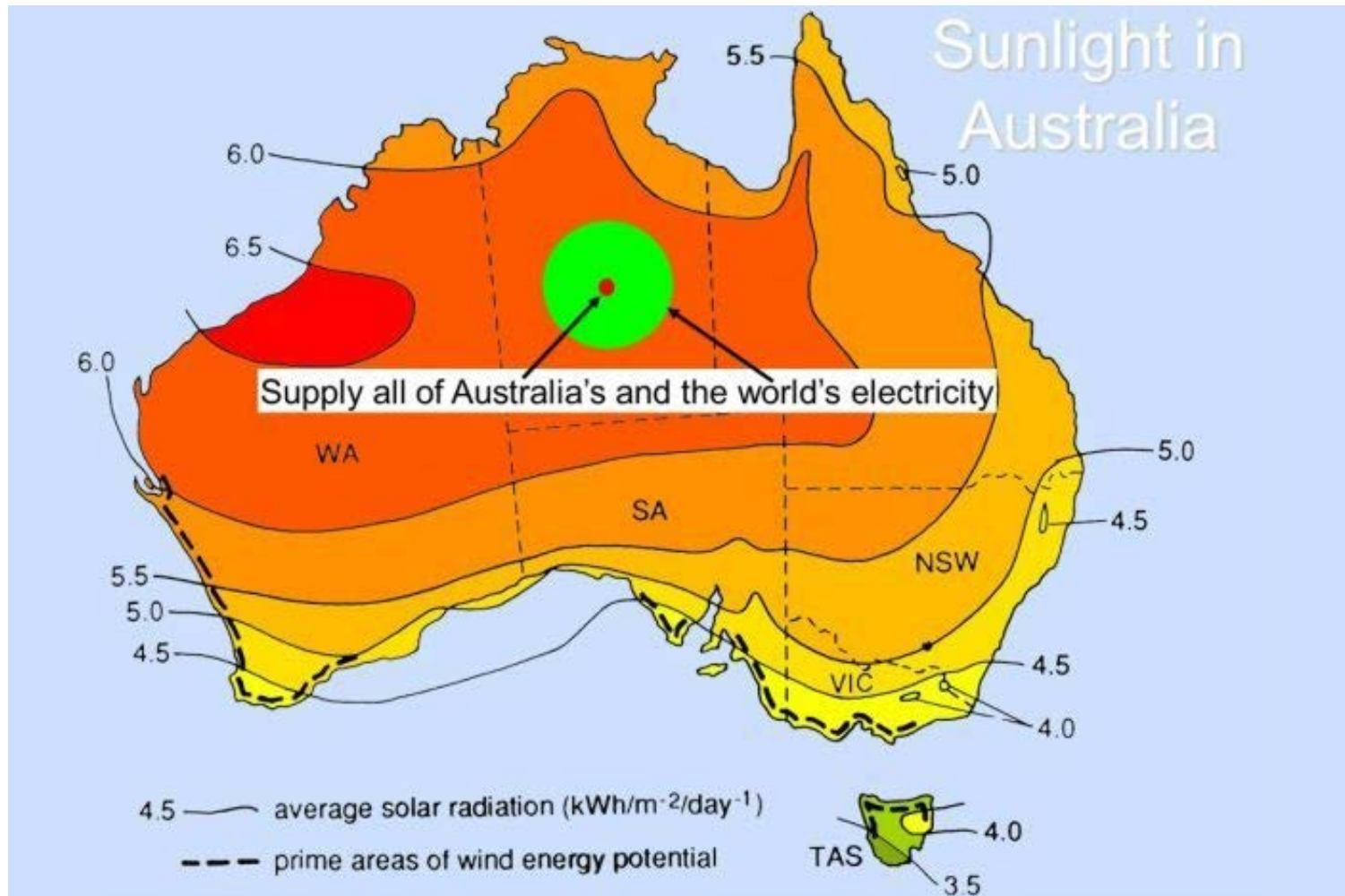
## CURRENT INVESTMENT STALLING

PROJECT DEVELOPMENT CHECKLIST	
Option for Land	✓
Concept Design & Cost Estimation	✓
Feasibility & Optimisation	✓
Local Support & Planning Approval	✓
Construction Tender & Contracts	✓
Debt & Equity Arrangement	✓
High RECS prices	✓
Electricity sales off-take agreement	X

