CELEBRATING

20 YEARS

OF NEW ZEALAND'S
WHOLESALE
ELECTRICITY MARKET

NZX

ELECTRICITY AUTHORITY
TE MANA HIKO

ON 1 OCTOBER 1996, NEW ZEALAND'S COMPETITIVE WHOLESALE ELECTRICITY MARKET STARTED.

New Zealand was the third country in the world to introduce a wholesale electricity market based on participants submitting bids and offers.

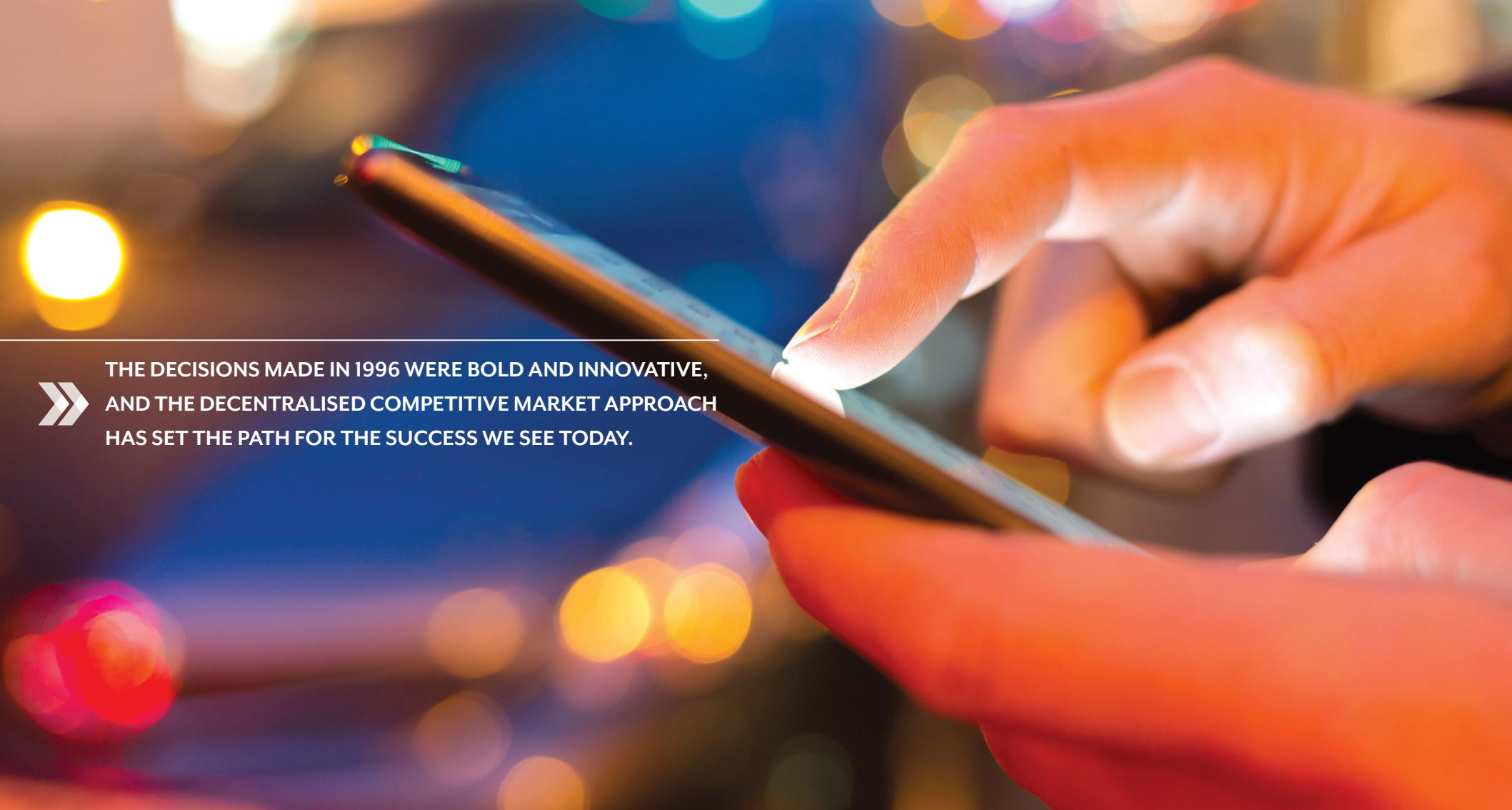
Not only was it innovative in its design, it quickly became innovative in its operations, using the world's first-ever online electricity trading system.

It followed the Electricity Pool of England and Wales (established in 1990) and Nord Pool (Norway only, established in 1993). New Zealand took it one step further by also incorporating full nodal pricing and security constrained economic dispatch.

Twenty years on, the market has evolved considerably, with full retail competition beginning in 1999, and the market moving from self-governance to a government regulated arrangement in 2003.

But many of the foundations set in 1996 remain, and the market continues to flourish.

