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The Prime Minister, Australia

The Premier, NSW

The Australian Renewable Agency

Clean Energy Finance Corporation

SW Chief Scientist and Engineer This Copy for

DST Group Sydney

Australian Industry and Defence Network

Universities

Western Sydney [UWS]

Macquarie [MACQUARIE]

New South Wales [UNSW]

Sydney [SYDNEY]

University of Technology Sydney [UTS]

University of Wollongong [UOW]

Sydney Institute of TAFE

Member for Cook (and Federal Treasurer)

Member for Cronulla (and Minister for the Environment,

Assistant Minister for Planning)

Dr M Faruqi MLC NSW

Dear Researchers

### Full scale Renewable Energy laboratory at Kurnell desalination site

### Background

The desalination plant was built on an extensive site on Kurnell peninsular to augment Sydney water supply. Subsequent rain increased stored water capacity of Sydney dams. facility was fully operational after commissioning and is connected to Sydney water mains. However, water (requiring massive electric power) was not needed. It has been maintained in standby mode at substantial cost to NSW. NSW government leased the facility to private lessees. building was subsequently badly damaged by storms in December 2015.

Renewable electricity energy development, use and research technology is advancing worldwide. Innovative use of the currently unused facility aligns with PM's recently announced strategy. It is ideal for user scale renewable energy research.

Renewable energy generators suitable for installation on site, and nearby, for user scale laboratory research

Solar Wind Tide Wave and ocean

# Integration of generated electricity from multiple sources

Linking time variable type sources, eg voltage, frequency, current, and output are electrical engineering challenges. Desalination provides an onsite load which can be isolated from mains. Water produced is useful and reduces demand on storage dams.

#### **Batteries**

A research laboratory on site could include battery research, a growing essential component of renewable energy.

# Researchers, support staff and existing laboratory facilities

All are within practicable daily travel.

#### **Process**

Arrange acquisition funding.

Cancel lease of damaged building, facilities and all of the site.

Establish a co-operative energy research laboratory task force, with input including participating addressees above.

Appoint project development and commissioning manager.

Arrange development funding for the project.

Build the generators and laboratory complex.

Appoint research director.

For your attention and (hopefully) action please.

Yours faithfully,  $\chi$