BUILDING A LEVEL PLAYING FIELD FOR DISTRIBUTED ENERGY WITH LOCAL NETWORK CREDITS AND VIRTUAL NET METERING

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OVERVIEW

- Historical context
- The project (Facilitating local network charges and Local Electricity Trading**
- Valuing local energy: the concepts

***formerly known as Virtual Net Metering*

CONTEXT

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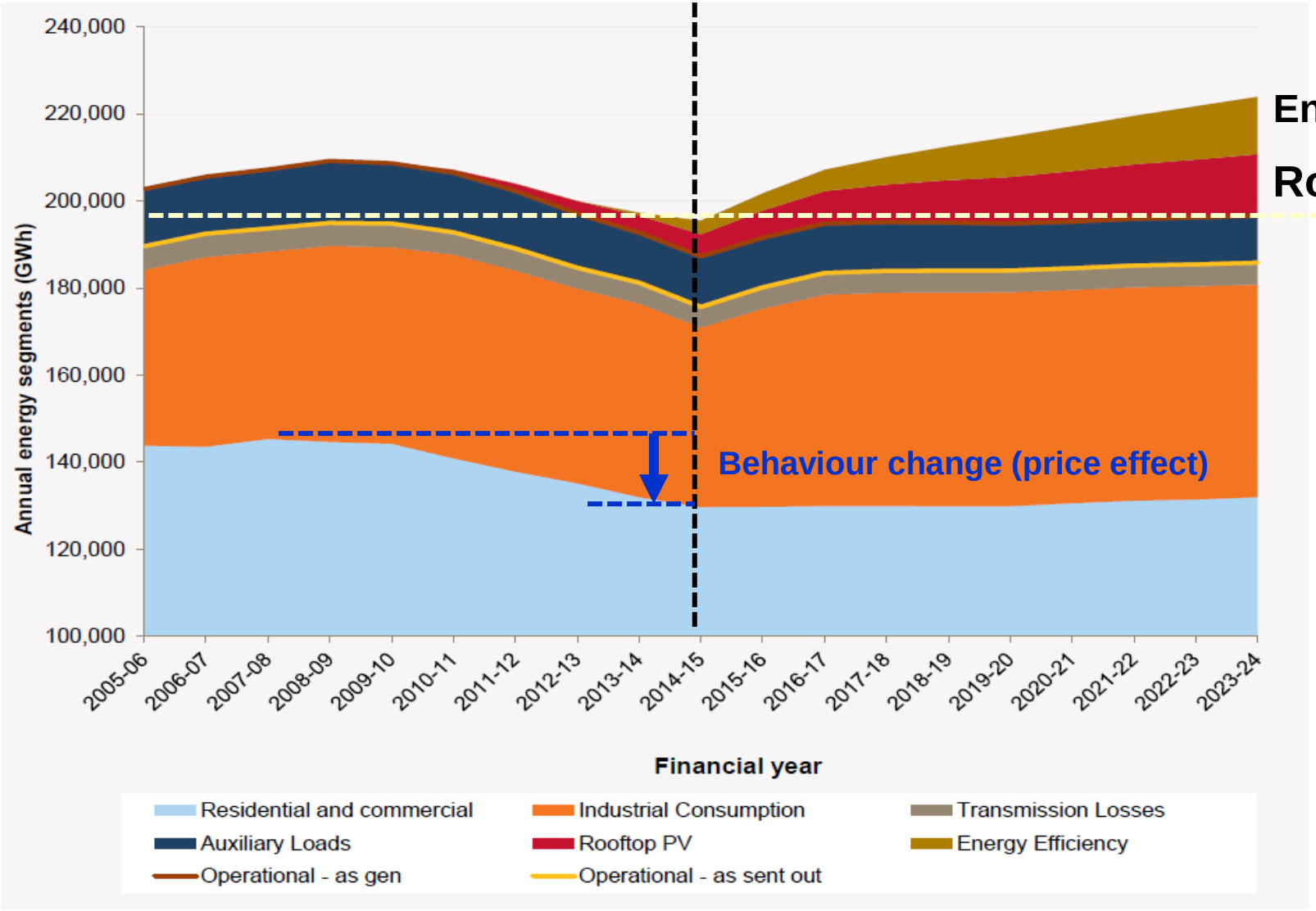
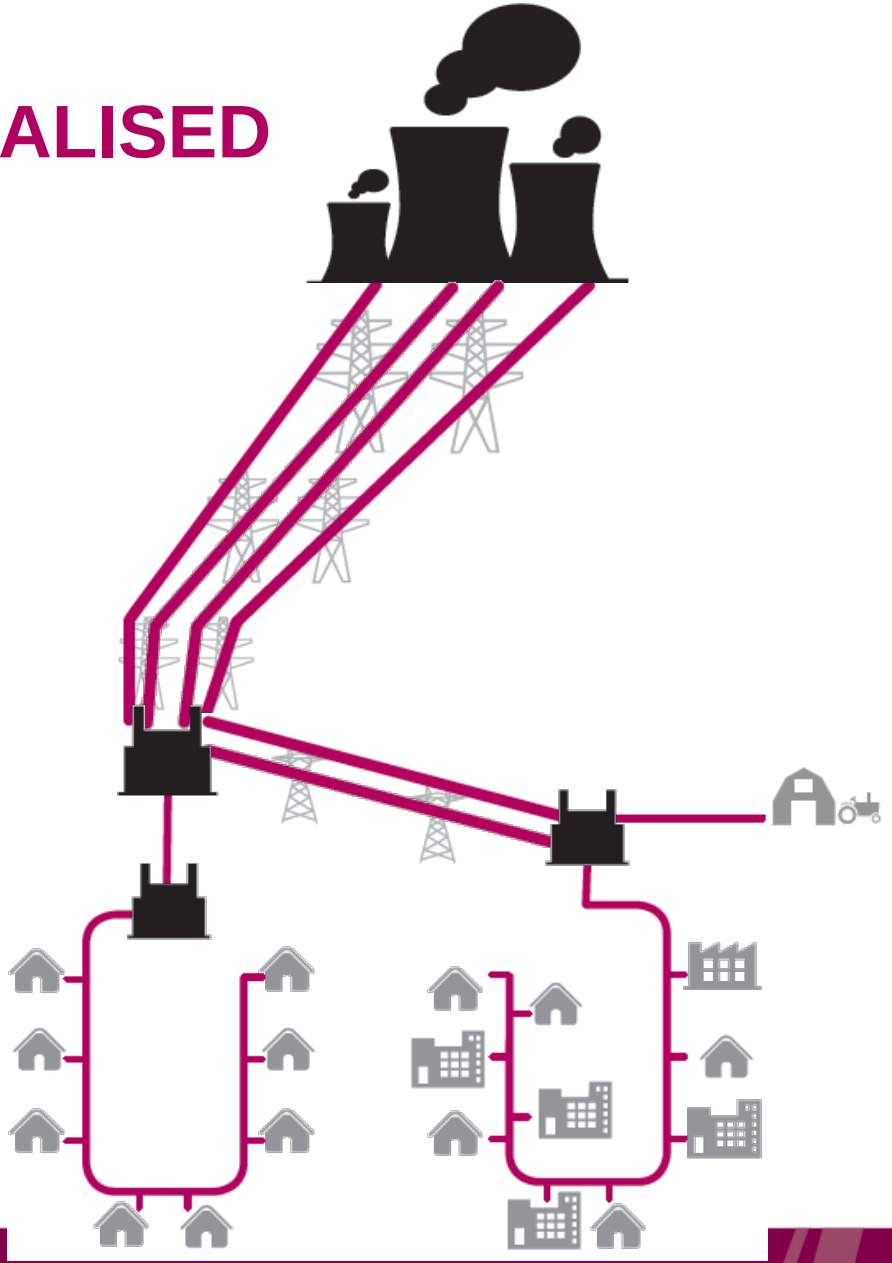
HISTORIC POINT OF TRANSFORMATION