	1996	NOW
	Most consumers had little or no choice of supplier on their network.	Consumers can now choose from up to 31 different retail brands. There is diversity in the range of plans and packages available.
	New Zealand had come close to forced black-outs in 1992, and dry years still posed a real risk.	Record dry periods in 2012 and 2013 were managed with no consumer impact. A sophisticated and innovative range of security of supply initiatives are in place.
	The wholesale market began with nodal pricing and very few generating companies selling into the wholesale market.	There are record levels of trading, with 25 generating companies selling into the wholesale market, and 47 traders purchasing from the wholesale market.
	There were very limited trading options for managing risk.	There is substantial trading through the over-the-counter market (including cross-hedging by generators to manage hydro risks), a vibrant and rapidly growing futures market, and fast-developing financial transmission rights (FTR) market.
	When customer switching began in 1999, it was a tedious and time-consuming process – and it got worse! In some cases, it took around 200 days for a customer to switch suppliers.	New Zealand now leads the world for customer switching rates with 21.9% of all residential consumers switching retailers in 2015. On average, it takes just three to four days for the switch to take place.
	New Zealand had 7,800 MW of installed generation capacity.	New Zealand now has 9,963 MW of installed capacity with most growth in renewable wind and geothermal generation.



THE DECISIONS MADE IN 1996 WERE BOLD AND INNOVATIVE, AND THE DECENTRALISED COMPETITIVE MARKET APPROACH HAS SET THE PATH FOR THE SUCCESS WE SEE TODAY.

OVER THE PAST 20 YEARS NEW ZEALAND'S ELECTRICITY MARKET HAS BEEN WIDELY ACKNOWLEDGED AS WORLD-LEADING.

The market has been characterised by innovation and an over-riding focus on developing market-oriented solutions.

Innovation was set in the foundations of the market, which saw the implementation of locational marginal pricing. More recent innovations have included the non-regulated roll-out of smart metering technology and the development of vSPD (vectorised Scheduling, Pricing and Dispatch). vSPD was the first stand-alone exact replica of SPD published for open access. It was also the first online version of SPD in the world.

The unique challenges of New Zealand's electricity market, with its unpredictable hydro and wind resources, have also helped develop innovation in reserve management and, particularly, security of supply initiatives. The customer compensation scheme and financial stress testing regime were both world-first initiatives that have attracted the attention of regulators in international electricity markets.

The development of the wholesale market was closely followed by full retail competition. Barriers to entry and expansion have been greatly reduced, with a focus, particularly since 2010, on ensuring the market rules provide confidence and clear signals.

The wholesale market prudential regime has been reformed and a retailer-default scheme introduced. A futures market has been initiated and trading has grown significantly. The market is now characterised by significant levels of innovation from both new entrants and incumbents.

There has been much change over twenty years, and there is much ahead. With an increasing range of evolving technologies and business models now possible, the industry is facing a major transformation. The decisions made in 1996 were bold and innovative, and the decentralised competitive market approach has set the path for the success we see today.

MILESTONES

1996

The competitive wholesale electricity market begins under a multilateral contract.

EMCO (since renamed M-Co) was contracted to act as market administrator, clearing manager and pricing manager, while Transpower was contracted to provide the scheduler, dispatcher and grid operator roles. Prices were based on bids and offers from market participants and the price was not capped. The spot market was supplemented by the trading of longer-term hedge contracts.

1998

The Electricity Industry Reform Act 1998 required full ownership separation of distribution from supply (retail and generation) businesses.

Interruptible load is first purchased in the wholesale market by the system operator, using fixed price contracts.

CentralPower opens New Zealand's first windfarm near Palmerston North.

1999

New Zealand's largest electricity generator ECNZ is split into three competing state-owned generators: Genesis Energy, Meridian Energy and Mighty River Power.

Contact Energy was privatised and listed on the NZX.

Full retail competition begins and the first registry is established to assist switching.

2001

First significant dry winter event since the market's establishment. Industry participants successfully and seamlessly switched another retailer's customer base.

2003

The Electricity Commission is established, with the costs of the Commission to be recovered from the industry via a levy.

2008

Final approval is given for Transpower to upgrade Pole 1 of the HVDC link between the South and North Islands.

2009

The outcomes of the Ministerial review of the electricity market include the transfer of Tekapo A and B, virtual asset swaps, and require all major generators to put in place an accessible electricity hedge market.

2010

The five largest electricity companies jointly enter an agreement with the ASX to trade electricity futures and options.

The Electricity Industry Act 2010 provides a new framework for the regulation of the industry. The Electricity Authority is established under the powers provided in the Act.

2011

The customer compensation scheme is put in place, meaning retailers would have to compensate their customers if an electricity conservation campaign was called.

The What's My Number campaign begins.

2012

Demand-side bidding and forecasting began, with the objective of improving the forecast load and price accuracy and facilitating better demand-side and supply-side resource coordination.

2013

Trading of FTRs begins and Transpower is contracted to provide FTR Manager services.

2014

A range of new hedge market products are introduced.

The milestone of one million installed smart meters is reached.

Code amendments to enable dispatchable demand came into force, allowing the system operator to dispatch electricity consumption in a similar way to electricity generation.

Government concludes its share offer programme following the successful, partial sell downs of Genesis Energy, Meridian Energy and Mighty River Power.

2015

The hedge market achieved record trading volumes, signalling improved liquidity in the market.

Settlement and prudential security arrangements were amended to reduce costs for direct purchasers and improve efficiency.

THERE HAS BEEN MUCH CHANGE OVER TWENTY YEARS, AND THERE IS MUCH AHEAD. WITH AN INCREASING RANGE OF EVOLVING TECHNOLOGIES AND BUSINESS MODELS NOW POSSIBLE, THE INDUSTRY IS FACING A MAJOR TRANSFORMATION.

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