

Modernising the public lighting system: it's more than just lights!

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Need to understand the 'service' deficits

- Don't start with the options
 - define the service needs to be met?
 - what benefits are to be realised?

- Due diligence is required
 - audit of assets
 - red flags review – legislative, regulatory, physical

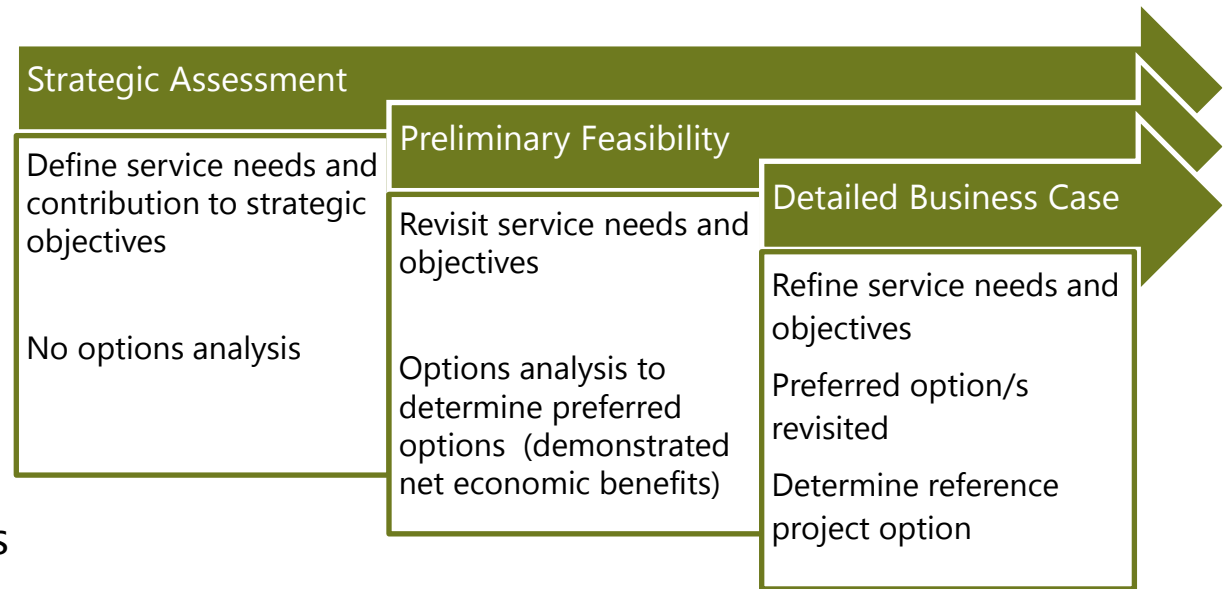
- High level R&O

Example for public lighting network

Service Need	Benefits	Risks	Opportunities
Improving region's energy performance	<ul style="list-style-type: none"> • Reduced costs of electricity • Reduced O&M costs • ... 	<ul style="list-style-type: none"> • Uncertainty of age and condition of existing assets • Regulatory barriers • ... 	<ul style="list-style-type: none"> • Local employment • ...
Responding to region's needs for improved liveability	<ul style="list-style-type: none"> • Improved safety for community • Improved community services • ... 	<ul style="list-style-type: none"> • Demand risk - unforeseen demographic changes • ... 	<ul style="list-style-type: none"> • Diversification of regional attraction • Smart cities
Generating productivity improvements for business and industry	<ul style="list-style-type: none"> • Big data access and usage • Internet of things • ... 	<ul style="list-style-type: none"> • Technological obsolescence • Technology disruption • ... 	<ul style="list-style-type: none"> • Diversification of regional businesses and economy • ...
Reducing the region's carbon emissions	<ul style="list-style-type: none"> • Improved demand management • ... 	<ul style="list-style-type: none"> • Adverse changes in law imposing unforeseen cost • ... 	<ul style="list-style-type: none"> • Funding for clean energy solutions • ...