Centralised electricity supply falling, already peaked?

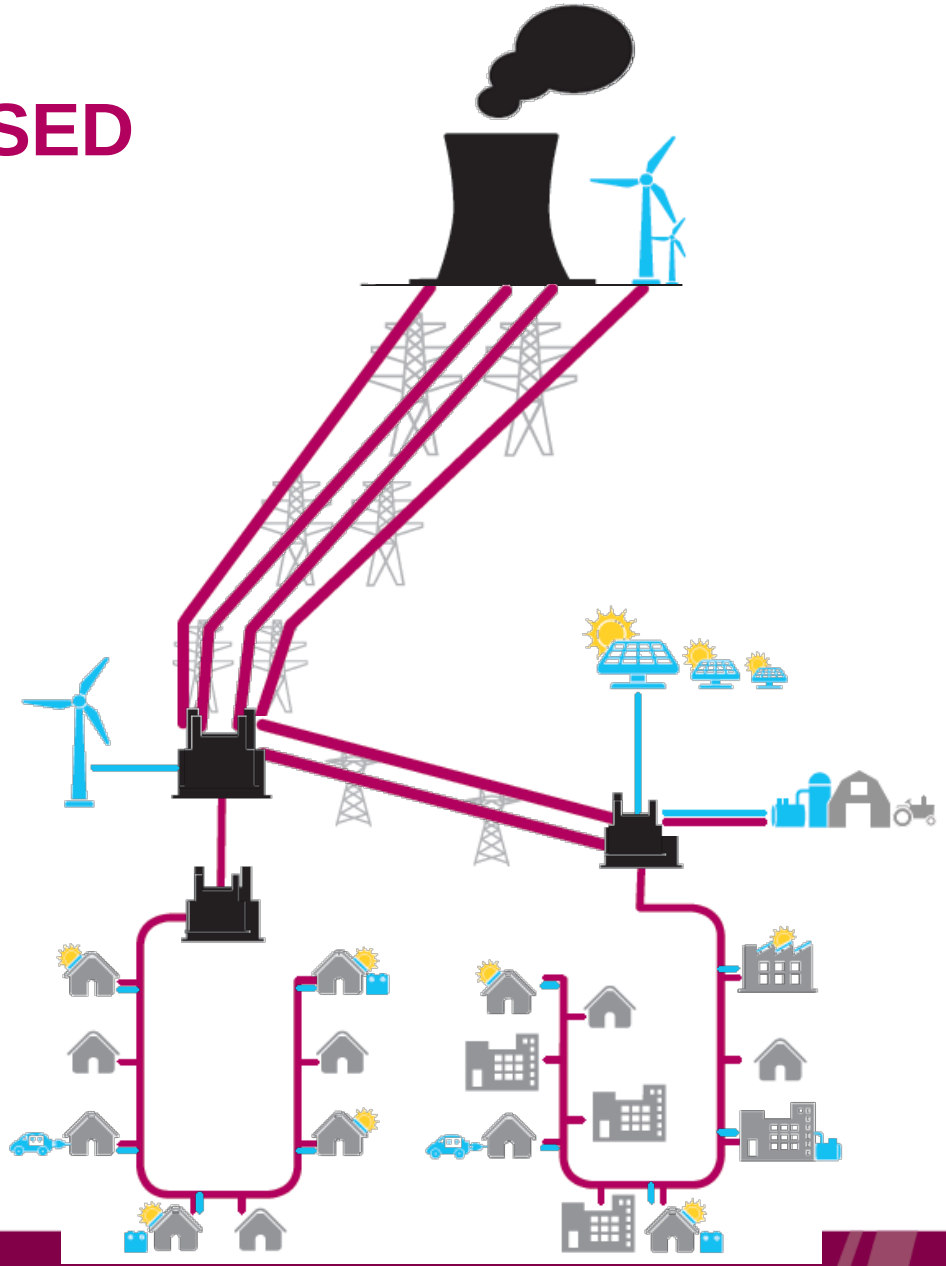


ANNUAL ENERGY FORECAST FOR THE NEM
(June 2014 NEFR)

