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From: s 22
Sent: Friday, 16 May 2014 12:11 PM
To: s 22
Cc: s 22
Subject: FW: Background brief and speech requested - Opening of Research Facility at Deakin University [SEC=UNCLASSIFIED]
Attachments: Open Carbon Nexus Research Facility 210514.pdf; MB14-347 - Carbon Nexus brief signed final to PMO.pdf

Hi Louise,

The original invitation s 22 is attached, s 22
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All my resource material from the internet is referenced in the footnotes of the speech.

The material provided by branches is included in the brief, which you should have but I've attached.

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Adviser - Speeches

Corporate Communications | Strategic Communications Branch
Ministerial Support Division | Department of the Prime Minister and Cabinet

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| www.dpmc.gov.au

PO Box 6500 Canberra ACT 2600

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From: s 22
Sent: Friday, 14 March 2014 12:24 PM
To: s 22
Subject: FW: Background brief and speech requested - Opening of Research Facility at Deakin University [SEC=UNCLASSIFIED]

Speech request for registration and delegation.

From: s 22
Sent: Friday, 14 March 2014 12:17 PM
To: s 22
Cc: Anderson, Alex; DLO; Cruickshank, Sarah

Subject: Background brief and speech requested - Opening of Research Facility at Deakin University
[SEC=UNCLASSIFIED]

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The PM will open the new Nexus Research Facility at Deakin University in Geelong on Wed 21 May.

A copy of the invitation is attached.

A background brief and speech are requested by COB Friday 9 May.

The speech should be 10-15 minutes in length.

Kind regards

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Senior Departmental Liaison Officer | Office of the Prime Minister

t: +61 (0)2 6277 7700 | m: s 22 | e: s 22



The Hon Tony Abbott MP
Prime Minister of Australia

By hand: per Sarah Henderson MP

15 December 2013

Dear Prime Minister

It gives us great pleasure on behalf of Deakin University and the Victorian Centre for Advanced Materials Manufacturing (VCAMM) to invite you to open the completed carbon fibre research production facility, *Carbon Nexus*, at our Waurn Ponds campus, ideally on 19 February 2014 but subject to your availability around this time period.

You may be interested to know that this event has been timed to act as a key global event in the lead up to the 2014 international composites convention in Paris to be held the following month. At the opening of *Carbon Nexus*, we would be expecting attendance from representatives of the carbon fibre industry from around the world.

The *Carbon Nexus* facility has been funded by both the Commonwealth and Victorian Governments and by Deakin University. As a result it is anticipated the Premier of Victoria, Dr Denis Napthine and the Chancellor of Deakin University will also play an important part in the opening ceremony.

The attached brief provides you with an outline of the pivotal role the *Carbon Nexus* facility is playing in the development of a new, sustainable, cutting-edge smart manufacturing industry for Australia.

At a time when many of Australia's manufacturing regions are under intense pressure, the introduction into Australia of self-sufficient industries such as carbon fibre manufacturing will provide an important signpost for the future trajectory of manufacturing. We believe that in terms of regional resilience, job creation, as well as export opportunities, this carbon fibre proposal provides an important prototype for future manufacturing growth in this country.

We would be honoured if you could agree to open *Carbon Nexus* in February 2014.

On behalf of all of us at Deakin University, we wish you and your family a very Merry Christmas and a prosperous New Year.

Yours sincerely

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Professor Jane den Hollander
Vice-Chancellor

DEPARTMENT OF THE PRIME MINISTER AND CABINET

PM&C
Secretary
Ms Cross
Mr Hazlehurst
Dr Smith
Ms McDevitt
Mr Lawson
Ms Taylor
Mr Anderson
Mr Richards
Ms Rooney
Mr Williams

PMO
Chief of Staff
Ms McGregor

File:

To: Prime Minister (for meeting)

CARBON NEXUS RESEARCH FACILITY AT DEAKIN UNIVERSITY - OPENING CEREMONY

Purpose: To open the new Carbon Nexus facility at Deakin University

Timing and Venue:

Wednesday 21 May 2014, Carbon Nexus facility at Deakin University in Geelong

Objectives:

(Talking points are at Attachment A)

- To open the Carbon Nexus carbon fibre research and production facility at Deakin University's Waurin Ponds Campus in Geelong.