# WHAT DOES A RENEWABLE PROJECT NEED?



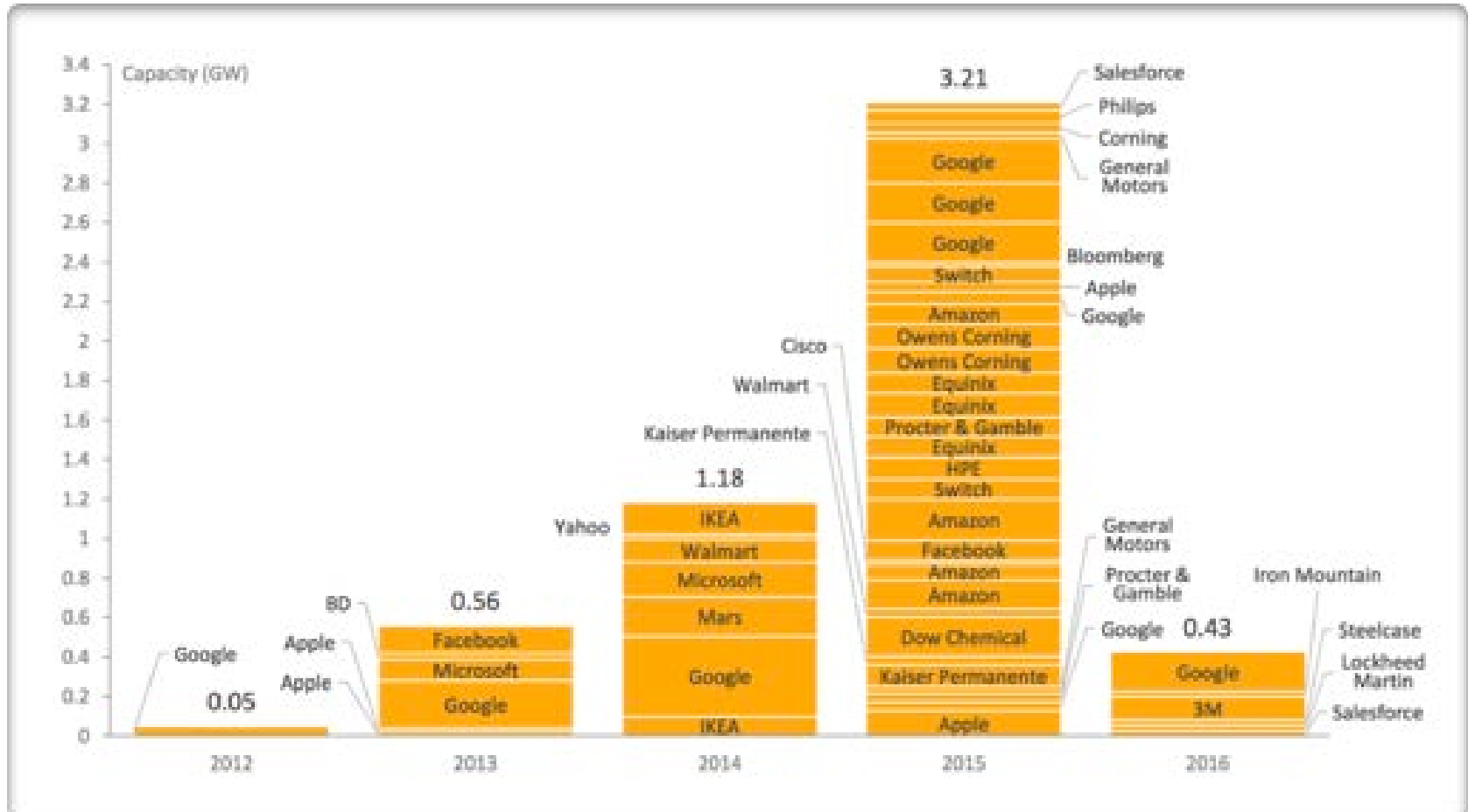
# SOLAR POTENTIAL IN AUSTRALIA




Source: Andrew