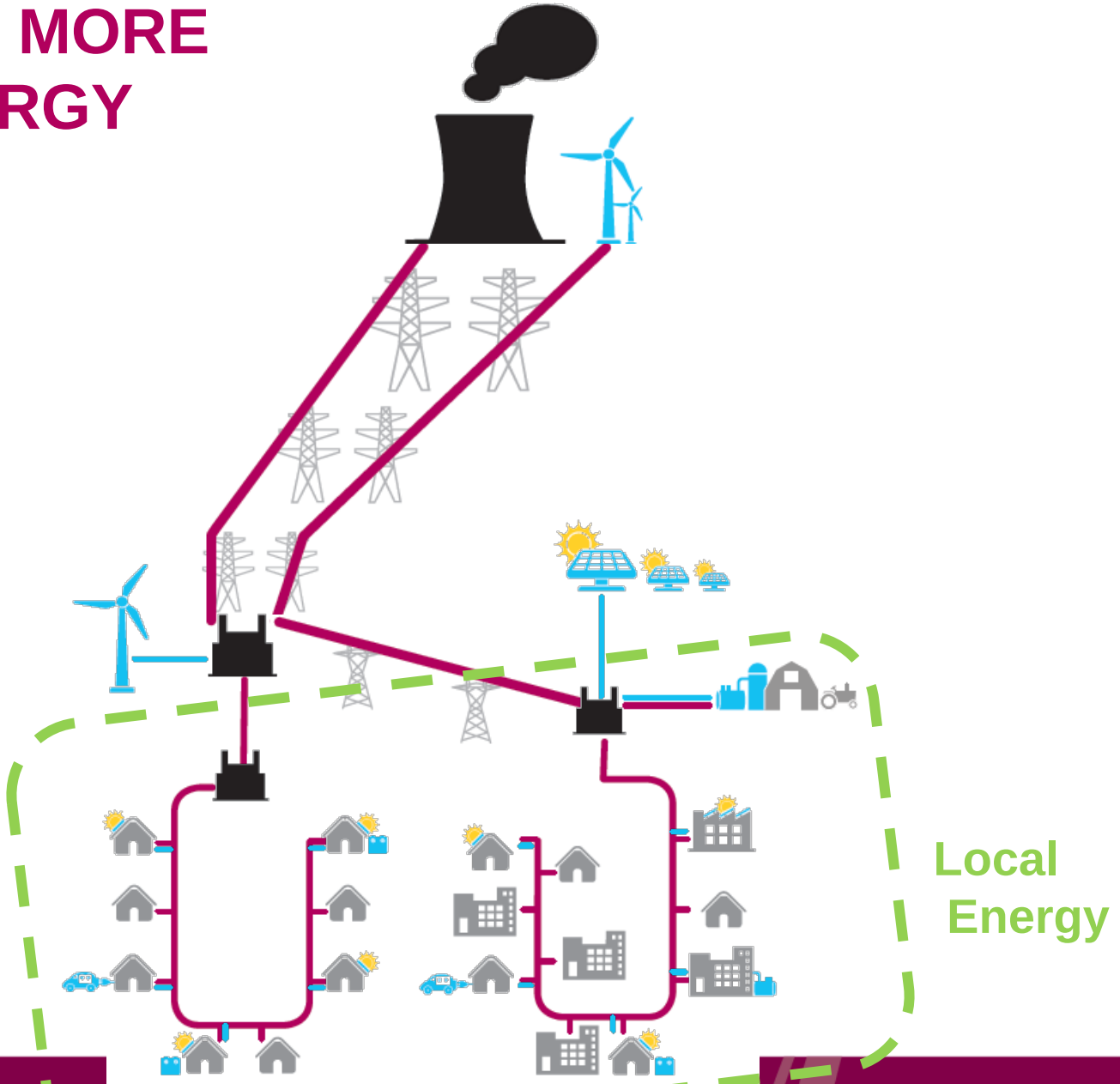
TODAY:
HIGHLY CENTRALISED NETWORK



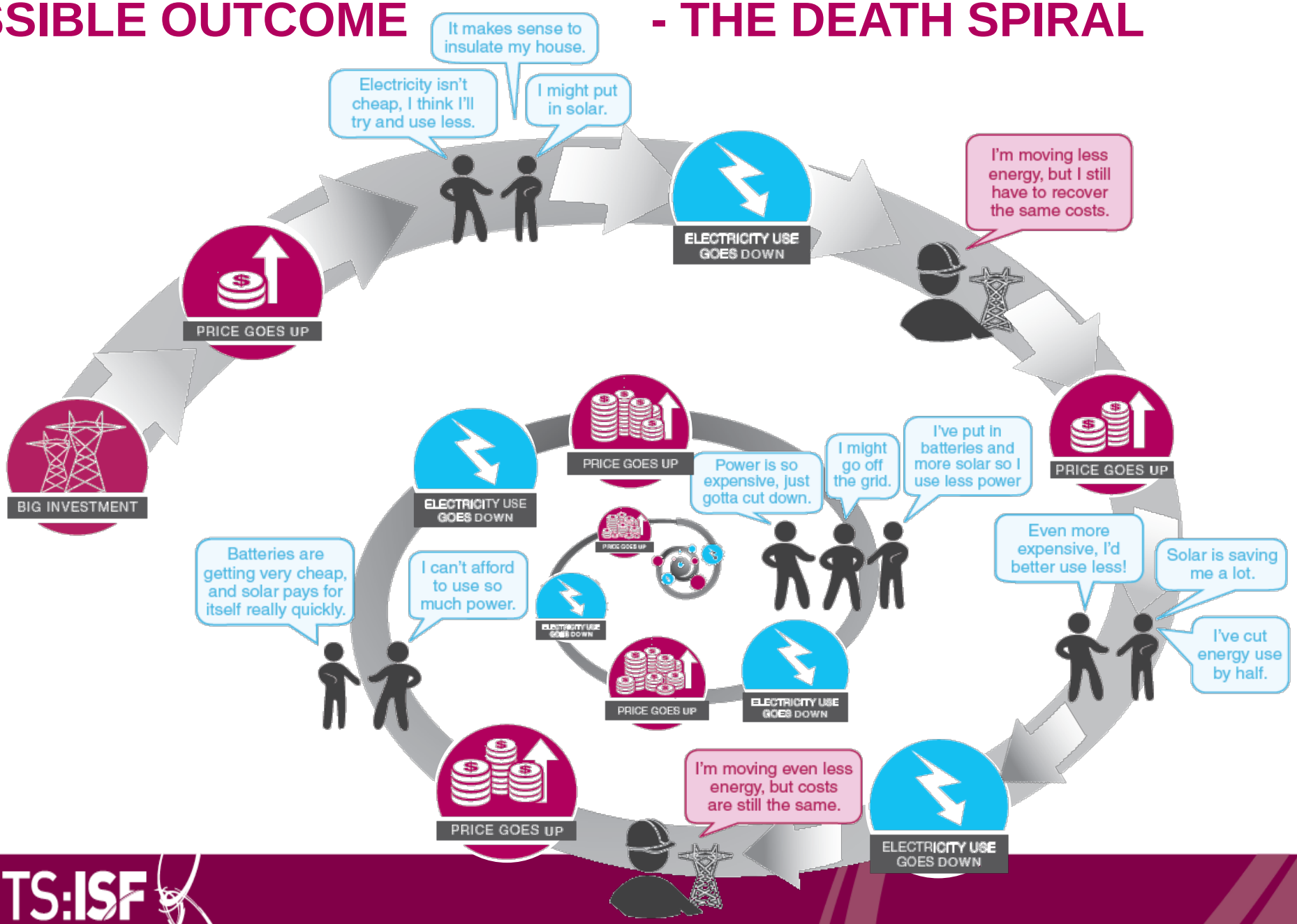
THE FUTURE: DECENTRALISED NETWORK



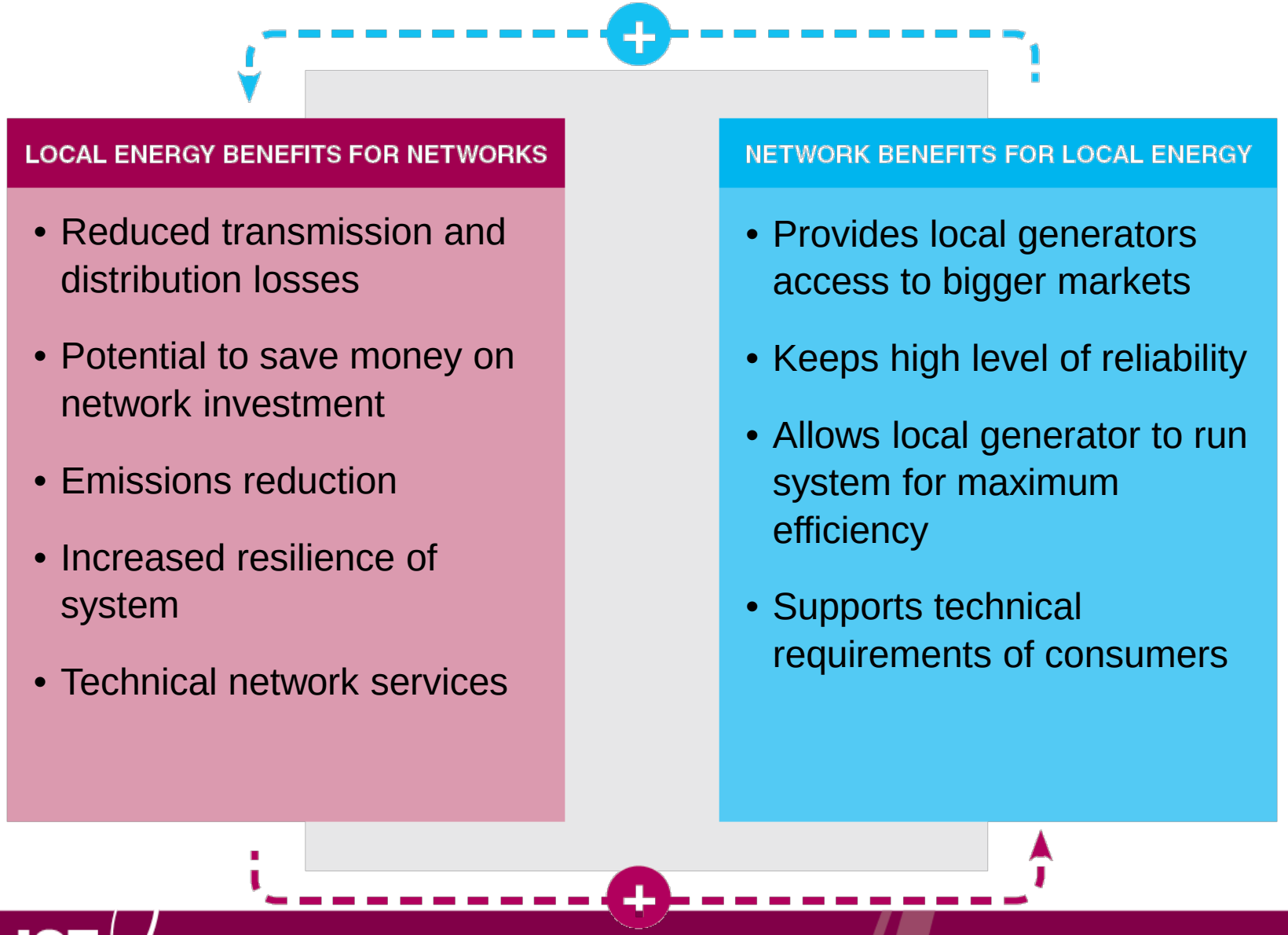
…WITH FAR MORE LOCAL ENERGY



POSSIBLE OUTCOME - THE DEATH SPIRAL



POSSIBLE OUTCOME : MUTUAL BENEFITS



THE PROJECT: FACILITATING LOCAL NETWORK CHARGES AND LOCAL ELECTRICITY TRADING**

** *VIRTUAL NET METERING (VNM)*

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PARTNERS: A BROAD COALITION

PROJECT LEAD

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MAIN SPONSOR

ARENA

Australian Government