Their Objectives:

(Biographies are at Attachment B)

- Professor Jane den Hollander, Vice-Chancellor of Deakin University, has requested that you open the new Carbon Nexus facility. s 22

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Key Points:

- Carbon Nexus is a carbon fibre and composite research and production facility. It houses research and analysis laboratories, a carbonisation production line, and a smaller carbonisation line for research purposes. Deakin University reports that the carbonisation production line is capable of producing up to 50 tonnes of carbon fibre each year. Further information on the Carbon Nexus facility is available at Attachment D.
 - The \$34 million Carbon Nexus facility was developed by Deakin University and the Victorian Centre for Advanced Materials Manufacturing (VCAMM), with funding from the Commonwealth's Education Investment Fund (\$37 million to develop the Australian Future Fibres Research and Innovation Centre (AFFRIC) which includes the Carbon Nexus facility) and the Victorian Government (see Background below).
 - Carbon fibre and composites are used for applications in many areas of manufacturing, including the aerospace, automotive, medical and defence industries.
- The facility is expected to attract interest in Australia and internationally due to its capacity to undertake research projects with industry partners and produce large quantities of aerospace-grade carbon fibre.
 - Professor den Hollander advises that Carbon Nexus has already commenced research contracts with carbon fibre manufacturers in Europe and Asia.

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Background:

- The Carbon Nexus facility is part of the \$103 million Australian Future Fibre Research and Innovation Centre (AFFRIC). AFFRIC is a three-way partnership between Deakin University, CSIRO and the Victorian Centre for Advanced Materials Manufacturing (VCAMM). It is intended that AFFRIC will conduct research on fibre technologies and products, including carbon fibre and textiles.
- Deakin University received \$37 million from the Education Investment Fund (EIF) Round 3 to construct AFFRIC. This funding was used to construct two new buildings (including the new Carbon Nexus facility) and to upgrade an existing facility. All buildings were completed by mid-2013 and are now occupied.
- AFFRIC has also received funding from CSIRO (\$17 million cash and \$15 million in-kind), Deakin University (\$10 million cash and \$11 million in-kind), the Victorian Government (\$10 million), and VCAMM (\$2 million cash and \$750,000 in-kind).

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Alex Anderson
Assistant Secretary
Education and Immigration
Branch
8 May 2014

Contact Officer: s 22
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Consultation: II&E, II&CAT; Dept.
Education, Dept. Industry

NOTED:

TONY ABBOTT

Date:

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BIOGRAPHIES



Vice-Chancellor of Deakin University, Professor Jane den Hollander

Professor Jane den Hollander has been Vice-Chancellor and President of Deakin University since July 2010.

She holds a BSc (Honours) First Class in Zoology and a Master of Science degree from Wits University, Johannesburg. Her PhD is from the University of Wales, Cardiff.

Professor den Hollander is currently a board member of Universities Australia, Education Australia Limited, UniSuper Limited and the Advisory Board of the Office of Learning and Teaching.

She is Deputy Chair and trustee of the Geelong Performing Arts Council and Chair of the Regional Education and Skills Advisory Group, an organisation focussed on ensuring the skills and jobs of the future in a transitional economy.

Prior to taking up her appointment as Vice-Chancellor of Deakin University, Professor den Hollander was Deputy Vice-Chancellor (Academic) at Curtin University in Western Australia (2006–2010) and prior to that Pro Vice-Chancellor Academic Services (2003–2006), also at Curtin University.



Chancellor of Deakin University, Mr David Morgan

Mr David Morgan was appointed Chancellor of Deakin University on 1 January 2006. Previously he was a Deputy Chancellor from 2000 to 2003 and Chair of Council's Finance and Business Affairs Committee from 2000 to 2005.

Mr Morgan retired as president of the Ford Motor Company of Australia in June 1999 having been appointed to that position in November 1995.

In 1996, he was elected president of the Federal Chamber of Automotive Industries and became directly involved with the Australian government in the development of a national plan for the car industry.

Mr Morgan has a close affiliation with the City of Greater Geelong and the Geelong region. He is a former Chairman of the Geelong Economic Development Board and a former Chairman of the G21- Geelong Region Alliance Ltd.

Mr Morgan is a former member of the Board of the Australian Trade Commission (Austrade) and completed his term as Chairman of the Austrade Audit and Risk Committee in February 2013. He is a former member of the Board of the Victorian Centre for Advanced Materials Manufacturing.



Premier of Victoria, the Hon Dr Denis Napthine MLA

Dr Napthine is currently Premier of Victoria as well as the Minister for Regional Cities and Minister for Racing.