Blakers via ABC online



# OFFSITE RENEWABLE IN THE US



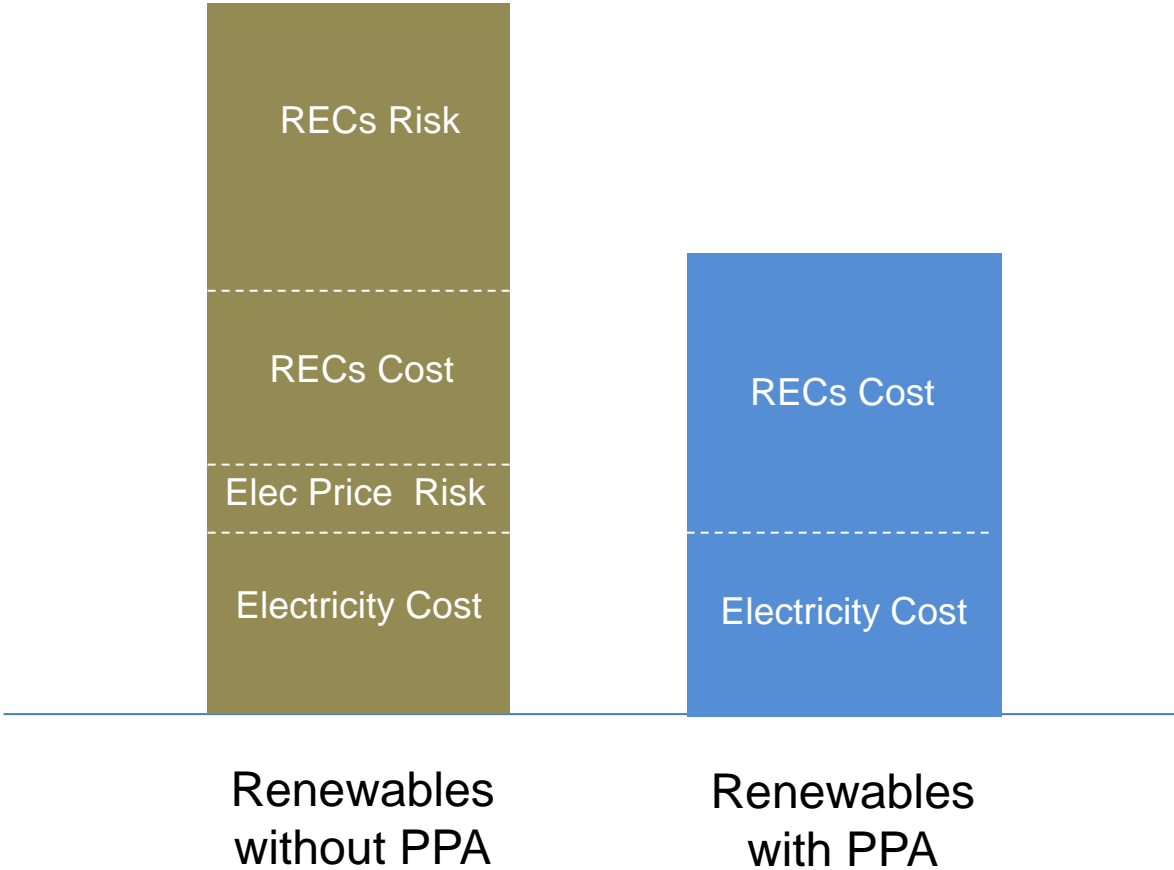
## WHO CAN MAKE IT HAPPEN?