Australian Renewable Energy Agency

SWAN HILL Rural City Council

Byron Shire Council

WILLOUGHBY CITY COUNCIL

ERGON ENERGY

CITIPOWER

Powercor AUSTRALIA

Energy in action. Since 1837 AGL

MOIRASHIRE ON THE MURRAY

CITY OF SYDNEY

Total Environment Centre for the future

wannonWATER

NSW GOVERNMENT Renewable Energy Advocate

Networks NSW

Energy Australia

Electricity Retailers Association

Electricity Networks Association

Clean Energy Council

Coalition for Community Energy

WHAT ARE WE DOING?

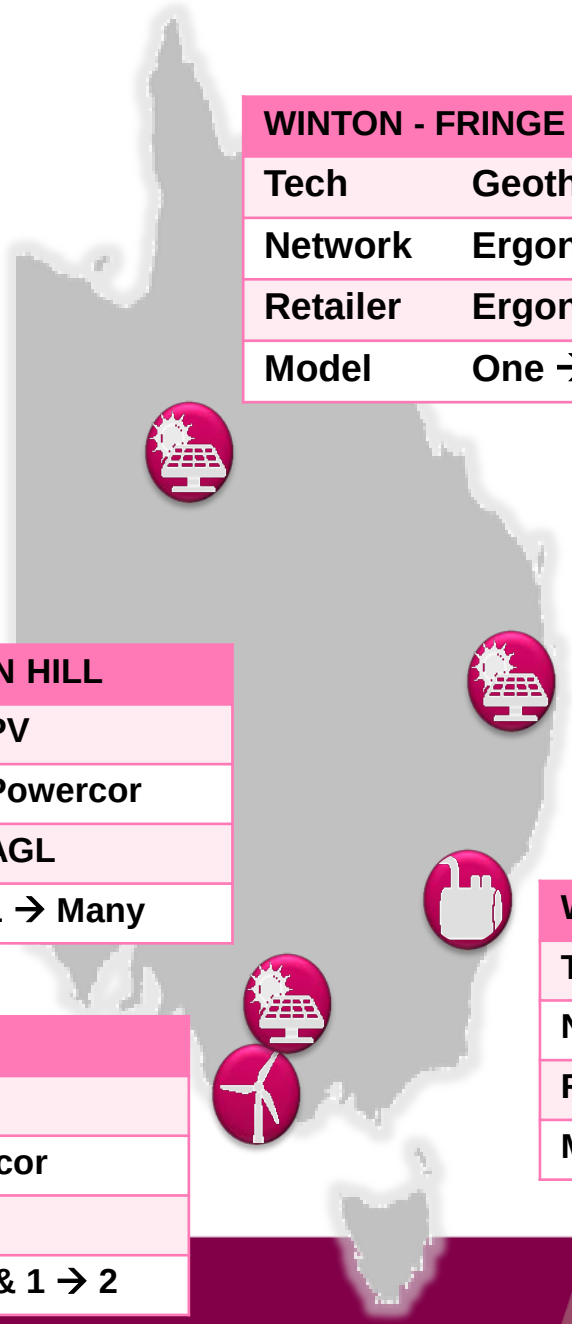
Objective: To facilitate the introduction of local network charges & Local Electricity Trading**

