



## API STRATEGIC PLAN 2016 – 2020

### **VISION:**

Connecting People and Skills to Power Australia's Energy Future

### **VALUE PROPOSITION:**

To Deliver a Sustainable Supply of Highly Skilled Power Engineering Professionals Working Effectively to Meet the Challenges of Australia's Emerging Energy Future and to Support the Technical and Commercial Success of Member Companies in the Energy Sector.

*This will be provided through maximising collaboration throughout the energy industry, universities & schools, professional bodies and government in power engineering education, research, and training.*



## PURPOSE:

The Australian Power Institute is a group representing the interests of the wider electricity industry.

The aim is to ensure Australia has a sustainable supply of power engineering professionals equipped with the right skills to develop a sustainable energy future.

API initiatives target education, collaboration, diversity and improved communication to facilitate targeted academic programs, industry training, and industry sponsored research that will deliver the next generation of innovative, high quality power engineering professionals.



<b><u>OBJECTIVES</u></b>	<b><u>INITIATIVES</u></b>
<b>PROVIDE A SUSTAINABLE SUPPLY OF QUALITY POWER ENGINEERING GRADUATES TO ENERGY INDUSTRY</b>	<ul style="list-style-type: none"><li>• Actively promoting engineering in schools</li><li>• Delivery of a successful bursary program to promote and market API and power engineering</li><li>• Coordination of networking between industry, students and academia</li><li>• Increasing inclusion and diversity in power engineering</li><li>• Matching supply of high quality graduates with industry demand in the longer term</li><li>• Expanding API membership aligned to the energy transformation road map</li><li>• Communicating API as value for money by supporting collaborative efforts to achieve power engineering skills objectives</li></ul>
<b>FACILITATE A STRONG POWER ENGINEERING EDUCATION PLATFORM</b>	<ul style="list-style-type: none"><li>• Aligning power engineering curriculum to position graduates for future career success and industry benefit</li><li>• Supporting early career academics</li><li>• Bridging industry and academia to align common understanding of industry skills and priorities</li><li>• Offering a suite of professional development training courses relevant to industry</li><li>• Extending reach of training into the Asia Pacific region</li><li>• Supporting industry events/conferences and related forums</li></ul>
<b>COORDINATION OF INDUSTRY AND UNIVERSITY INNOVATION INITIATIVES</b>	<ul style="list-style-type: none"><li>• Implementing a r2D framework in collaboration with the energy networks association</li><li>• Accessing university and industry partners capability to enable r2D framework</li><li>• Delivering agreed innovation priority projects</li></ul>



<b><u>OBJECTIVES</u></b>	<b><u>MEASURES</u></b>
<b>PROVIDE A SUSTAINABLE SUPPLY OF QUALITY POWER ENGINEERING GRADUATES TO ENERGY INDUSTRY</b>	<ul style="list-style-type: none"> <li>• Number &amp; quality of bursary applications</li> <li>• Bursary graduate employment rate within the industry</li> <li>• Vacation employment rate</li> <li>• LinkedIn activity and statistics</li> <li>• Diversity statistics</li> <li>• Growth in the number of contacts in communication database (Vision6)</li> <li>• Increasing communications to senior leaders and academics</li> <li>• Industry assessment of power engineering graduates preparation/foundation skills</li> </ul>
<b>FACILITATE A STRONG POWER ENGINEERING EDUCATION PLATFORM</b>	<ul style="list-style-type: none"> <li>• Number of Master Class courses/attendance/feedback results</li> <li>• Change in curriculum</li> <li>• Numbers of Early Career Academics</li> <li>• Academic attendance at API forums</li> <li>• Number of industry events supported by Academia</li> <li>• Number of academic contacts in database (Vision6)</li> <li>• Summer School attendance/feedback results</li> <li>• Participation by Asia Pacific Region in education/training activities</li> <li>• Industry events sponsored by API</li> </ul>
<b>COORDINATION OF INDUSTRY AND UNIVERSITY INNOVATION INITIATIVES</b>	<ul style="list-style-type: none"> <li>• Projects proposed, accepted and delivered</li> <li>• Engagement of industry partners and diversity of collaboration</li> <li>• Accepted university research capability map and ongoing audit process</li> <li>• Dollar funding of industry led power engineering research in Australian Universities</li> </ul>
<b>API PROVIDES VALUE FOR MONEY FOR MEMBERS</b>	<ul style="list-style-type: none"> <li>• Membership numbers</li> <li>• Industry satisfaction with value add provided by API education platform</li> <li>• Industry satisfaction with value add provided by innovation coordination</li> <li>• Members overall value for money assessment</li> </ul>