<b>Utilities?</b>	<ul style="list-style-type: none"><li>• Own existing generation assets</li><li>• Increase electricity supply = lower revenues</li><li>• Increased deployment =&gt; lower cost solar</li><li>• Uncertain future</li></ul>	<b>X?</b>
<b>Investors?</b>	<ul style="list-style-type: none"><li>• More solar = lower prices =&gt; reduced returns</li><li>• Need contracted revenues</li></ul>	<b>X?</b>
<b>Corporates Customers</b>	<ul style="list-style-type: none"><li>• Don't own generation assets</li><li>• Consuming electricity for next 20-50 years</li><li>• Lower energy prices = good!</li></ul>	

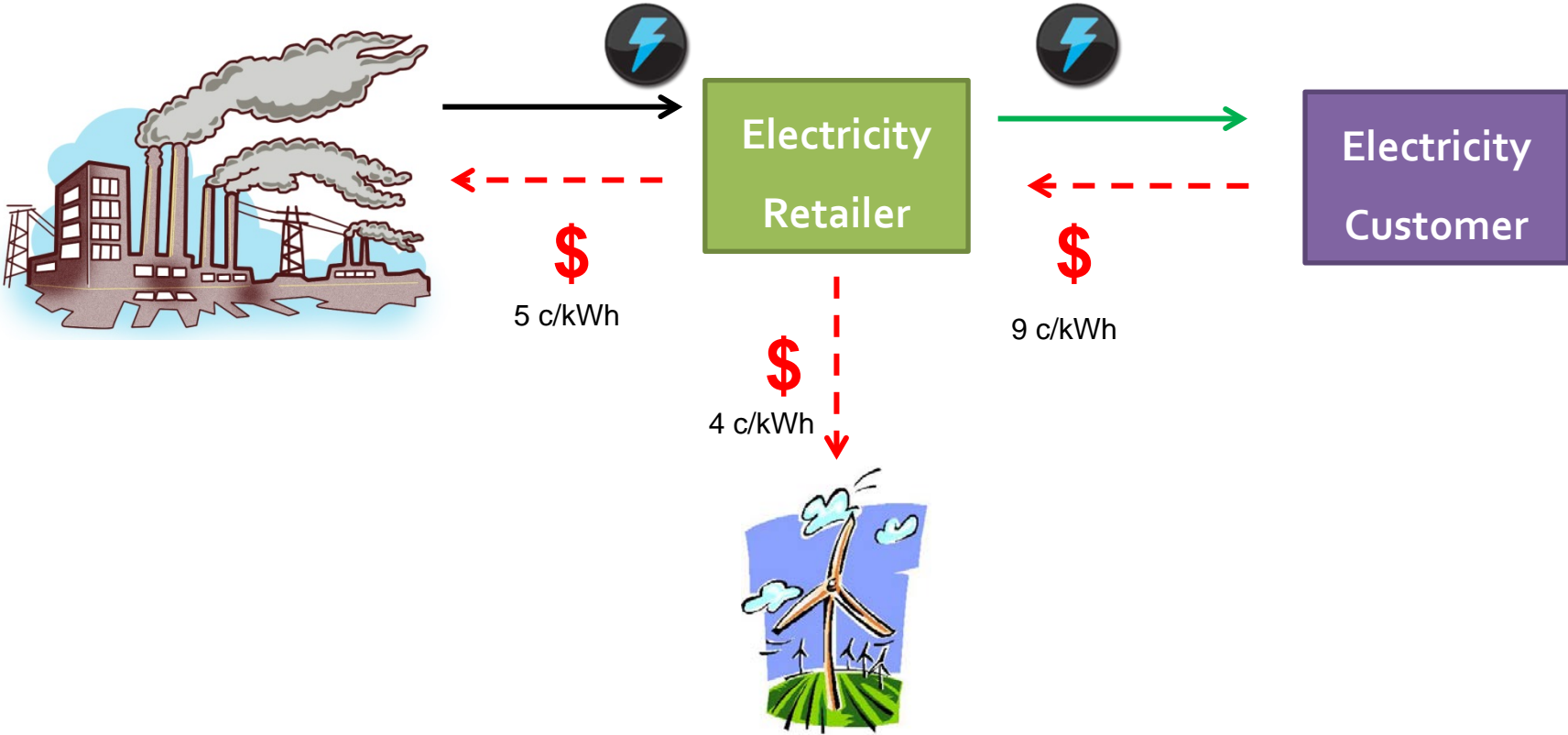
## RENEWABLE PURCHASING OPTIONS

- ✓ Greenpower
- ✓ Rooftop Solar
- ✓ Direct Offsite Solar
- ✓ LREC Purchase under contract
- ✓ Virtual PPAs
- ✓ Retailer Aligned

