FINANCING LARGE SCALE SOLAR

Large Scale Solar Conference - Sydney

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April 2017

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INVESTING ACROSS THE ECONOMY

We invest in businesses and projects which develop or commercialise clean energy technologies, as well as businesses that supply the goods and services needed to develop and commercialise clean energy technologies.

CLEANER POWER SOLUTIONS	
	LARGE SCALE SOLAR
	WIND
	WASTE, BIOENERGY AND AGRICULTURE
	GRID AND STORAGE SOLUTIONS

A BETTER BUILT ENVIRONMENT	
	PROPERTY AND MANUFACTURING
	INFRASTRUCTURE AND TRANSPORT
	GOVERNMENT AND UNIVERSITIES
	SOCIAL HOUSING

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NEW SOURCES OF CAPITAL

CEFC DIRECT

Our direct investments can include both debt products and equity investments, or a combination of both.

DEBT MARKETS

We have supported green bonds and securitised vehicles in the debt markets. We also work with co-financiers to support small-scale investment opportunities.

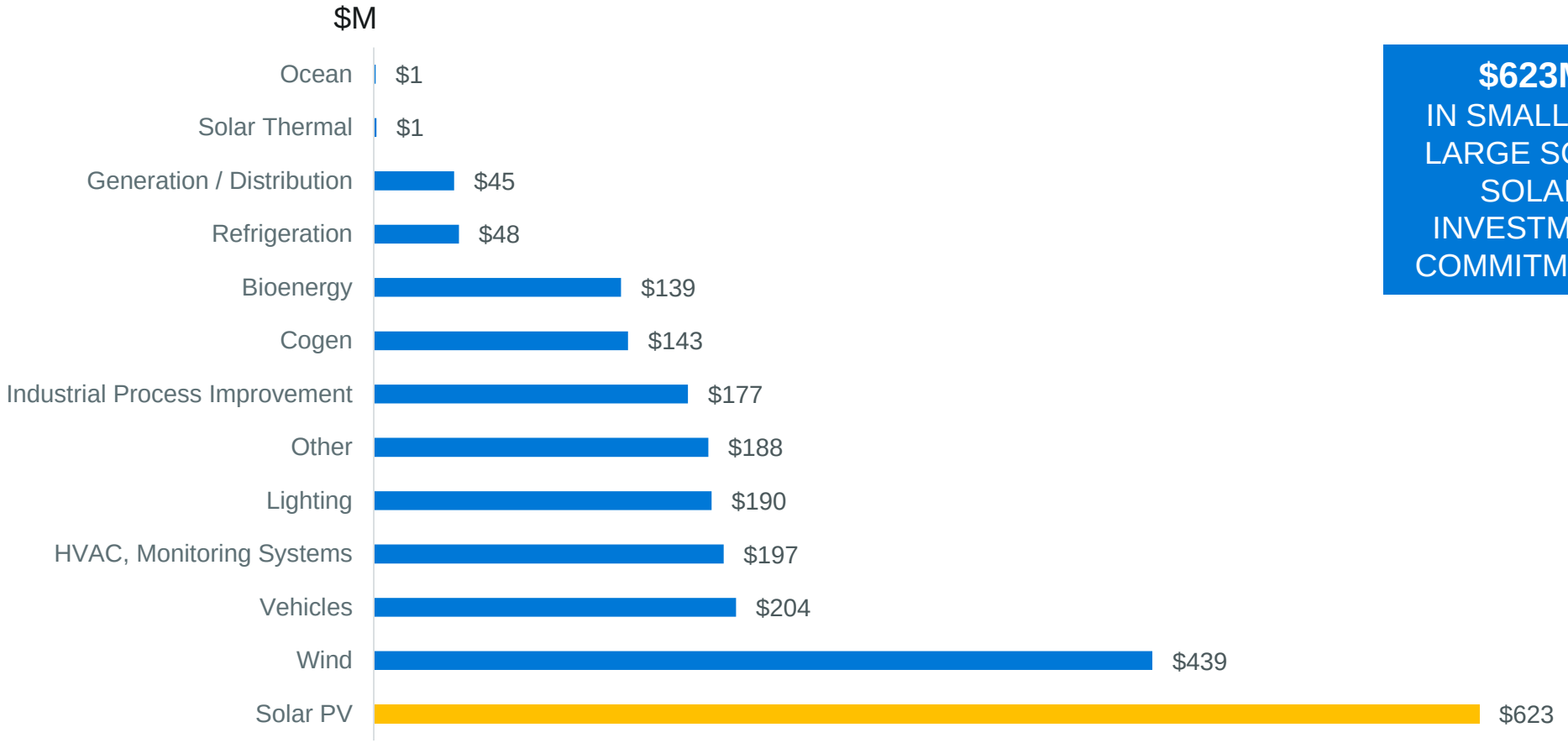
INVESTMENT FUNDS

We invest in major clean energy projects together with other investment funds in order to catalyse investment into the sector.

INNOVATION FUND

We invest in innovative technologies and businesses that will benefit from growth or early stage capital.

SOLAR IS THE BIGGEST TECHNOLOGY INVESTMENT IN OUR PORTFOLIO



$623M
IN SMALL AND LARGE SCALE SOLAR INVESTMENT COMMITMENTS

At December 31 2016

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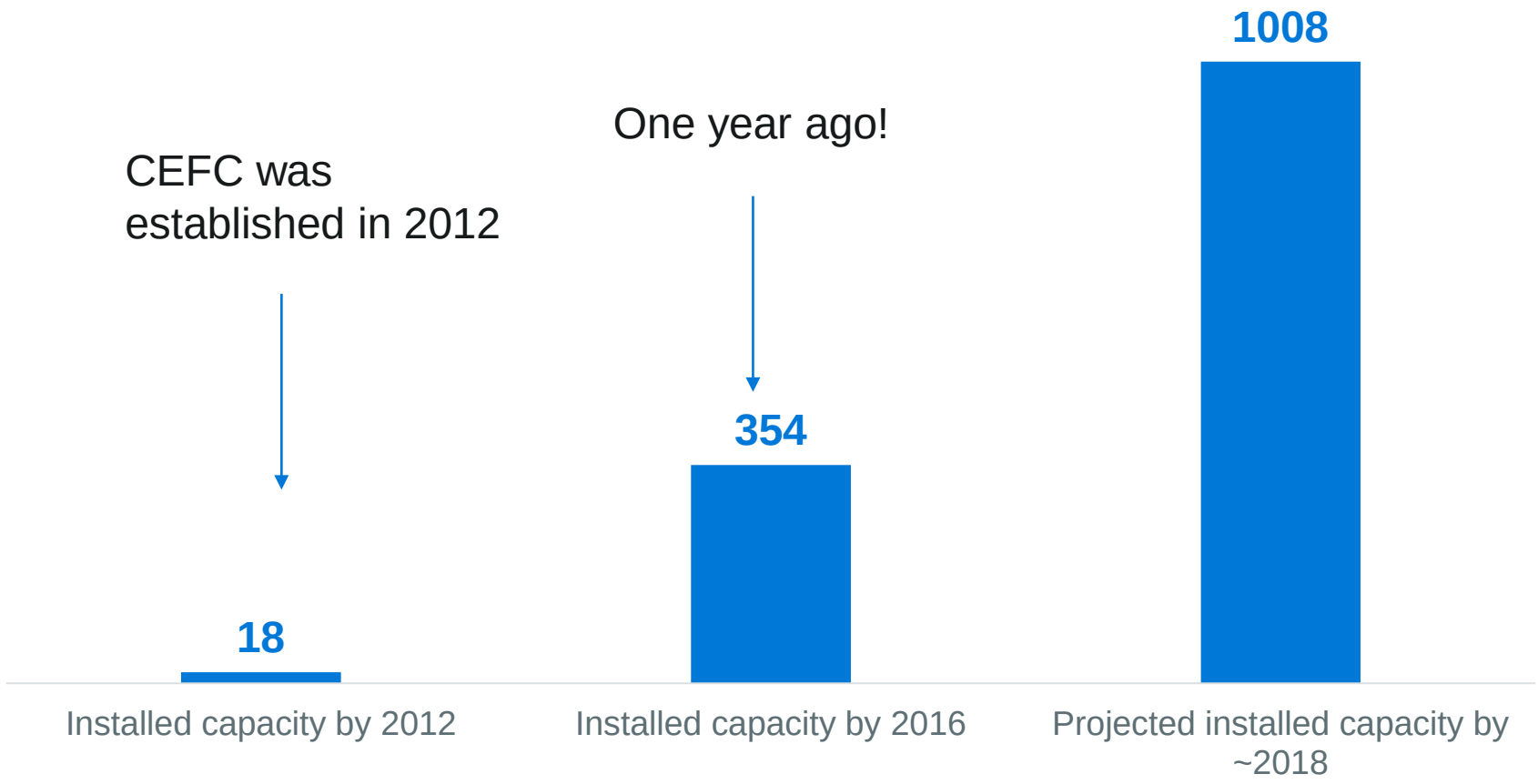
LARGE SCALE SOLAR HAS COME A LONG WAY