## PROVIDE A SUSTAINABLE SUPPLY OF QUALITY POWER ENGINEERING GRADUATES TO ENERGY INDUSTRY

INITIATIVES	IMMEDIATE ACTIONS 2016/17	MEDIUM TERM ACTIONS (2-4 years)
1. Actively promoting engineering in schools	<ul style="list-style-type: none"> <li>• Continued support of STELR Project in high schools and API Bursary Students Speaking at STELR Solar Car Challenge Schools</li> <li>• Coordination of bursary students to participating solar car challenge schools to be organised centrally by API</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate further industry support of ATSE STELR Program to promote power engineering to school students</li> </ul>
2. Delivery of a successful bursary program to promote and market API and power engineering	<ul style="list-style-type: none"> <li>• Facilitate placement of API Bursary holders with member organisations for summer vacation placement through interview workshops in each State in September each year</li> <li>• API State coordinating groups (industry members and universities) actively supporting API Bursary Program</li> <li>• Maintain PES Careers Australia for communication with API Bursary holders and API Industry members re bursary activities, vacation employment and graduate employment opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Increase opportunities for bursary students to undertake vacation employment in renewable energy companies.</li> </ul>
3. Coordination of networking between industry, students and academia	<ul style="list-style-type: none"> <li>• API to arrange state by state informal networking events between students recent graduates within industry and academics – 1 per year per state</li> <li>• API bursary awards to be interactive and engaging between bursary students and recent industry graduates</li> <li>• Implement an API web page for API Bursary students to “post” their final year projects/thesis in a poster format for all API members to access.</li> <li>• Continue facilitation of CIGRE NGN with API 3<sup>rd</sup> Year Bursary Students to provide coaching and guidance</li> </ul>	<ul style="list-style-type: none"> <li>• Survey members to collect information on provision of industry projects for final year students to undertake and assess if facilitation of this by API would be a value adding member service</li> </ul>
4. Increasing inclusion and diversity in power engineering	<ul style="list-style-type: none"> <li>• Continued support of women early career academics (UQ, QUT, UTAS, Curtin)</li> <li>• Leverage support of UQ Women in Engineering sponsorship to disseminate marketing processes and materials to other universities</li> <li>• Assist STELR Project with Government Grant to encourage girls into STEM subjects</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct another Workforce Perceptions Survey to gauge the current inclusion and diversity perceptions</li> </ul>

## CONT - PROVIDE A SUSTAINABLE SUPPLY OF QUALITY POWER ENGINEERING GRADUATES TO ENERGY INDUSTRY

INITIATIVES	IMMEDIATE ACTIONS 2016/17	MEDIUM-LONG TERM ACTIONS (2-4 years)
5. Expand API membership aligned to the energy transformation road map	<ul style="list-style-type: none"> <li>Engage Australian Solar Council &amp; Energy Storage Council to develop closer relationship</li> <li>Develop a bursary sponsor offering for Australian Solar Council &amp; Energy Storage Council members</li> </ul>	<ul style="list-style-type: none"> <li>Engage with Clean Energy Council to identify potential API members</li> <li>Research Renewables companies to identify engineering managers to target as potential API members</li> <li>Develop most effective mechanism to engage renewable organisations to determine the value propositions from API which would interest them to become API members.</li> </ul>
6. Communicating API as value for money by supporting collaborative efforts to achieve power engineering skills objectives	<ul style="list-style-type: none"> <li>Increasing communications and developing closer relationships between member company CEOs</li> <li>Maintain LinkedIn page to communicate current achievements and initiatives</li> <li>Increase contacts within communication database with members and non-members</li> <li>Maintain communication with monthly newsletters (Vision6)</li> </ul>	

