

# API Chief Executive Annual Report for 2010



# 2010 Annual Report

- The last 12 months have seen significant progress made in establishing API as the nationally recognised representative of the power industry in Australia on power engineering skills and education.
- The API now has over 35 industry members from all sectors and States following the successful amalgamation with the Australian Power Academy (APA) which occurred in 2010
- The promotion of power engineering to young people has expanded from the continuation of the successful Power Engineering Bursary Program and the website specifically targeted at 15-18 year olds (visit [www.powerengineering.org.au](http://www.powerengineering.org.au) to see for yourself) to also include support for the ATSE STELR Project which is using renewable energy to demonstrate the relevance of science and technology to everyday life in over 200 schools across Australia.
- The engagement between API and over 14 universities across Australia has allowed industry to become more closely aligned with the power engineering academics has seen API invest over \$800,000 in 2010 for laboratory upgrade projects and sponsorship of early career academics. This is all specifically targeted to improve the teaching and learning experiences of students at universities studying power engineering subjects/electives. The API also initiated an industry lead Cooperative Research Centre Bid Project for submission in 2011.
- The Board of API has developed a comprehensive Strategic Plan with corresponding Actions (both immediate and medium/longer term) which it gives me great pleasure to report progress against.

**Mike Griffin**  
Chief Executive



# STRATEGIC PLAN 2011- 2015

## “people and skills Powering Australia’s future”

**VISION : SUSTAINABILITY AND EXCELLENCE IN AUSTRALIA’S POWER ENGINEERING**



**VALUE PROPOSITION: To Deliver a Sustainable Supply of Highly Skilled Power Engineering Professionals to meet the Challenges of Creating Australia’s New Energy Future and Underpin the Technical and Commercial Success of Member Companies in the Energy Sector. This will be provided through maximising collaboration between Industry, Universities, Professional Bodies and Government in Power Engineering Education, Research and Training**

### OBJECTIVES

POWER ENGINEERING AN  
EXCITING WHOLE OF  
WORKING LIFE CAREER  
CHOICE

WORLD CLASS  
UNDERGRADUATE POWER  
ENGINEERING TEACHING AND  
LEARNING

VALUE ADDED CONTINUING  
PROFESSIONAL DEVELOPMENT  
PROGRAMS AND APPLIED  
RESEARCH

A VIBRANT, NATIONALLY RESPECTED  
ORGANISATION BY  
INDUSTRY, UNIVERSITIES AND  
GOVERNMENT

### OUTCOMES

- Primary and secondary students aware of exciting careers available from doing science and mathematics and choose power engineering studies as a base for long term career success
- A successful bursary program to promote and market API and power engineering
- Increased representation of women in power engineering
- High quality Undergraduates are attracted to, and retained in, power engineering
- Sustainable, quality delivery of learning/education between motivating academics, students and industry
- Access to world class practical and laboratory infrastructure to support learning and the link to industry for students
- Student access to world class education and learning drawing on specialised expertise/skills and collaboration of universities i.e. centers of excellence
- Industry support & recognition that high quality research complements quality teaching outcomes & provides a pathway for future industry leaders and academics
- Full range of up to date professional development training and courses, well attended and regarded by Industry
- The Nationally recognised representative of the power industry in Australia on power engineering skills and education
- Sustainable mechanisms to fund API objectives from all sources (industry, universities, government) and Members perceive API as value for money, providing “future proofing” for their organisations capability

# Objective : Power Engineering an Exciting Whole of Working Life Career Choice

## Achievements in 2010

- Power engineering website updated with IEEE Links to videos on power engineering. Average 420 visits to website per month with average of 3 pages viewed per visit.
- Power engineering summer camp for year 10 and 11 students continued in WA (organised by Curtin University) and QLD (organised by University of Qld)
- Energy in Schools Project (by QUT) resources provided to STELR Project to use in National Schools program
- Financial support (\$80,000) provided to STELR Schools project. API has arranged for API Bursary Holders to speak at STELR participating schools in all states.
- API networking events held at Ergon Energy Modular Substation Manufacturing facility, Energy Australia Green Square Substation, AGL Torrens Island Power Station, Aurora Energy Cambridge Substation, ABB Perth/Malaga Transformer Manufacturing facility
- Review undertaken of API Bursary Program eligibility and will be extended to 2<sup>nd</sup> and 3<sup>rd</sup> year students in 2011.
- Employers Guidelines for API Bursary Student Vacation Employment prepared.