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CEFC's RECENT LARGE SCALE SOLAR INVESTMENTS

PROJECT	LOCATION	INVESTMENT	MWac
PARKES, GRIFFITH, DUBBO	NSW (3)	$150m	110
WHITSUNDAY, HAMILTON, GANNAWARRA	QLD (2), VIC (1)	$77m	165
KIDSTON	QLD	$54m	50
ROSS RIVER	QLD	$20m equity	116
MOREE	NSW	$48m	56
BARCALDINE	QLD	$20m	20
DEGRUSSA	WA	$15m	10.6 (+battery)

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NEOEN

TO ACCELERATE
THE CONSTRUCTION OF
THREE MAJOR
SOLAR PROJECTS
WITH A TOTAL VALUE OF
$230 MILLION

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ROSS RIVER

$225 MILLION
ROSS RIVER
SOLAR FARM
IS EXPECTED
TO GENERATE
ENOUGH ENERGY
TO POWER
65,000 HOMES

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2. INVESTMENT TRENDS

WHAT DETERMINES ‘BANKABILITY’?

RISK FACTOR	PROJECT A (EASIER TO FINANCE)	PROJECT B (MORE DIFFICULT TO FINANCE)
EQUITY	Substantial equity from quality sponsor, with ability to deploy contingent equity in case of cost overruns	Non-investment grade equity sponsor e.g. high net worth where balance sheet/exposure appetite can only accommodate initial project cost assumptions
REVENUE: PRICE	Guaranteed long-term customer e.g. 10+yr contracted offtake from creditworthy counterparty	Intention to take merchant exposure for full project term
REVENUE: GENERATION	Conservative generation assumptions, consistent with observed capacity factor of equipment and best available weather data	Unsupported assumptions of high capacity factor, higher than observed solar resources, lack of close-to-site weather data
TECHNOLOGY	“Tier 1” technology providers with strong balance sheets, long term warranties (available to Project Co), limited risks identified in independent technical due diligence	Small/new technology providers, higher risk technology elements, short term warranties, due diligence concerns on technology risk.
CONSTRUCTION	Fixed price, fixed time EPC with LD regime with significant balance sheet	Non-fixed price or fixed time contract, project company minimising costs through multiple contracts, no clear single “guarantee” for construction and generation delivery
O&M	Experienced operator with significant balance sheet	No experience

DEBT TRENDS

- Bespoke financing structures based on sponsors' risk appetite eg. merchant exposure, refinancing risk
- High level of competition for fully contracted transactions
- Increased appetite for partially contracted transactions
- Still very limited bank debt appetite for full merchant transactions
- Currently some appetite for long term tenor from some banks (offshore and domestic) and export credit agencies

