

То	Company Announcements Office	Facsimile	1300 135 638
Company	ASX Limited	Date	28 July 2015
From	Helen Hardy	Pages	20
Subject	CEN Taranaki Site Tour Presentation		

Attached herewith is a copy of an announcement released to the NZX by Contact Energy today.

Origin Energy holds 53.09% of quoted ordinary shares in Contact Energy Limited.

Regards

Helen Hardy Company Secretary

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Taranaki site tour

28 July 2015

James Kilty, Chief Generation and Development Officer Peter Kane, General Manager Operations Fraser Gardiner, Head of Investor Relations and Strategy



Cautionary statement

This presentation may contain projections or forward-looking statements regarding a variety of items. Such forward-looking statements are based upon current expectations and involve risks and uncertainties.

Actual results may differ materially from those stated in any forward-looking statement based on a number of important factors and risks.

Although management may indicate and believe that the assumptions underlying the forward-looking statements are reasonable, any of the assumptions could prove inaccurate or incorrect and, therefore, there can be no assurance that the results contemplated in the forward-looking statements will be realised.

EBITDAF and underlying earnings after tax are non-GAAP (generally accepted accounting practice) profit measures. Information regarding the usefulness, calculation and reconciliation of EBITDAF and underlying earnings is provided in the supporting material.

Furthermore, while all reasonable care has been taken in compiling this presentation, Contact accepts no responsibility for any errors or omissions.

This presentation does not constitute investment advice.

Today's presentation

Welcome James Kilty

Safety briefing
 Paul Fougere - Head of Generation Taranaki

Thermal update
 Fraser Gardiner

Operational overview
 Peter Kane

If it's not safe, call it.

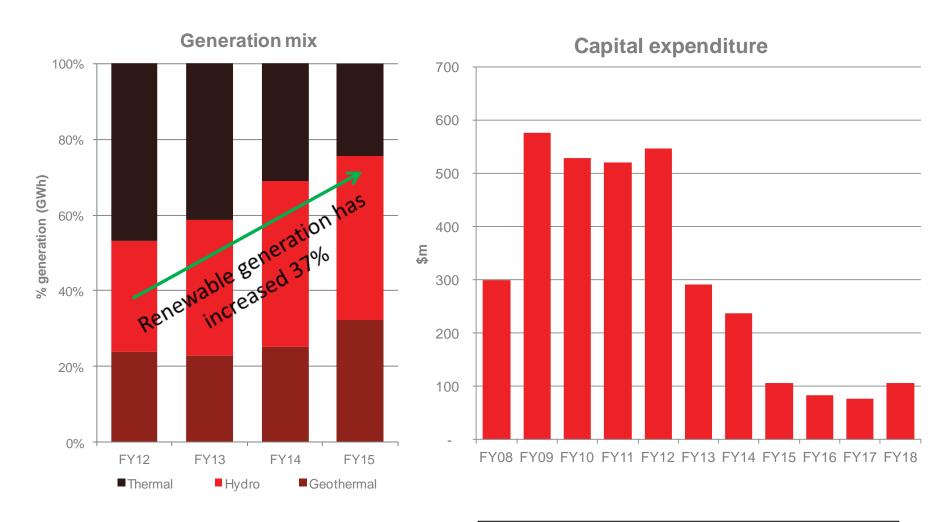
Kick off the conversation





Stay Safe Mate

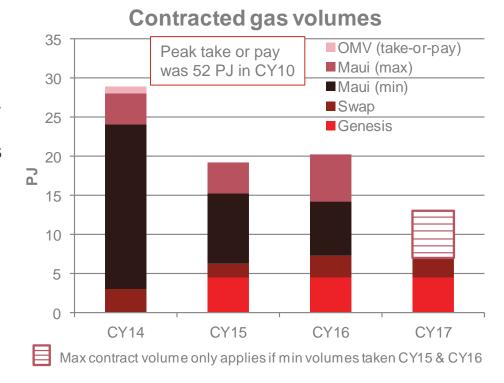
The investment in renewable generation has lowered Contact's cost of energy and requires limited ongoing capital expenditure