He attended Chanel College in Geelong and went on to complete a Bachelor then a Masters Degree in Veterinary Science at the University of Melbourne. He later completed a Masters Degree in Business Administration at Deakin University.

Prior to entering parliament, he worked as a veterinarian with roles as a District Veterinary Officer in Hamilton and then as the Regional Veterinary Officer for South West Victoria.

Dr Napthine was first elected to parliament as the Member for Portland in 1988 and was re-elected in 1992, 1996 and 1999. In 2002 he won the new seat of South-West Coast and was re-elected in November 2006 and in 2010.

He was appointed as Parliamentary Secretary for Health in 1992 and then promoted to Minister for Youth and Community Services in 1996. He was Leader of the Parliamentary Liberal Party from 1999 to 2002 and was the Shadow Minister for Ports, Regional Cities and Racing. In March 2013 Dr Napthine became the 47th Premier of Victoria.



Professor Lee Astheimer, Chair of Carbon Nexus Board

Professor Lee Astheimer is the Deputy Vice-Chancellor (Research) at Deakin and a member of the Senior Executive of the University. Professor Astheimer's portfolio includes responsibility for Deakin Research, the Institute for Frontier Materials (IFM) and the Institute of Research Training.

Professor Astheimer received her BSc Hon. from Lakehead University, Ontario Canada and her PhD in Ecology from University California, Davis, USA (1984).

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ATTACHMENT C

ADDITIONAL BRIEFING PROVIDED BY DEAKIN UNIVERSITY

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Confidential Briefing: Prime Minister

Australia's Carbon Fibre Future

Introduction: Carbon Nexus in Corangamite

The case for a carbon fibre investment in Australia has been developed over the past eighteen months in the context of a major transition in the manufacturing base of Geelong and the wider Barwon region. Key indicators include: the impending closure of Ford; the downsizing of Avalon airport and the loss of its heavy engineering maintenance; questions concerning the future of the Shell oil refinery; and the impending announcement of the closure of the Point Henry aluminium smelter early in 2014.

Geelong and the Barwon region have a mature diversified economy in which manufacturing occupies a significant place. It is characterised by an export focus; Geelong serves as a major transport and distribution hub and Geelong's manufacturing workforce is trained and skilled.

The option of Geelong simply becoming a dormitory suburb for Greater Melbourne has been considered and rejected for a variety of economic, social and cultural reasons.

Deakin University has developed, in consultation with civic and industry leaders, a manufacturing strategy that provides the basis for a transition to advanced, targeted, sustainable manufacturing initiatives. The University's key contributions are contemporary quality undergraduate education in engineering, medicine, science and other related fields; cutting edge research in these disciplines and the development of practical initiatives such as the Geelong Technology Precinct where emerging businesses and technologies are being mentored and incubated. The growth of firms such as carbon fibre wheel exporter, Carbon Revolution, testifies to the success of this strategy.

For the past decade, Deakin University has been at the forefront of the development of an international research capability in advanced fibres and textiles, including carbon fibre. As a consequence the **Advanced Future Fibre Research and Innovation Centre (AFFRIC)** with a capital investment exceeding \$100M is now in the forefront of identifying and leading the development of new textile-based technologies and products and supporting the emergence of new, sustainable companies. Within AFFRIC, the Southern Hemisphere's only carbon fibre production line, Carbon Nexus, is currently in the final stages of commissioning with an opening scheduled for late February 2014.

The \$34 million **Carbon Nexus research facility** is based at Deakin's Waurin Ponds Campus in the seat of Corangamite and was developed by Deakin and the Victorian Centre for Advanced Materials Manufacturing (VCAMM) with support provided by the State Government's *Victorian Science Agenda Investment Fund* and the Federal Government's *Education and Investment Fund (EIF)* along with significant investment by Deakin. Carbon Nexus is home to researchers, laboratories and a pilot scale carbon fibre line capable of producing up to 50 tonnes of aerospace grade carbon fibre each year as well as a smaller single-tow research line. Earlier this month, both lines produced their first carbon fibre from precursor provided by an industry partner, on time and in budget.

Carbon Nexus has already attracted international attention. Its first research contracts have commenced involving carbon fibre manufacturers from Europe and Asia. The potential of Carbon Nexus with its advantages of high quality facilities and world-leading researchers to assist in the

development of a domestic carbon fibre industry has already been recognised by a number of companies, in particular, DowAksa.