## Objective : Power Engineering an Exciting Whole of Working Life Career Choice

### Achievements in 2008

- Developed Power Engineering promotional material aimed at year 10-12 students through website [www.powerengineering.org.au](http://www.powerengineering.org.au)
- Piloted Power Engineering Summer Camp for year 10 and 11 students in WA – organised by Curtin University – run in conjunction with API Power Engineering Summer School in Perth
- Program commitment and funding for 4 years agreed by API Board - \$158,000 to \$163,000 in 2008/09, \$358,000 to \$383,000 in 2010/11 – Board Memo 038/08
- Program key activities and dates developed for National Program and agreed by API Board.
- API/CIGRE Prize for Bursary Holders submissions to National Energy Essay Competition
- API Prize for Bursary Holders who make a submission following their vacation employment in 2008/09 summer break on the topic “ Power Engineering Challenges in the Energy Industry”

### Achievements in 2009

- Power engineering website updated with profiles of industry power engineers roles and duties and one new video interview with API bursary holder and recent graduate. Average 395 visits to website per month.
- Power engineering summer camp for year 10 and 11 students continued in WA (organised by Curtin University) and expanded to QLD (organised by University of Qld)
- API networking events held at Wilson’s Transformers(Vic), AREVA(Qld),ETSA Utilities Control Centre(SA),Transend Control Centre(Tas),Western Power Control Centre(WA), Transgrid Haymarket Terminal Substation.
- API bursary holders given free admission to Energy 21C Conference exhibition, Sept 09.
- API/ATSE Prizes(5) for best essays on topic “What will the energy sector be like in 2050 in context of ATSE Symposium theme
- Employers Guidelines for API Bursary Student Vacation Employment prepared.

# Objective: World Class Power Engineering Undergraduate Teaching and Learning

## Achievements in 2010

- API part funding of early career academics at UQ ,QU ,UTAS ,USYD ,UNSW ,Curtin
- API supported 3 University early career academics attendance at API 2010 Summer School
- API part funding of power engineering laboratory and equipment upgrades at UWA , Curtin, UTAS, Uni of Adelaide, Victoria Uni, UNSW, Uni of Wollongong, UQ, QUT, CQUniversity (Totaling \$865,000)
- API Collaborative Power Engineering Curriculum Module Development 80% complete for remaining 12 modules. On completion a total of 20 undergraduate modules will be available free of charge to all universities with a commitment to power engineering. Modules developed in 2009 beginning to be used by university academics in subject/unit upgrades and new development.
- Coordination and updating of QUT PESTC postgraduate courses to align with API Curriculum map completed – updating of PESTC modules now well progressed.

# Objective: World Class Power Engineering Undergraduate Teaching and Learning

## Achievements in 2008

- API part funding of early career academics at UQ, UTS, UTAS
- API part funding of power engineering laboratory and equipment upgrades at UWA, Curtin University, Adelaide University, UTAS, Victoria University, UNSW, RMIT, Wollongong University (totaling \$342,000)
- API Curriculum Map Modules (9 undergraduate, 4 postgraduate) 80% developed as part of CASR Project
- Collaboration Agreement between universities in place to facilitate power engineering curriculum module development for 3<sup>rd</sup> and 4<sup>th</sup> year undergraduate subjects/units and postgraduate subjects/units

## Achievements in 2009

- API part funding of early career academics at UQ,UTS,UTAS,USYD,UNSW,Curtin
- Survey of API Bursary holders to determine topics of interest and models of delivery which motivate them undertaken and report prepared for API and universities
- A framework for early career academic sabbaticals in industry over summer 3 month break developed and 3 sabbaticals arranged – CQU/Ergon Energy, QUT/Energex,UNSW/Energy Australia.
- API part funding of power engineering laboratory and equipment upgrades at UWA,Curtin,Murdoch,UTAS,Victoria,RMIT,UNSW,Newcastle,UQ,QUT,USQ,JCU(Totaling \$980,000)
- API CASR Project completed with 9 undergraduate modules made available free of charge to all universities with a commitment to power engineering
- Coordination and updating of QUT PESTC postgraduate courses commenced to align with API Curriculum map.