- Five case studies, or “virtual trials”
- A recommended methodology for calculating local network charges
- An assessment of technical requirements and indicative costs for Local Electricity Trading
- Economic modelling of benefits & impacts
- Increase stakeholder understanding and support for rule change(s)

***** also called Virtual Net Metering or VNM***

virtual

THE TRIALS



WINTON - FRINGE OF GRID	
Tech	Geothermal
Network	Ergon Energy
Retailer	Ergon Energy
Model	One → One

BYRON	
Tech	PV
Network	Essential
Retailer	
Model	Council 1 → 1

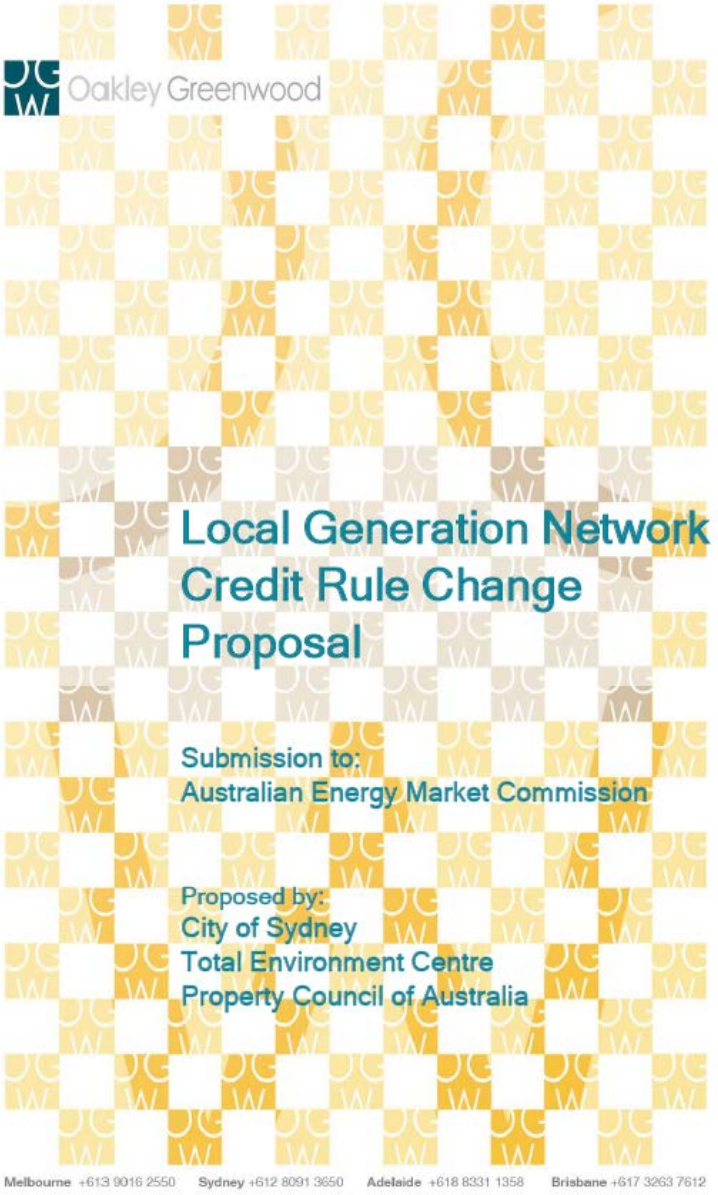
MOIRA/SWAN HILL	
Tech	PV
Network	Powercor
Retailer	AGL
Model	1 → Many

WILLOUGHBY	
Tech	Cogen
Network	Ausgrid
Retailer	Energy Australia
Model	Council 1 → 1

WANNON WATER	
Tech	Wind
Network	Powercor
Retailer	AGL
Model	1 → 1 & 1 → 2

LGNC RULE CHANGE PROPOSAL

- Submitted in July 2015 by City of Sydney, Total Environment Centre, and the Property Council of Australia
- Local network charges achieved via a CREDIT TO GENERATOR
- Objective of our project to support the proposal
- Expect consultation in Feb/ March 2016



VALUING LOCAL ENERGY :

LOCAL NETWORK CHARGES AND LOCAL ELECTRICITY TRADING

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THE PROBLEM

- DGs sell at wholesale and buy back at retail prices, including full network charges
- Strong incentive for customers (and product developers) to focus “behind the meter” & reduce grid consumption
- Perverse incentive to duplicate infrastructure
- Sub optimal sizing of generators and little incentive to supply grid services
- Increases costs for consumers left using *only* grid electricity, as infrastructure costs are recouped from smaller sales volume

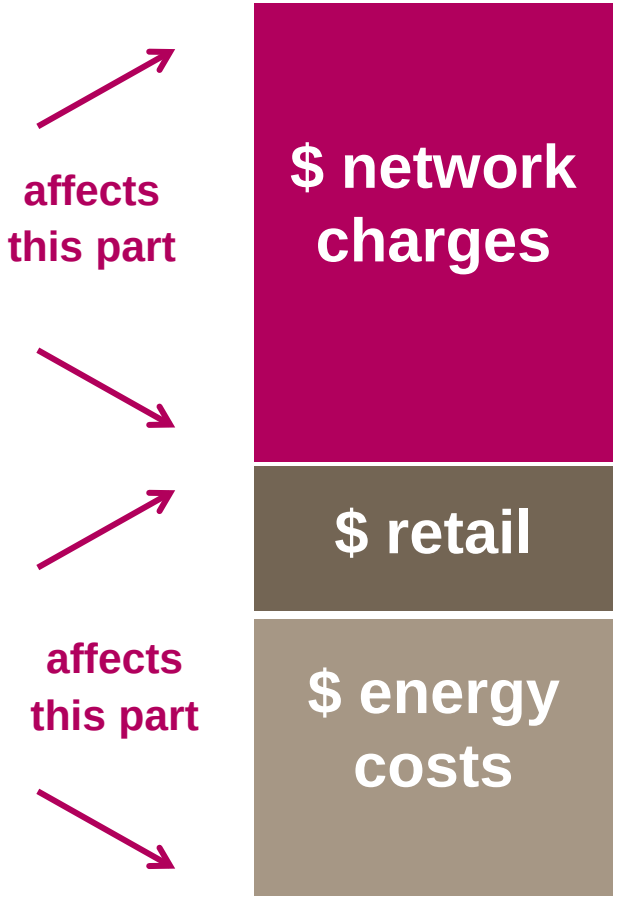
THE CONCEPTS

- Local network charges: reduced tariffs for electricity generation used within a defined local network area