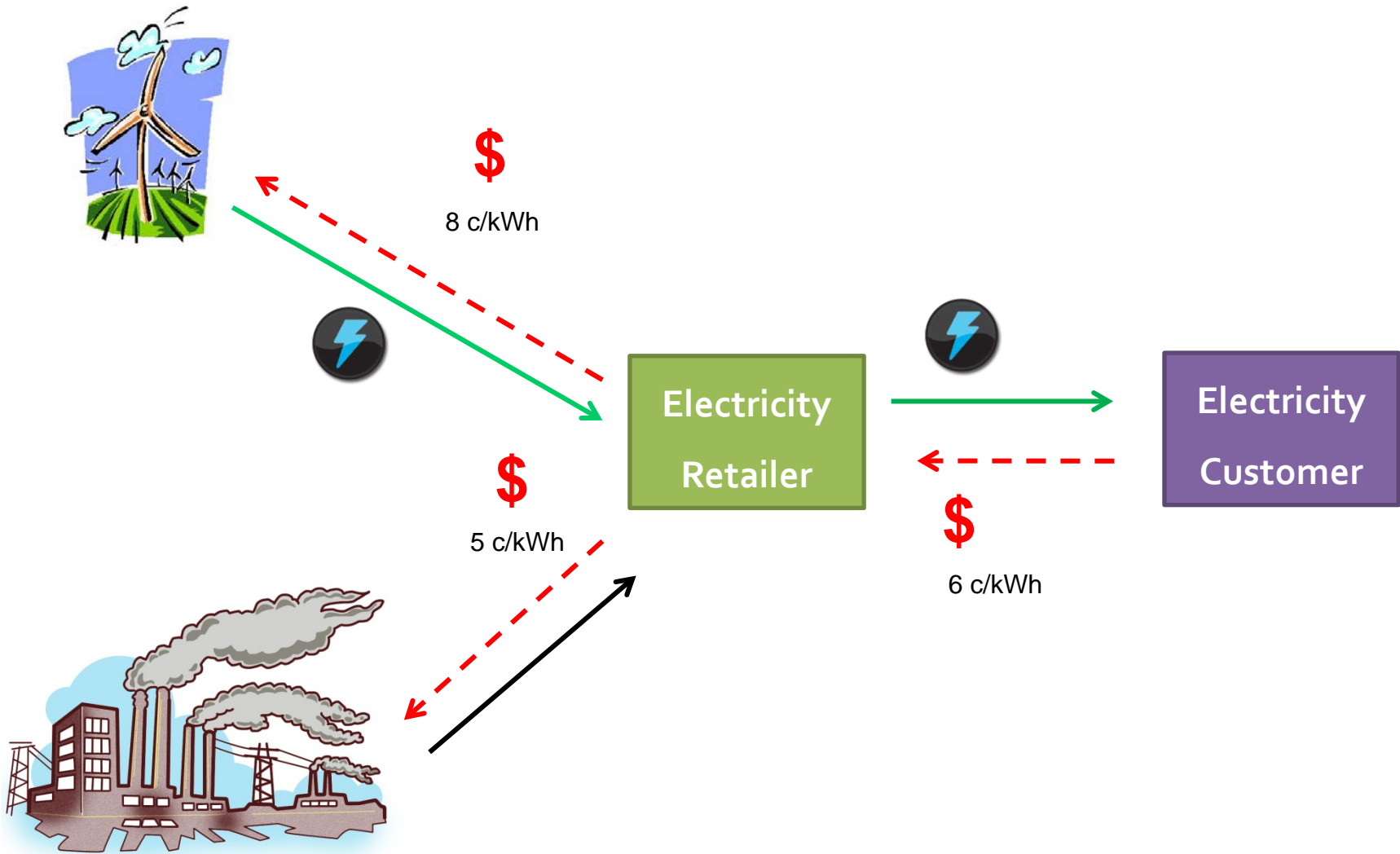
# COST COMPARISON



# CURRENT SOLUTIONS - GREENPOWER



# NEW SOLUTIONS – RETAILER ALIGNED



## UTS-SINGLETON SOLAR PROJECT

**‘Think Big,  
Start Small’**

# UTS SINGLETON SOLAR PROJECT

Electricity Only \$

5-7 c/kWh



15% Supply



\$

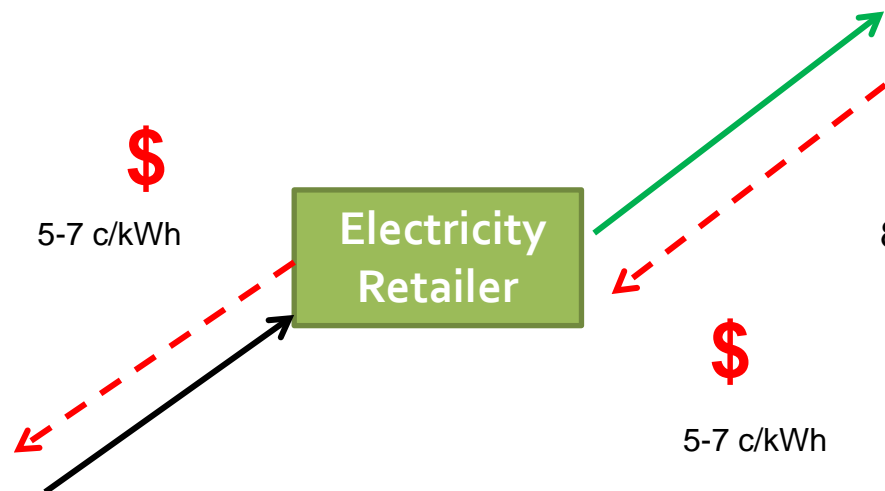
5-7 c/kWh

Electricity  
Retailer

85% Supply

\$

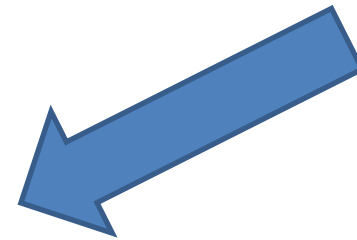