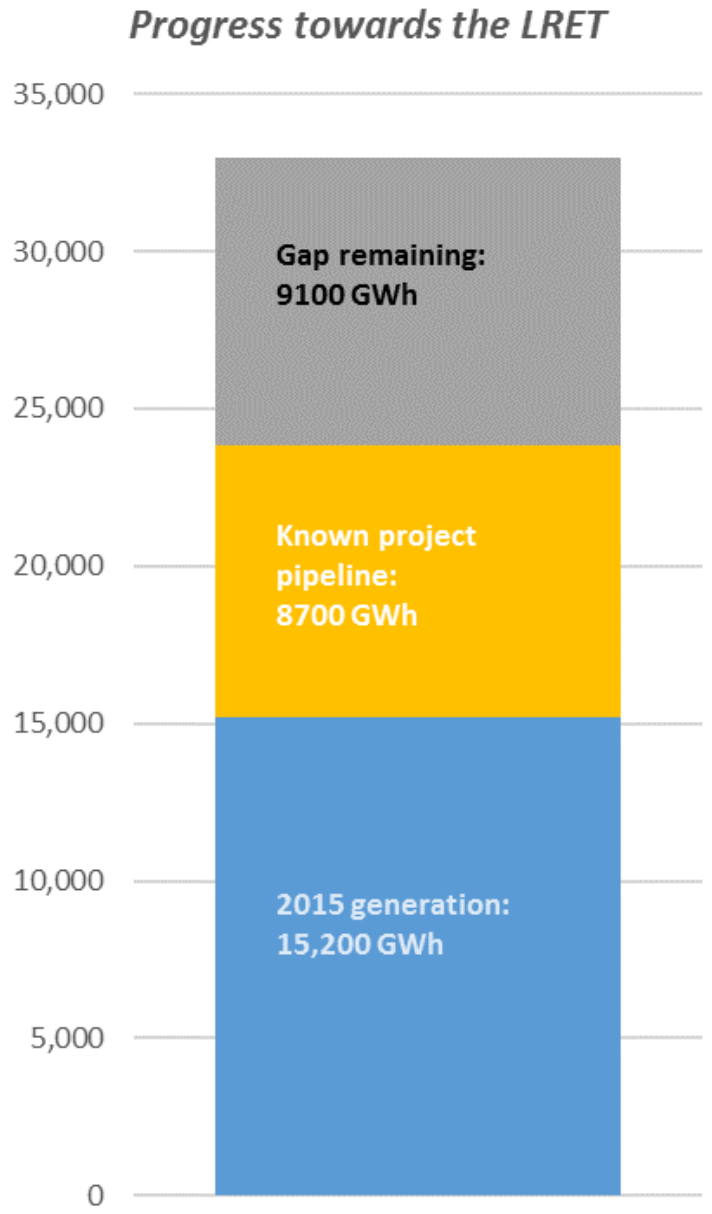
EQUITY TRENDS

- Strong influx of offshore renewable energy developers and equity investors into the Australian market, bringing offshore experience to the domestic RET task
- Slow emergence of Australian-based developers who do not have yet critical mass
- Appetite of Australian Super Funds towards ESG initiatives does not convert into material capital investments due to lack of critical mass and challenging risk profile (merchant risk, development and construction risk)
- Willingness from some developers and investors to assume some material quantum of merchant risk to capture currently high bundled energy prices
- Value For Money proposition when investing substantially prior to financial close and therefore assuming some level of project development risk

3. THE FUTURE OF LARGE SCALE SOLAR

~6GW of NEW GENERATION REQUIRED TO MEET THE 2020 RET

- **17,800GWh of eligible generation is still needed (using end of 2015 as baseline)**
- **Market pipeline of ~8,700GWh or 3.6GW** (operating, under construction or proceeding to financial close since Jan 1 2016)
- **Remaining pipeline of 2-3GW required**
- **Remaining investment challenge of ~$4-6bn**



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Source: CEFC

WHAT ROLE WILL LARGE-SCALE SOLAR PLAY?