## Objective: Value Added Continuing Professional Development Programs and Applied Research

### Achievements in 2010

- Masterclasses on HV Engineering (MacAlpine USYD – 18 attendees) and Smart Grids for a Finite Planet (Sioshansi USA Hobart, 20 attendees, Sydney 30 attendees) held/supported.
- API PowerChem 2010 – Power Station Chemistry Conference and Exhibition and Training courses held on 23 to 28 May, 2010, Sunshine Coast, Qld (100+ attendees)
- API Power Engineering Summer School (Residential) held on Sunshine Coast, Qld (Feb 2010 – 62 attendees) and planning/organisation of API 2011 Summer School to be held in Hunter Valley (20Feb – 4 March, 2011).
- Opportunity for API/University Cooperative Research Centre (CRC) proposal investigation commenced (for submission 2011). Draft business plan prepared and distributed to API Member organisations and proposals sought from API Partner universities to provide R&D in support of industry identified research themes.
- Coordination with CIGRE CPD Program continued.

## Objective: Value Added Continuing Professional Development Programs and Applied Research

### Achievements in 2008

- Masterclasses on Reactive Power Management and Voltage Stability (2), Power System State Estimation (2), Energy Sustainability (2), and Modern Partial Discharge Detection and Analysis for Insulation Assessment held.
- API PowerChem 2008 – Power Station Chemistry Conference and Exhibition and Training courses held.
- API Power Engineering Summer School (Residential) held in Hobart (Feb 2008) and Perth (Feb 2009)
- Coordinated CPD Program with CIGRE ANC commenced.

### Achievements in 2009

- Masterclasses on Wind Power in Power Systems (Perth 29/30 June, Future Trends for Power Systems (Sydney, Oct), Insulation Coordination of T&D Networks (Brisbane 22/23 June), Turbine Functional Safety Competency (Morell, Brisbane, Perth June/July) held/supported.
- API PowerChem 2010 – Power Station Chemistry Conference and Exhibition and Training courses commenced organisation (to be held on 23 to 28 May, 2010)
- API Power Engineering summer School (Residential) held in Perth (2009) and organised for Sunshine Coast, Qld (Feb 2010).
- Opportunity for API/University Cooperative Research Centre proposal investigation commenced (for submission in 2010 or 2011).
- Coordination with CIGRE CPD Program continued.

## Objective: A Vibrant, nationally Respected Organisation by Industry, Universities and Government

### Achievements in 2008

- Amalgamation between API and PEA (Qld) completed.
- Promotion of API Activities in accordance with an agreed Sponsorship Policy implemented.

### Achievements in 2009

- In principle agreement received from Australian Power Academy to amalgamate with API
- Working relationship commenced with IET Power Academy (UK) including visit by API Chair to meet with IET representatives.
- New members in 2009 include Eraring Energy, Siemens, AGL, Alliance Power & Data.
- API Sponsorship of Energy 21C Conference, AUPEC09 Conference, Electric Energy Society Australia National Conference, InGenius (RMIT), Techcon Conference.
- University representatives attended Feb 2009 API Board meeting to give input to Strategic Action Plan Review

### Achievements in 2010

- Amalgamation of Australian Power Academy with API successfully completed.
- API Constitution amended to provide for minimum representation from various industry sectors on API Board.
- New members in 2010 include International Power Limited, Tyree Industries
- API Sponsorship of AUPEC10 Conference, InGenius RMIT, Techcon Conference
- University representatives attended Feb 2010 API Board meeting to give input to Strategic Action Plan Review.
- Relationships further developed with IET Power Academy (UK) and CIGRE (API Chair visit and presentation to international conference and IEE PES (CE visit and presentation to Gridwise Global Forum).
- CE input to Australian National Engineering Taskforce (ANET) Report (Oct 2010)