## FACILITATE A STRONG POWER ENGINEERING EDUCATION PLATFORM

INITIATIVES	IMMEDIATE ACTIONS 2016/17	MEDIUM-LONG TERM ACTIONS (2-4 years)
<p>1. Aligning power engineering curriculum to position graduates for future career success and industry benefit</p>	<ul style="list-style-type: none"> <li>• Work with academic developers of power generation fundamentals and electrical machines to update undergraduate modules</li> <li>• Encourage power universities to include entrepreneurial and SME startup skills in their engineering curriculum</li> </ul>	<ul style="list-style-type: none"> <li>• Develop two new power engineering undergraduate modules based on renewable energy and storage</li> </ul>
<p>2. Supporting early career academics</p>	<ul style="list-style-type: none"> <li>• Maintain support for existing early career academics. eg: sponsored participation at annual API Summer School, continued sponsorship of Australasian Universities Power Engineering Conference (AUPEC).</li> </ul>	
<p>3. Bridging industry and academia to align common understanding of industry skills and priorities</p>	<ul style="list-style-type: none"> <li>• Develop framework for cooperatively determining industry needs and university capability in power engineering education</li> <li>• Continued support for UQ Chair in Electricity Transmission to facilitate bridge between industry and academia.</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate University adoption of entrepreneurship in undergraduate courses</li> </ul>
<p>4. Offering a suite of professional development training courses relevant to industry</p>	<ul style="list-style-type: none"> <li>• Promote and participate at the API PowerChem conference May 2016</li> <li>• Takeover Biannual API PowerChem conference organisation following retirement of the Meetings Manager</li> <li>• Organise API power engineering Summer School (Feb 2017) in Adelaide</li> <li>• Develop webinar Master Class series (initial trial with Engineering Change)</li> </ul>	<ul style="list-style-type: none"> <li>• Work with Australasian Transformer innovation Centre to provide industry value adding education (including syndicate at API future Summer Schools)</li> </ul>



## CONT - FACILITATE A STRONG POWER ENGINEERING EDUCATION PLATFORM

INITIATIVES	IMMEDIATE ACTIONS 2016/17	MEDIUM-LONG TERM ACTIONS (2-4 years)
<ul style="list-style-type: none"> <li>• Extending reach of training into the Asia Pacific region</li> </ul>	<ul style="list-style-type: none"> <li>• Expand our contacts within Asia Pacific region</li> <li>• Promote API initiative &amp; offerings in Asia Pacific region</li> </ul>	<ul style="list-style-type: none"> <li>• Consider development of Asia Pacific focused continuing professional development program. E.g webinars, master classes, work exchanges, Summer School attendance.</li> </ul>
<ul style="list-style-type: none"> <li>• Supporting industry events/conferences and related forums</li> </ul>	<ul style="list-style-type: none"> <li>• Sponsorship of TechCon, and Energy Storage Summit/Conference</li> <li>• Promote and participate in CIGRE, Electric Energy Society, and Energy Network Association forums &amp; conferences</li> </ul>	



## COORDINATION OF INDUSTRY AND UNIVERSITY INNOVATION INITIATIVES

INITIATIVES	IMMEDIATE ACTIONS 2016/17	MEDIUM-LONG TERM ACTIONS (2-4 years)
<p>1. Implementing a r2D framework in collaboration with the energy networks association</p>	<ul style="list-style-type: none"> <li>• Innovation framework, process, accountabilities and responsibilities documented and agreed by API Board and ENA Asset Management Committee.</li> <li>• Innovation Steering Group established to manage framework, process, funding, and project recommendations to API Board and ENA Asset Management Committee.</li> </ul>	<ul style="list-style-type: none"> <li>• Support Industry efforts for regulatory innovation factor similar to UK RIO regime.</li> </ul>
<p>2. Accessing university and industry partners capability to enable r2D framework</p>	<ul style="list-style-type: none"> <li>• API coordination of assessment of University and/or research organisations specific capabilities (key inputs, research organisation commitment to power industry and alignment with industry needs, individual researchers proven capabilities).</li> <li>• Continued support for UQ Chair in electricity transmission to assist with university/research organisation assessment process (assessments to be undertaken independently of the Chair).</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct annual review of University and/or research organisation capabilities.</li> </ul>
<p>3. Delivering agreed innovation priority projects</p>	<ul style="list-style-type: none"> <li>• Support for Innovation Steering Group to prioritise projects, develop business cases, report and monitor approved projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate innovation project successes and seek new projects from Industry.</li> </ul>