Capital expenditure on CCGTs will be determined by market conditions: \$40-\$50m for every major outage with an 18 month lead time

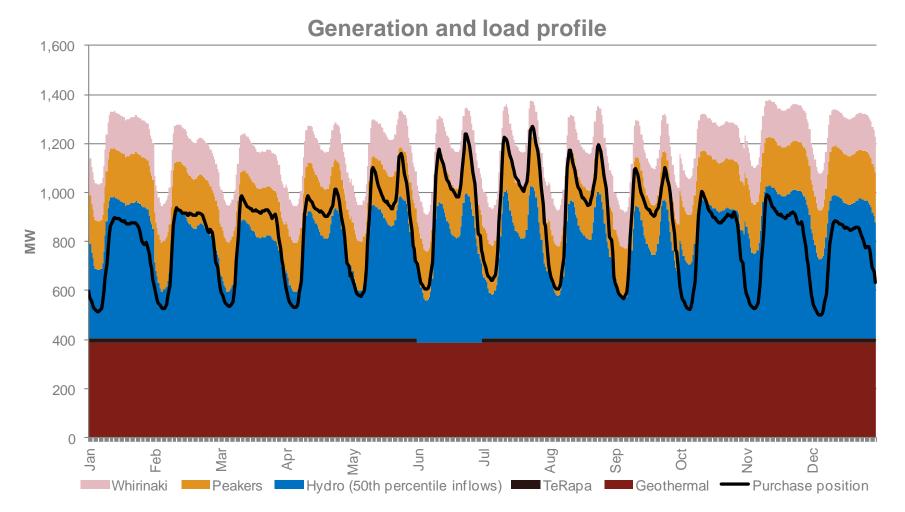
Thermal assets role is changing from baseload operation to providing hydrology risk management and optionality

- Extension to gas supply agreement completed with Maui Developments Limited
 - » 22 and 26 petajoules over 2015-2017
 - Able to move volumes between years combined with 11.3PJ of gas stored provides significant flexibility
- New long-term peaker maintenance agreement covering support and component replacements including a spare engine on-site



- Focus for the CCGTs is on managing remaining operating hours and improving operating flexibility
 - * 15,500 equivalent operating hours remaining between Otahuhu and TCC before major maintenance required
 - Otahuhu and TCC capacity factor in FY15 24%
 - Otahuhu min load improved from 220MW to 180MW

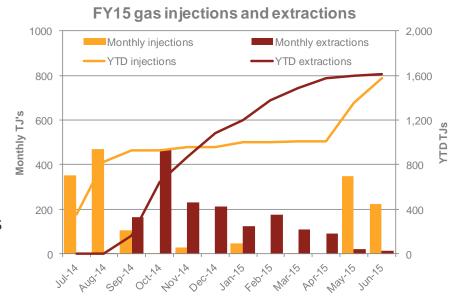
Contact's low cost renewable business combined with gas storage and peakers can support a retail business of around 7.1 TWh



Contact's CCGTs are optional depending on the availability of alternative supply or the ability to secure a spark spread and recover maintenance costs

The role of Ahuroa gas storage is developing, adding value to the thermal operations

- Initial investment (excl Cap interest) \$197m
 - » Assets \$111m
 - » Gas rights \$35m
 - Cushion gas \$51m
- Benefits realisation broken in to three stages
 - Cost: avoided take-or-pay gas
 - Transition: market education supporting new gas contracts
 - Trading: Seasonal gas shaping and sale of gas and electricity capacity products





The role of large thermal plants in New Zealand is likely to reduce over time, with Contact well positioned to support flexible development when it is needed

Stratford

Up to 400 MW of new peaking or CCGT operation consented

Otahuhu

Up to 400 MW of new CCGT capacity consented; consents to open-cycle Otahuhu B ~\$20m

Whirinaki

Potential to expand or relocate and convert to gas ~\$60m

New Plymouth

Option to repurchase land between 2023 and 2038 for electricity generation

Ahuroa

2 stage options to expand injection and extraction capacity at 50 TJ/day increments (\$60 - \$80m)