SOLAR + STORAGE

Solar combined with storage (battery or hydro) can help turn solar into a ‘dispatchable renewable’

HYBRID PROJECTS

Solar combined with other generation technologies (such as wind) can help create a smoother generation profile

FCAS MARKET

Growing importance of participation in FCAS markets

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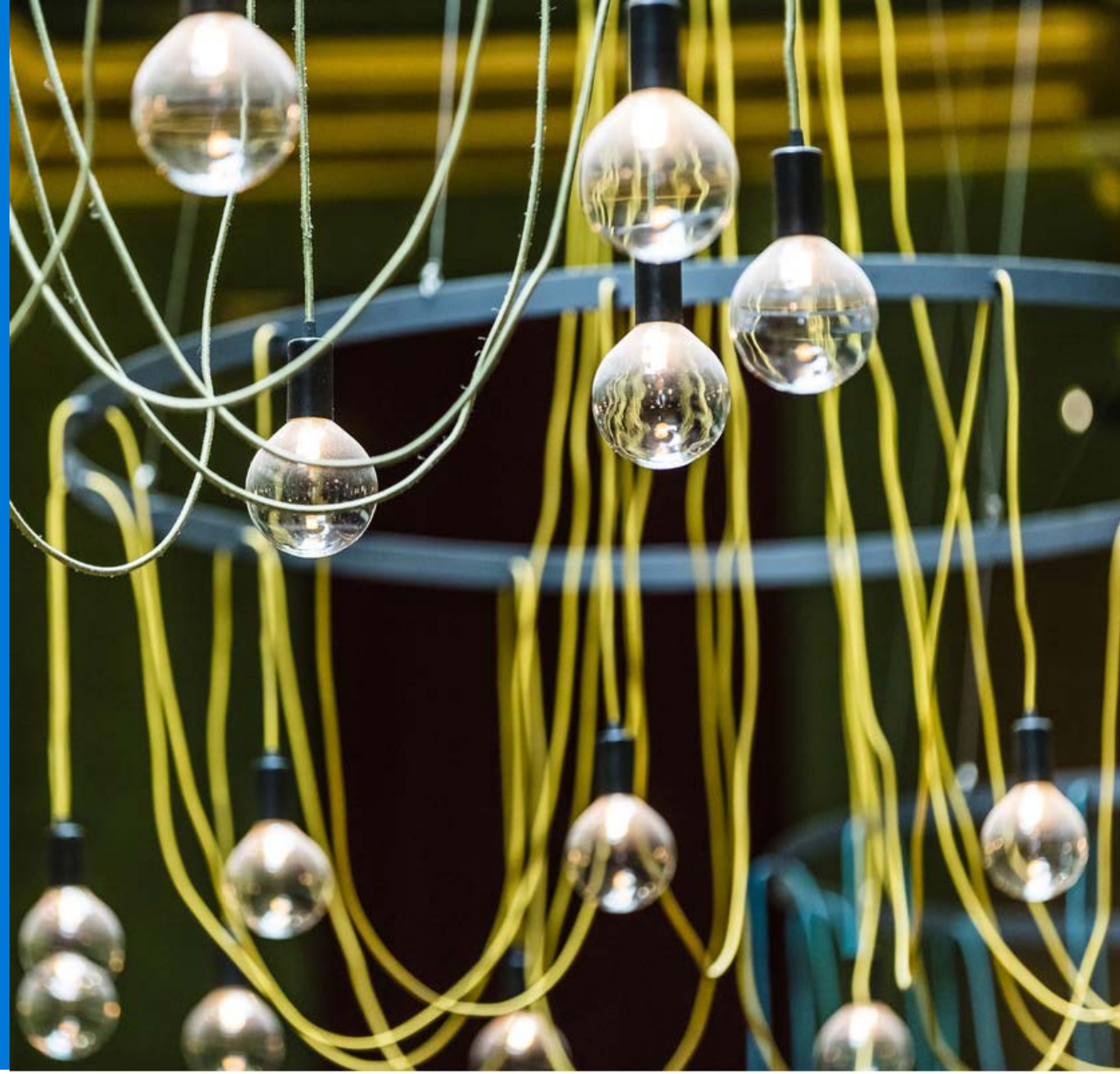
3. TECHNOLOGY ROADMAP FOR ENERGY SECURITY