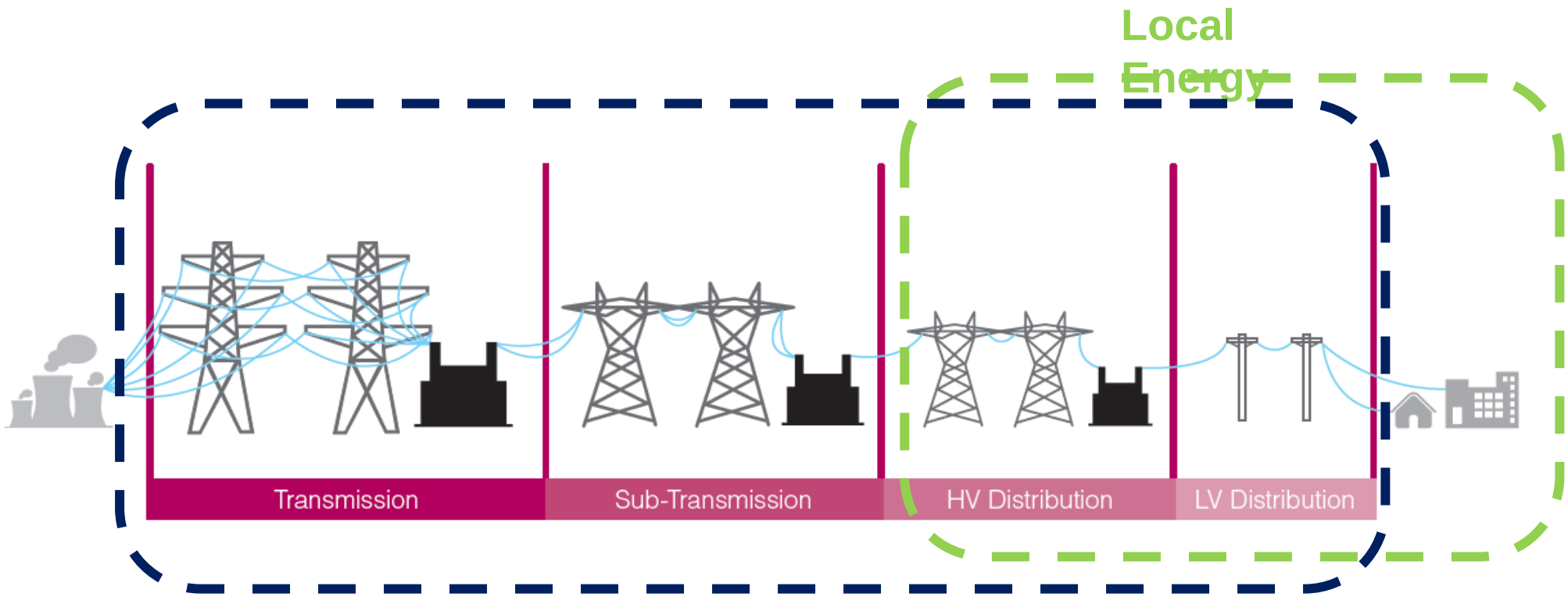
- Local Electricity Trading"** requires *netting off* generation from one site at another site on a time-of-use basis, so that Site 1 can 'sell' or assign generation to nearby Site 2