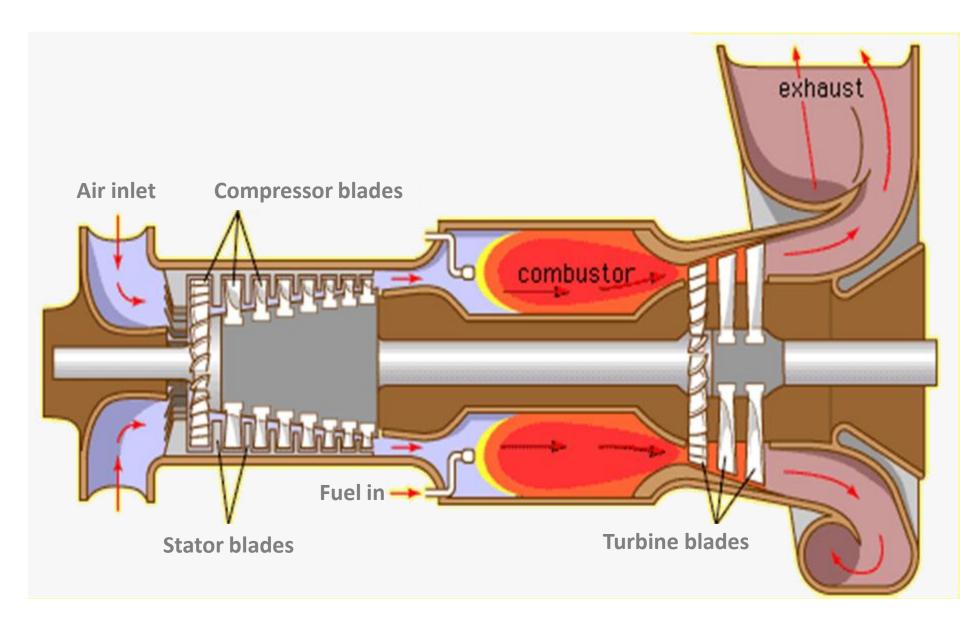




Thermal operations — Peter Kane

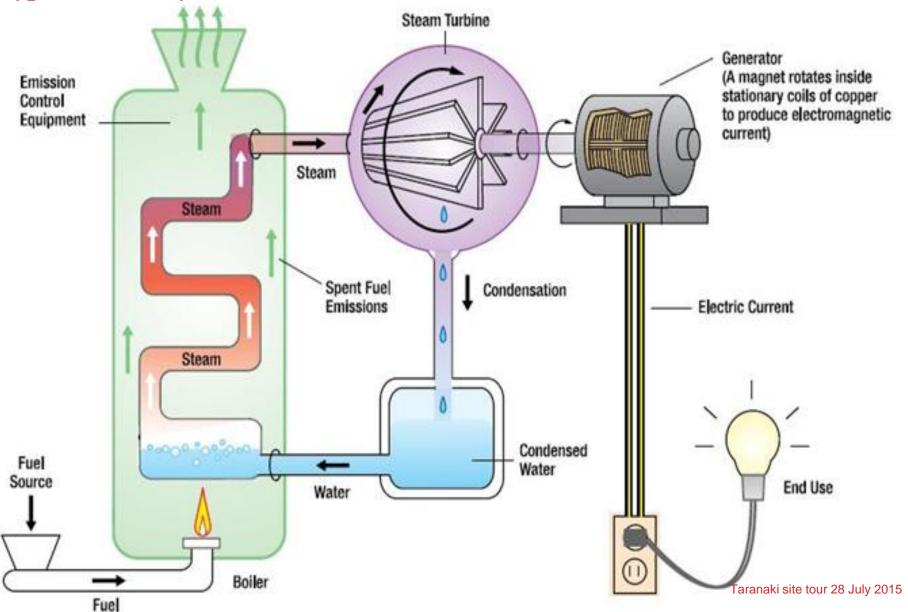
Gas turbine: The Brayton Cycle

Typical efficiency: 33% - 45%



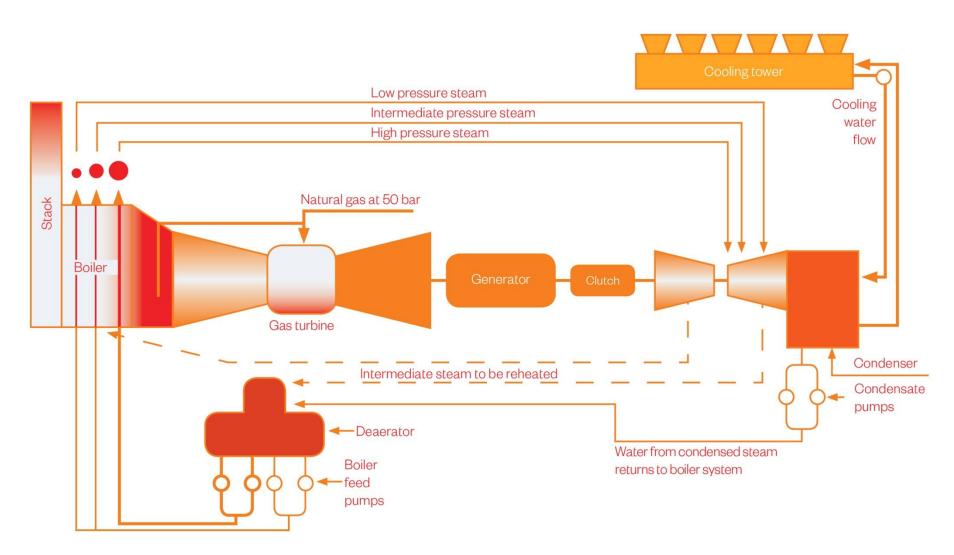
Steam turbine – The Rankin Cycle

Typical efficiency: 33 – 38%

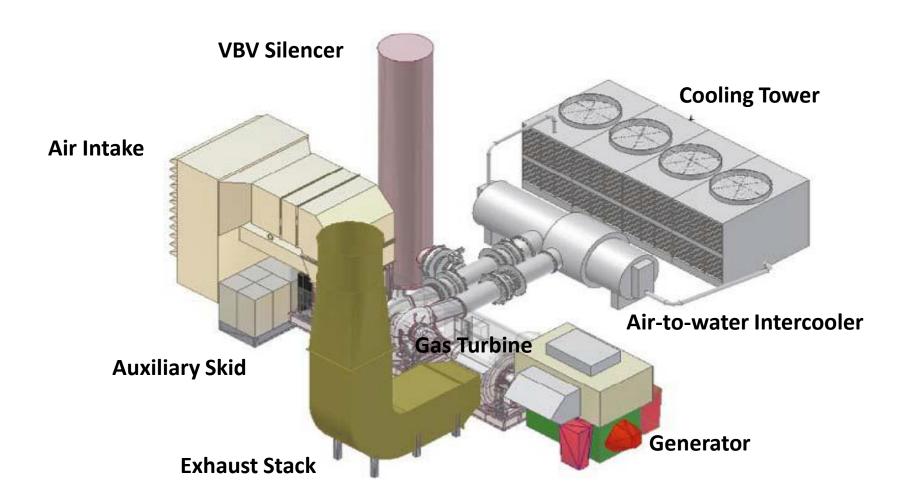


Combined Cycle

Typical efficiency: 55% - 60%



LMS 100 gas-fired peakers

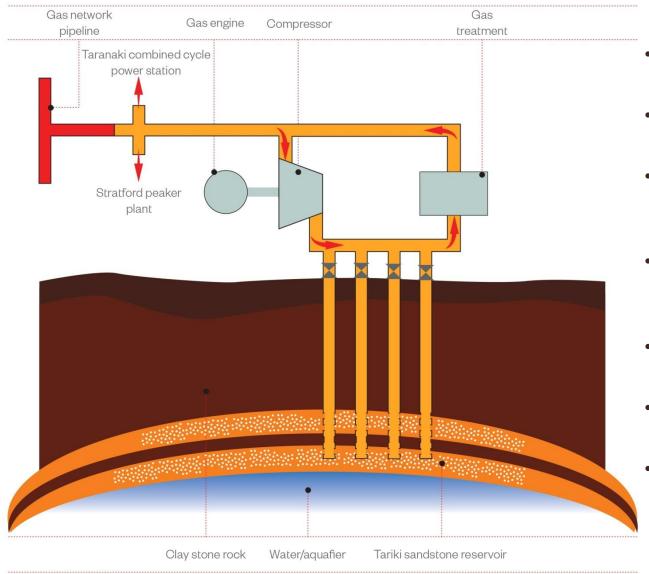


Ahuroa gas storage facility



Taranaki site tour 28 July 2015

AGS provides Contact with up to 17 PJ of gas storage capacity

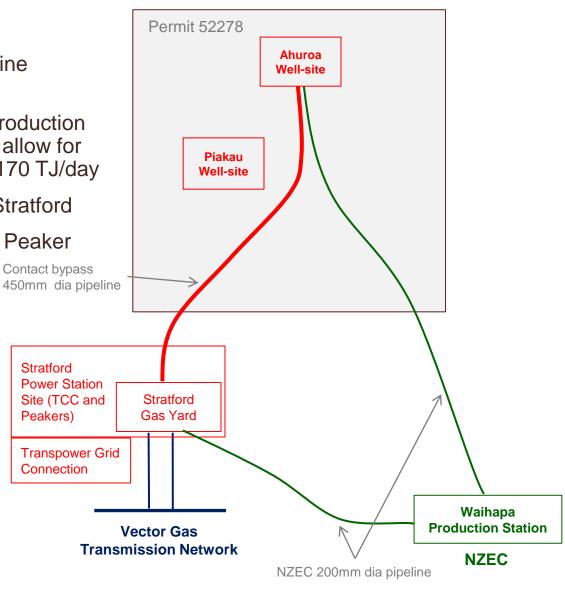


- ~17 PJ max working volume
- 11.3 PJ working volume as at 30 June 2015
- Connected to Stratford power stations by 2 pipelines
- Operated by NZEC (from Waihapa Production Station)
- Max reservoir pressure 3,450 psi
- 45TJ/day extraction rate (single train)
- 27 TJ/day injection rate (via Waihapa Production Station) (single train)