■ Staged consideration

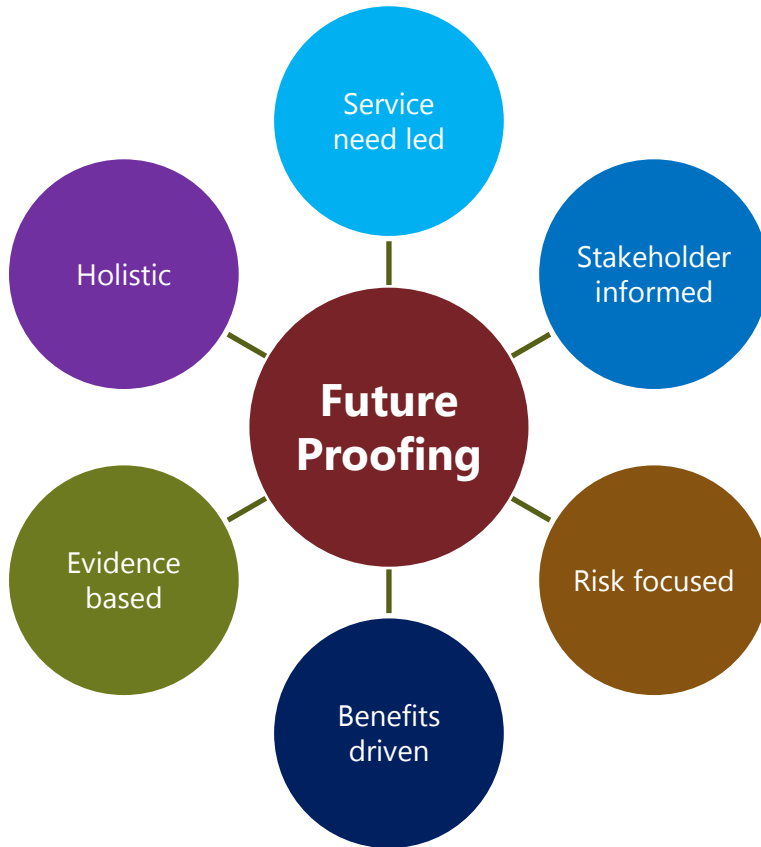
- scale up due diligence in each stage
- keep options analysis relevant to each stage – provides better future proofing



■ Health checks

- re-test assumptions
- market soundings
- lessons learned

Future proofing¹



- Reform**
 - Contestability and access regulatory change
 - Transfer price change
 - Wiring rules
- Better Use**
 - Improve demand management?
 - New property developments
- Improve Existing**
 - Change out existing luminaires
 - Improve O&M methodology
- New**
 - Smart technology systems (including LiFi/WiFi)
 - Bolt-on technology

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¹ For further information see Building Queensland's Business Case Framework or the Queensland Government's Program Assurance Framework

Any analogies?

- Past experiences from other towers industries very relevant
- Lights akin to towers
- In the 21st century, all about optimisation of real estate particularly 'vertical real estate'
- SLSC's citation of the EU's 'Lighting the Cities' Report (2013)' very apt
 - *"The lamp post is typically a single purpose asset for light; however, that is not necessarily the only role it can play. New ICT technologies can help transform the role of the "humble lamp post..."*

The aim is to have 30-50 cities and partners to collaborate and bundle demand to install up to 10m intelligent lamp posts, networked with LED lighting and other features such as WiFi, e-charging, sensors, etc. By joining forces, they would get a better understanding of value cases of the various features, future-proof the investments and most importantly, create a market which would reduce the cost"

Any analogies?

- Not about the light, about the entire infrastructure
- Think private car ownership and Uber
- Think private home ownership and Airbnb
- Think street lights ownership and IoT

- A mix of dated and new assets dating back to when there was no clear distinction on the relative importance of ownership
- Similar to issues experienced when dealing with broadcasting transmission assets and telco towers
- Grandfathering of assets
- Impacts on diligence and valuations (WYSIWYG!)

- Lack of market contestability in ownership and maintenance services
- Lack of formal regulation within NER regime
 - But is a formal price control process
- Will not be the last time we will see such asymmetry here

- Wiring Rules provide existing or grandfathered utility owners with an exemption but new owners/service providers must comply
- Asymmetry of relationships between Councils as responsible public agent and utilities as owners distorts market for ownership and maintenance services and has implications for assets and services' valuations
- Potential double whammy for Councils
 - Impact of Wiring Rules not factored into asset sales by utilities to Councils or third parties (higher asset price)

- Impacts on fair valuation of maintenance services (higher maintenance price due to extra remedial works required on aged assets no longer exempted)
 - (Wiring Rules and condition of aged assets a known unknown which can be too expensive to diligence comprehensively on a CBA)

- An arbitrage in current asset owner's favour with a guaranteed price control and a consequent lack of incentive to innovate

- Nature of utility licences over assets to Councils an issue
- Goes to heart of purpose and function of lamp post and luminaire in the 21st century
- Critical to anticipate future change and to have 'lighting rights plus' over the assets (easier said than done)
- Do not think Wi-Fi, think Li-Fi

- Councils' vision of the future needs to be reflected in diligence and commercial negotiations
- These assets will be core to future delivery and responsibilities
- They are core to Council, not core to utilities or how they deploy their resources
- And there are 2 million more to come

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