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To summarise: Geelong's manufacturing base is in a period of considerable transition which is placing the region under social stress. Deakin University has developed a manufacturing strategy that leverages its educational and research assets to directly address the practical issues arising from manufacturing transition. A combination of Deakin's initiatives, Geelong's strategic location in terms of both domestic and international markets and the availability of a highly skilled workforce make Geelong an attractive location for the establishment of a sustainable industry manufacturing carbon fibre for both domestic and international markets.

Carbon Fibre: the aluminium of the future

Global carbon fibre demand is forecast to increase at 13-17% compound annual growth rate (CAGR) and will reach 160,000-240,000 metric tonnes by 2020, with Australian demand expected to exceed 10,000 tonnes by 2017. This estimate is based on indications of demand from the more than 800 existing and emerging carbon fibre composites manufacturers, representing industrial sectors as diverse as aerospace, oil and gas, transport, construction and pipeline manufacture as well as the automotive industry.

Australia's composites industry is currently in a significant growth phase, with a number of established aerospace companies ramping up production of carbon fibre composites, and the growth of new companies producing innovative materials for automotive and industrial applications. Within Australia, the demand for carbon fibre composites is increasing rapidly, especially in industrial markets such as automotive, pipelines and infrastructure.

Australian governments are aware of the potential that the booming composites industry presents. This awareness is manifest in recent funding and investments to support the industry (e.g. the CarbonNexus facility at Deakin University, industry transformation research programs, R&D tax incentive etc.), the transition of existing manufacturing firms or the creation of new businesses to undertake high value composite manufacturing.

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The creation of a new, sustainable manufacturing industry in Geelong would have a major impact on the terms of industrial transformation not only in the Barwon region but in other industrial centres across Australia. With a modest amount of Commonwealth support acting as a catalyst, this project can demonstrate the impact of introducing advanced technologies and self-sustaining industries into the Australian economy. More immediately, after the completion of phase 3, this project would have established over 150 direct jobs and 1000 indirect jobs in the Geelong region.

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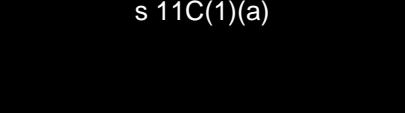
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Professor Jane den Hollander
Vice Chancellor, Deakin University

15 December 2013

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ATTACHMENT D

CARBON NEXUS PROMOTIONAL FLYER

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CARBON NEXUS

carbon fibre & composite research

CUTTING EDGE

CUTTING ENERGY

Carbon Nexus, a globally unique, open-access carbon fibre/composite research facility, is open for business and conducting strategic research projects with industry.

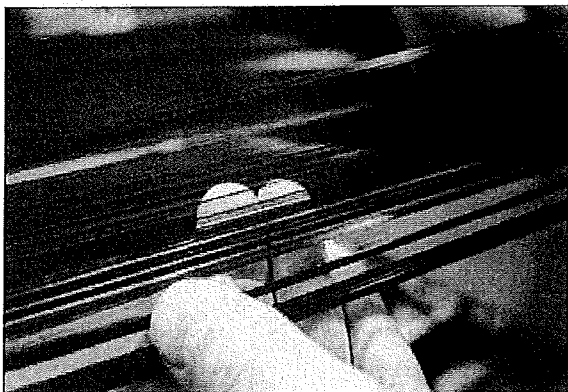
Deakin University's \$34m facility, located at its Geelong Waurin Ponds Campus, near Melbourne, offers:

- State-of-the-art research and analysis laboratories.
- Pilot scale and research carbonisation lines, operated by experienced production staff.
- A team of capable, energetic researchers dedicated to working with industry to produce high quality carbon fibre, while reducing production costs and speeding up manufacturing processes.

CARBON NEXUS – TAKING THE NEXT STEP FORWARD IN CARBON FIBRE

Carbon Nexus understands the needs of the carbon fibre industry. For more than a decade Deakin University researchers have been developing new and improved fibres and carbon composites. This new facility significantly enhances the capacity to deliver real outcomes for industry to capture the enormous market potential of carbon fibre and related composites.

Carbon Nexus is an integral part of the \$103m Australian Future Fibres Research and Innovation Centre at Deakin.