AGS is connected to the Stratford power stations by two pipelines

- Bypass pipeline completed 2013
 - » 8.7km, 450mm diameter pipeline between Ahuroa and Stratford
 - Purpose to bypass Waihapa Production
 Station to eliminate costs, and allow for storage development of up to 170 TJ/day
 - Option of 2 pipeline routes to Stratford
 - Increased line-pack to support Peaker start-up
 Contact bypass





OSIP programme – redefining process safety

Contact Process Safety Management Framework

Plant		Pı	Process			F	People	Recovery
Operations & Compliance Audit	External Audi	it Integrated Inte	Integrated Internal Audit		Incident Reporting, Investigation and Action Tracking		Controlled Documents (Policies, Procedures, Standards)	
Technical Risk Management	Safety Critical Systems	Alarm and Instrument Management	Maintena Managen		Operations Management	Co	Staff empetence	Emergency Preparedness
Management of Change Plant Status	Critical Systems	Process Control	Work Prioritisatio Planning Schedulin	,	Startup / Shutdown Procedures		Competency Assurance	Emergency Planning, Arrangements
Review / Technical Risk Register Strategic Spares	Emergency Supplies	Critical			Routine Plant Checks		Leadership	and Equipment
Engineering Standards	Fire Systems	Instrumentation	Work Identificatio Routine Pla Inspection	ant	Routine Testing	Tr	raining Needs Analysis	
Technical Knowledge Management	HV Electrical	Protective Systems / Devices			Shift Log / Handover	Co	mmunications	Crisis Management
Design Review Asset Investment	Systems	Alarm Systems	Work Execu	tion	Safety Rules and Personal Risk Assessment	91	aff Knowledge	
Civil Asset Inspections	Main Protection Systems				Operating Limits / Envelopes	Management Management		Environmental
Pressure System Safety	Environmental Systems	Operational Technology Security	Personal Risk Assessment		Operational Risk Assessment		Contractor Competency	Containment Systems

Bow tie diagrams are used to visualise the hazard being assessed