** *also known as VNM*

TYPICAL MAKEUP OF ELECTRICITY BILL

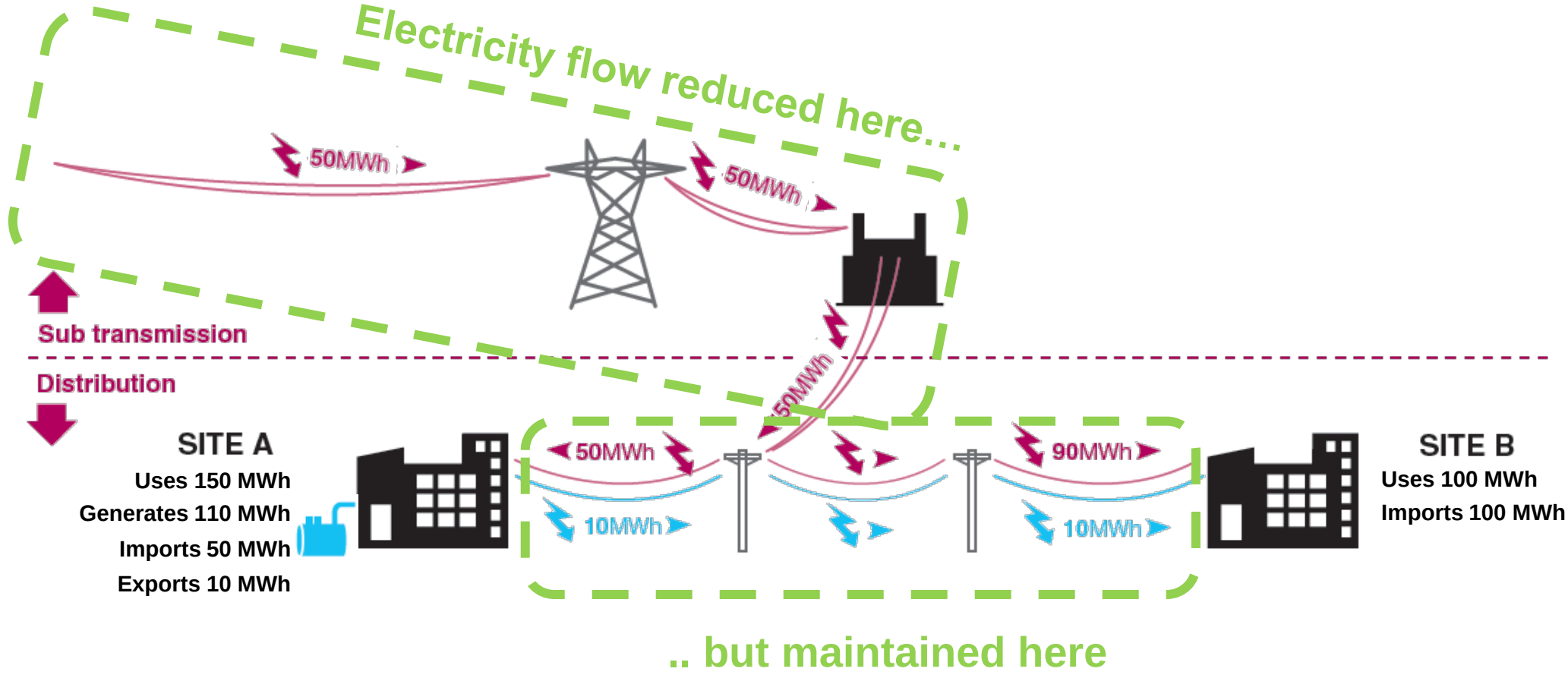


NETWORK CHARGES - WHAT HAPPENS NOW



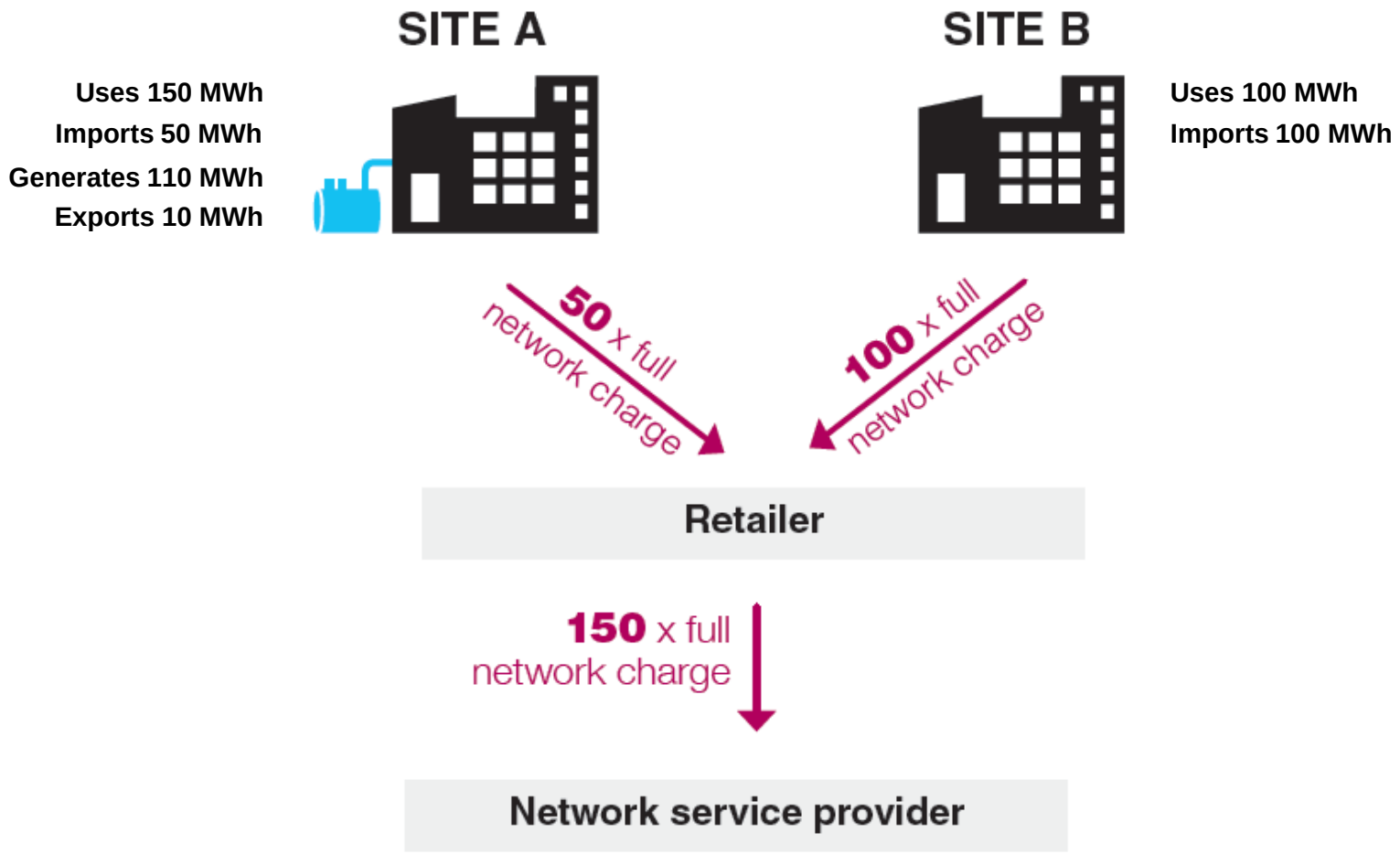
Current network charges for local energy