5-7 c/kWh



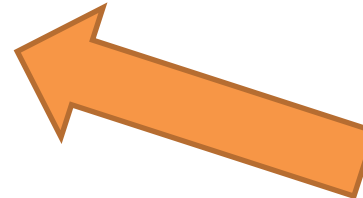


# SOLAR FARM REVENUES

## SOLAR FARM ASSET

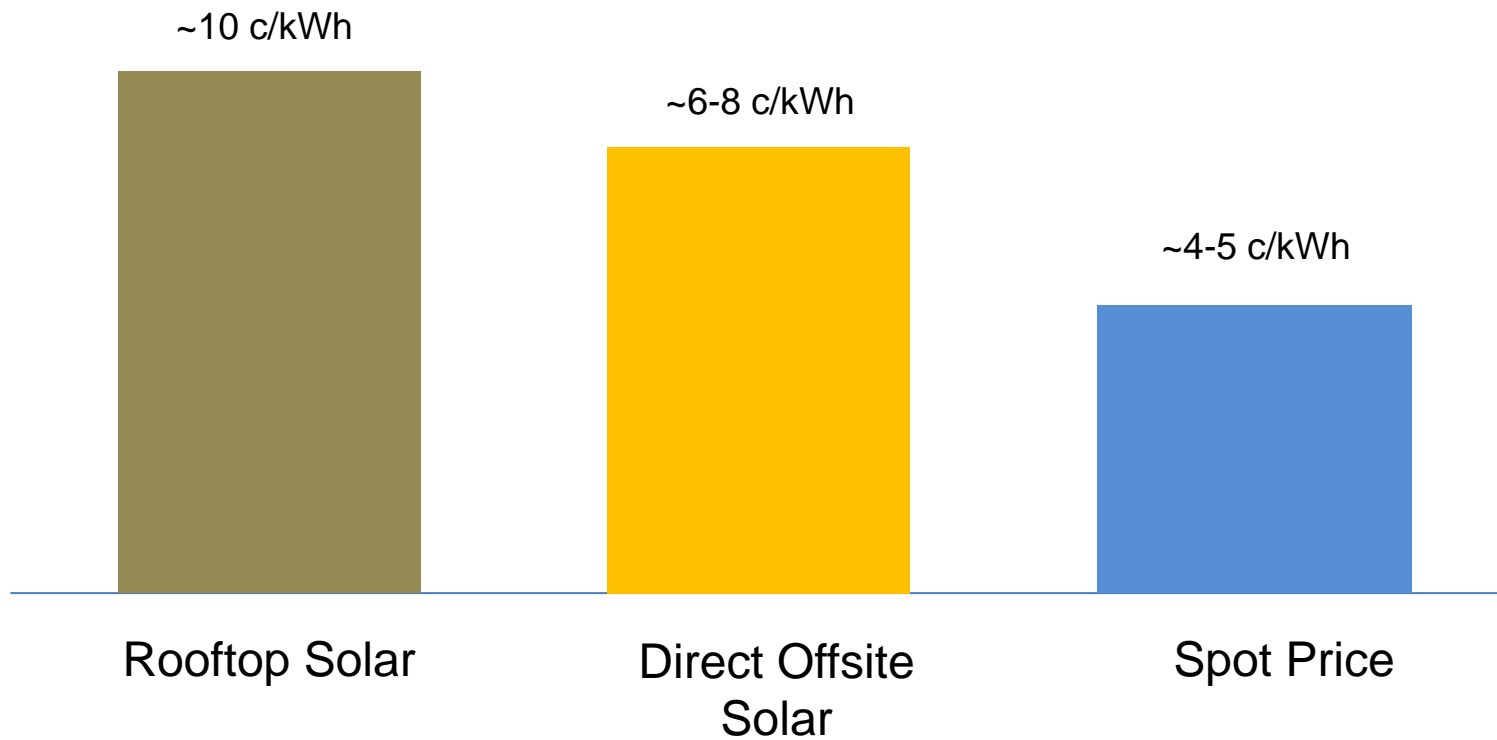


Electricity Sales  
Revenue – c/kWh



RECS Sales  
Revenue – \$/MWh

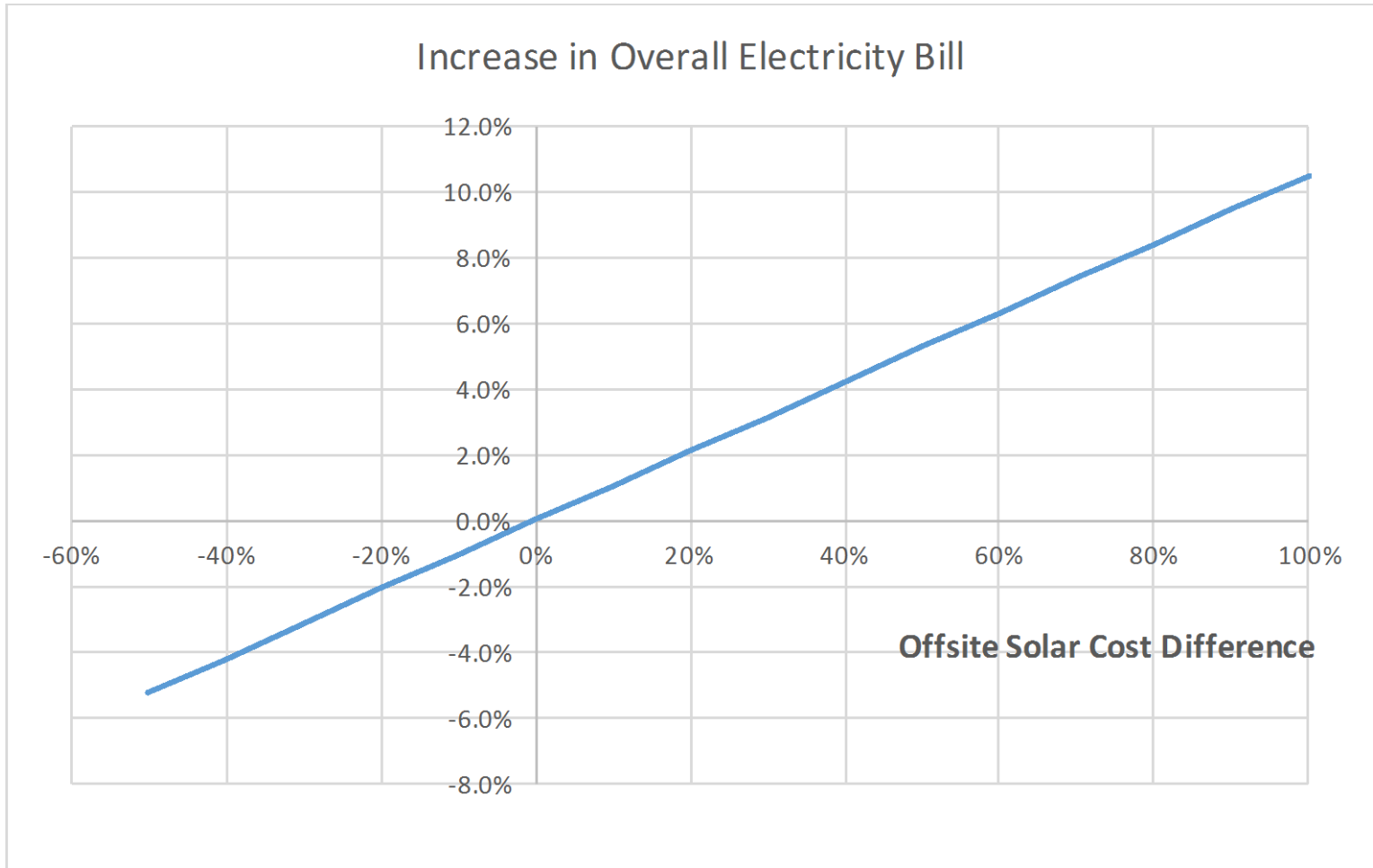
# SAVINGS FROM SOLAR



## ADVANTAGES

- Don't need suitable roof
- Can be sized to suit demand
- Great for tenants
- Can move with the customer
- More secure property arrangements for investment by 3<sup>rd</sup> parties
- Just contracts

# THE NUMBERS – ILLUSTRATIVE COSTS



# WHAT THIS MEANS

Percent solar purchased	30%				Solar Farm buy cost per kWh			
Existing retail & other cost per kWh	0.12	0.11	0.1	0.09	0.08	0.07	0.06	
0.08	2.47%	1.13%	-0.21%	-1.56%	-2.90%	-4.24%	-5.58%	
0.07	4.77%	3.23%	1.70%	0.17%	-1.36%	-2.90%	-4.43%	
0.06	7.83%	6.04%	4.25%	2.47%	0.68%	-1.11%	-2.90%	
0.05	12.12%	9.98%	7.83%	5.69%	3.54%	1.39%	-0.75%	

## CONCLUSIONS

- Attractive to corporate customers
- Direct Offsite potentially most cost effective
- Other models emerging for beyond 30%
- Potential opportunity for 100kW to ~2,000kW projects
- It's simple
- But easy to stuff up

## QUESTIONS?



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