RESEARCH CAPABILITIES

Research at Carbon Nexus is driven to make industry-relevant breakthroughs in four key themes:

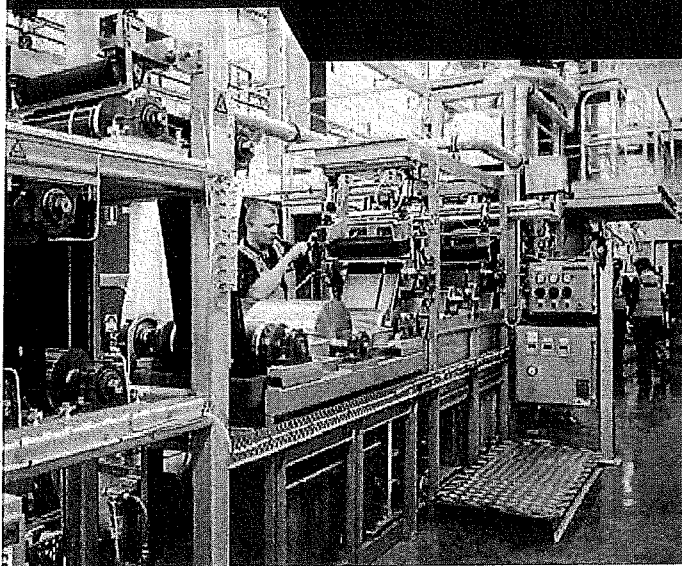
1. Low cost carbon fibre.
2. High performance carbon fibre.
3. Surface treatment of carbon fibre.
4. Advanced composite manufacturing.

Carbon Nexus is also exploring the interplay between processing conditions, the molecular composition of the precursor, and the structure of the resulting fibre and its effect on the manufacture of composite components.

This is supported by an extensive history of research on composite materials and a strong focus on the rapid out-of-autoclave cure of these materials.

Research has also been conducted on nanocomposites, functionally graded materials, natural fibre composites, new methods for bonding composite materials, crashworthiness of composites, defence applications of composites, A-class surface finish of composites and the use of 3D preforms in automotive structures.

The latest equipment for processing, testing and characterisation of fibres underpins Carbon Nexus' research. Facilities include a Favimat (AI) Robot2, Surface Energy Analysis (SEA), Tensiometer and the Quickstep MOD QS5 composite curing machine.



THE CARBONISATION LINES

Companies working with Carbon Nexus will have access to:

- A 20 to 55 tonne pa commercial grade Carbon Fibre Pilot Line that features four-zone centre-to-end oxidation ovens, multi-zoned low temperature and high temperature carbonisation furnaces, surface treatment, sizing and drying capacity, abatement, and a 30-position creel and winder.
- A fully integrated, single tow research and development carbon fibre process line.

These lines have been supplied by Despatch Industries, in collaboration with Australian-based Furnace Engineering, which provided the innovative low and high temperature furnaces. With the potential to apply multiple configurations, operational flexibility forms part of Carbon Nexus' unique capacity to produce and analyse carbon fibre, as well as review and test efficiencies in the production process.

The facility also provides an unparalleled opportunity for carbon fibre manufacturers to train their staff in production processes. It offers the capacity to simulate many process scenarios away from the pressures of commercial facilities and client schedules.

The requirement for security during carbon fibre research is essential and Carbon Nexus provides sophisticated protocols and systems to ensure client intellectual property and material remain secure.

THE CARBON NEXUS VALUE PROPOSITION

The global challenge to design and develop the next generation of fit-for-purpose, resource-efficient carbon fibre materials and structures is under way and Carbon Nexus is ready to assist in meeting it.

The Carbon Nexus Value Proposition includes:

- **A globally unique carbon fibre and composite research facility**, owned and operated by Deakin University and developed through the support of VCAMM (The Victorian Centre for Advanced Materials Manufacturing), the Australian Government and the Victorian State Government.
- **Research projects driven by industry needs** that focus on carbon fibre and composite materials development and improved manufacturing process engineering.
- **Tailored and intensive training programs** for production line staff.
- **Open access** for industry to a state-of-the-art carbon fibre manufacturing research facility.
- **Integration with the Australian Future Fibres Research and Innovation Centre** - a world class materials research institute administered by Deakin University and the Australian Government's lead scientific agency, CSIRO (Commonwealth Scientific and Industrial Research Organisation).
- **Access to outstanding research capabilities.** Deakin's materials engineering and macromolecular chemistry research has been awarded the top Australian ranking, putting it in the class of being "well above world standards".
- **Secure environment** for research material and intellectual property.

TO FIND OUT MORE, OR TO GET INVOLVED WITH CARBON NEXUS

To find out more about Carbon Nexus' capabilities, or to arrange a visit to the facility, visit www.carbonnexus.com.au or dial +61 3 5227 3369 to speak with our development team.