CEFC'S TECHNOLOGY ROADMAP FOR ENERGY SECURITY

Energy storage and system strength

Pumped hydro and batteries will improve energy security and balance variable renewable energy

Synchronous condensers and other technologies will help maintain grid inertia

Dispatchable renewables

Concentrated solar thermal, geothermal, hydrogen and biomass will provide dispatchable capacity to complement variable renewables and provide ancillary services

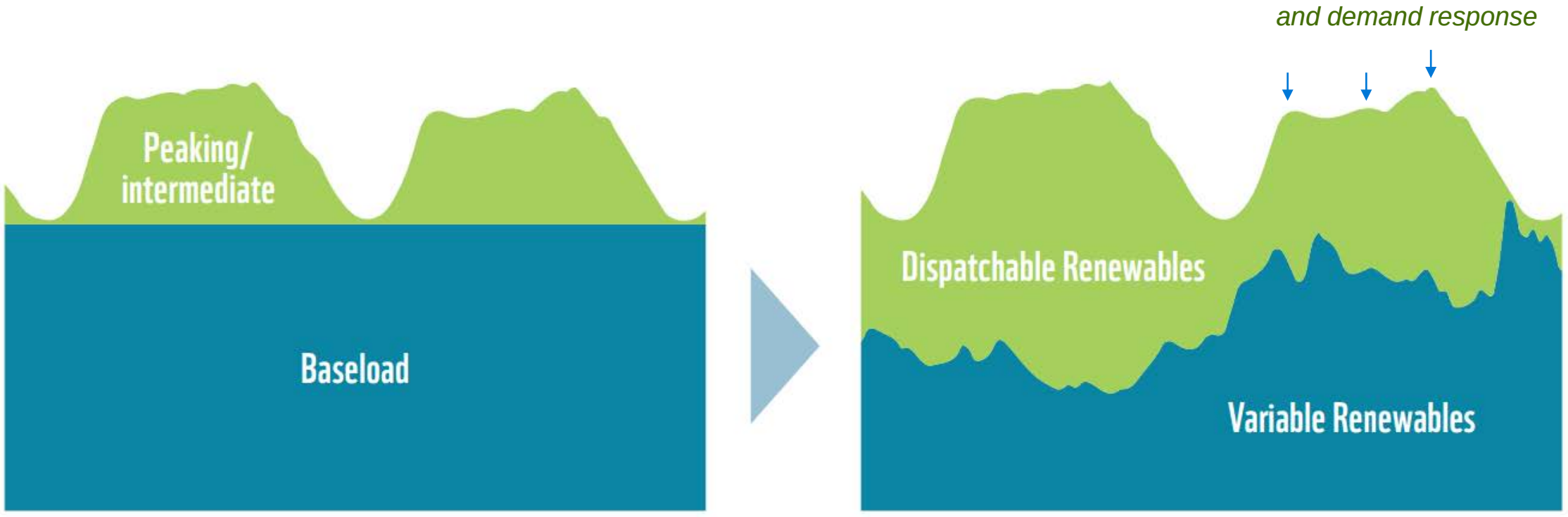
Transmission upgrades

Upgrading transmission links between NEM regions will increase energy security and help energy flow from where it is generated to where it is needed. Intraregional transmission could also unlock new energy resources

Behind the meter solutions

Smart grid technology to better enable price response demand management and virtual power plants will reduce price stress caused by peaks in electricity demand and unlock currently 'hidden' resources within the grid

FROM BASELOAD AND PEAKING TO A SMART GRID



Source: Riesz, J., Elliston, B., Vithayasrichareon, P., and MacGill, I. (2016). 100% Renewable Australia

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