PHYSICAL ELECTRICITY FLOWS



MONETARY FLOWS

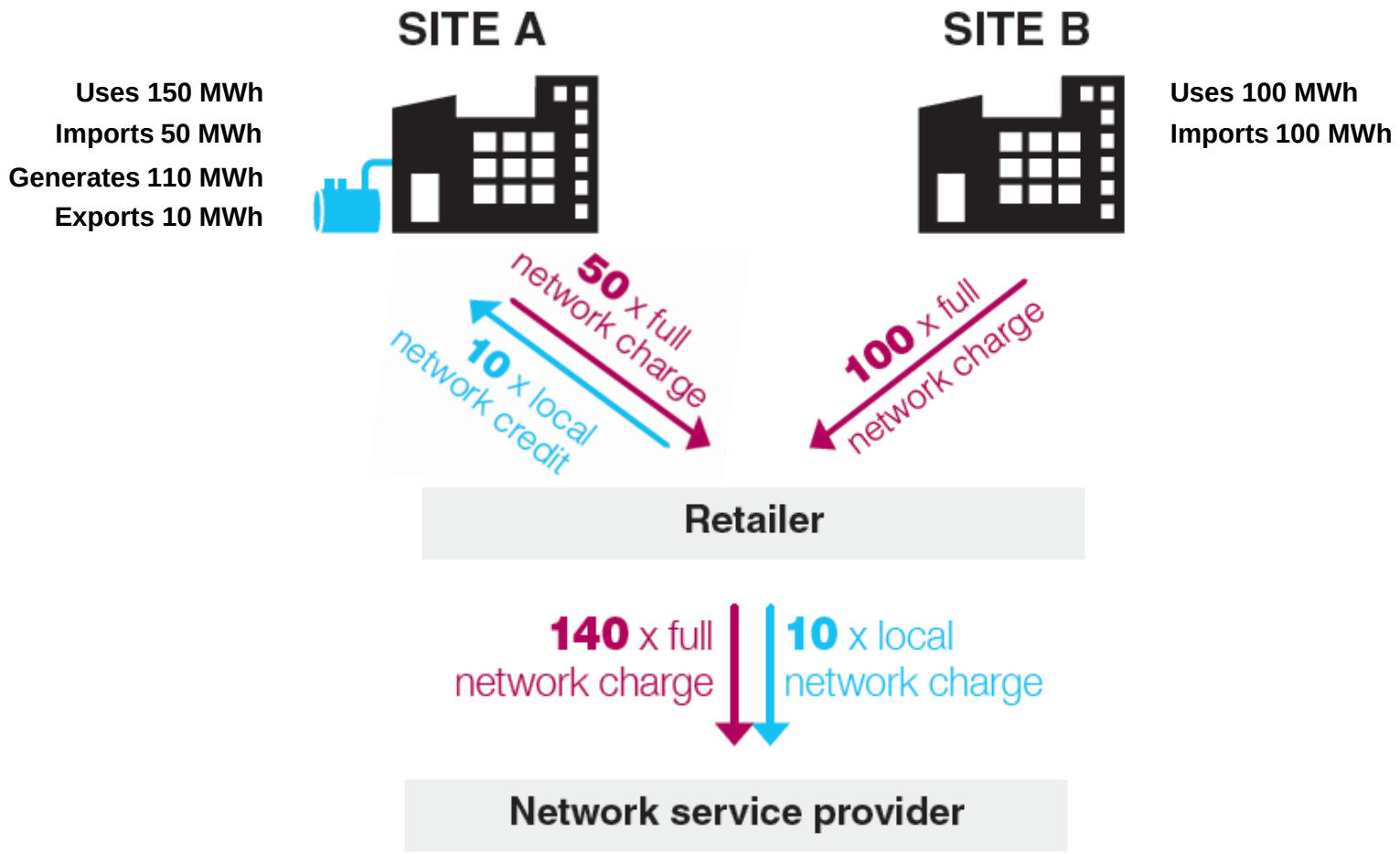
CURRENT NETWORK CHARGES



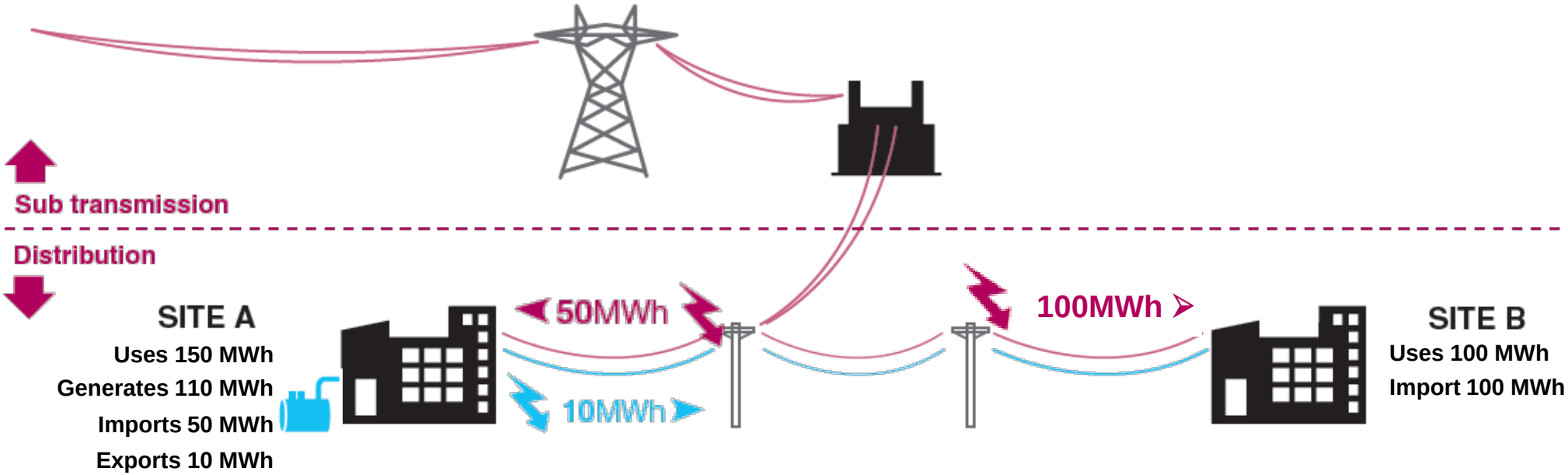
MONETARY FLOWS

LOCAL NETWORK CHARGES

Local Generator Network Credit

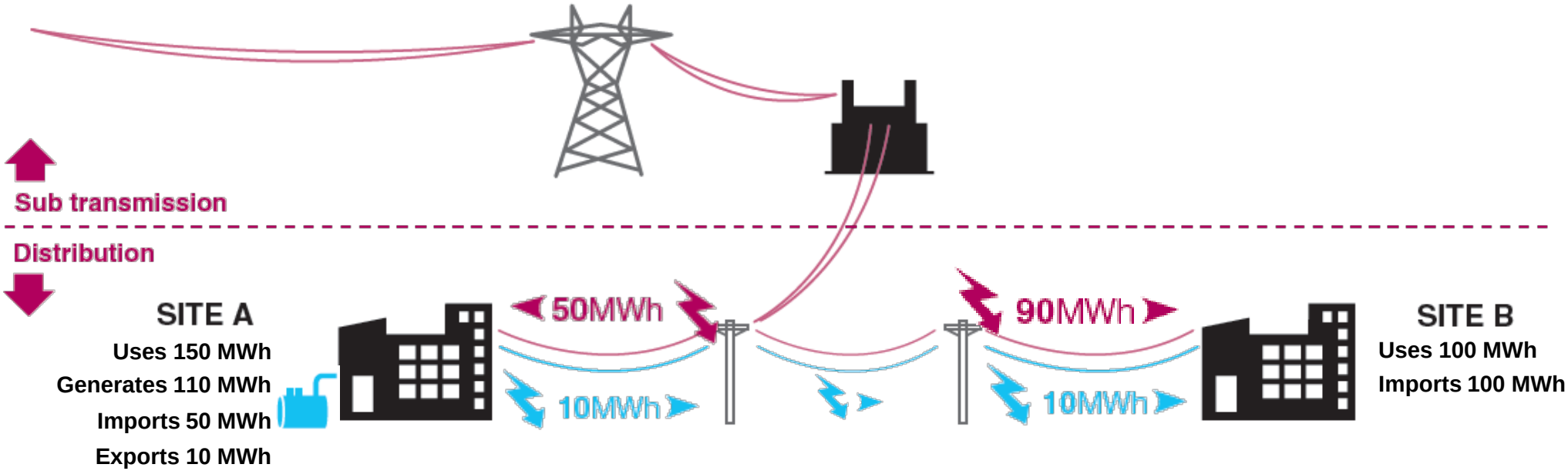


CURRENT ENERGY PURCHASE



SITE B purchases 100MWh of electricity from retailer

LOCAL ELECTRICITY TRADING



Site B purchases 90MWh from Retailer
10MWh generated at SITE A is “netted off” at SITE B

Stay in touch – project website & sign up for newsletter

http://bit.do/Local-Energy

or email: jay.rutovitz@uts.edu.au