

### MARKET SYSTEMS

# Services to plan, develop and support energy markets

We help our clients plan, develop and support a wide variety of energy market systems and schemes with our broad, vendor-neutral technical engineering and software development expertise.

### From planning to support

On any energy market system project, anywhere in the world, PSC can lead the early stages of project development, feasibility, costing, specification, engineering and design, software development, application, testing, commissioning through to operations and maintenance support and advice.

PSC is the complete full service provider of energy market system services, providing recent and relevant software and engineering knowledge and expertise, coupled with pragmatic, hands-on implementation.

### Vendor neutral experience and skills

PSC offers broad, vendor neutral, objective software and technical engineering expertise.

Our team brings practical, hands-on international experience in supporting, enhancing and upgrading custom and commercial energy market systems.

We also offer expertise in key energy market system related fields, including control systems, telecommunications and IT networks.

## Agile approach

PSC offers an extensive global network of locally-based, yet highly mobile consultants. On the ground, our people work side by side with our clients, tailoring their skills to support, enhance and upgrade our client's systems and applications to meet their particular requirements. when you need them.

### Market Systems highlights

- PSC is internationally recognized for its team of market systems experts.
- We offer objective advice, world-class project management, vendor-neutral software solutions and systems integration.
- We help maximize your market systems with our practical end-to-end advanced solutions and expert cloud technology experience.
- Our senior engineers deliver value with hands-on experience derived from over 25 years of exposure to unique and demanding market system pursuits.
- We are here when you need us. Our trusted advisors are strategically located around the world and can be deployed immediately to serve you.

### Our capabilities

#### Markets Management Systems (MMS)

- Market Clearing Engine (MCE) specialists
- Security Constrained Economic Dispatch (SCED)
- Scheduling, pricing and dispatch
- Linear and mixed integer programming

#### **Market Design and Formulation**

- Conceptual and detailed designs
- Technical design services
- · Market rule to market system specifications
- Scheduling, pricing and dispatch formulation
- Market evolution

#### **Market Modeling**

- Market analysis and forecasting models
- Market simulation

#### **Distributed Energy Resources (DERs)**

Technical design services

#### Trading Systems

- Trading strategies and platforms
- Portfolio optimization
- Technical training

#### **Strategy and Advice**

- Market systems roadmap
- MMS design options
- MMS delivery management and advisory
- MMS vendor evaluation, selection and management
- Market readiness and training

#### **Specialist Testing Services**

- MCE and SCED
- Dispatch and pricing mechanisms and algorithms
- Specialized test strategies and scenarios
- Automated and certification testing

### How we help you

PSC senior advisors possess a thorough understanding of the global electricity landscape and know how to integrate varying supply and demand while avoiding transmission loss and congestion. We counsel clients on strategic planning, business requirements analysis and specification developments. We also provide market design and custom software development, technology refresh, project management and roadmaps. PSC experts remedy issues with market clearing engine support and application development. Our acclaimed senior consultants facilitate integration with EMS, SCADA, and Market Systems, and offer simulation, training and analysis tools, practices and operation.

### Why choose PSC

PSC experts have hands-on experience and practical tools to lead large energy market operators into a carbon-reduced sustainable energy future. To conquer the taxing constraints of managing today's energy markets, you need the best team on your side and PSC is here to provide world-acclaimed electricity experts that have seen and solved every difficulty you may come across. PSC master consultants are positioned strategically around the globe with offices in New Zealand, Australia, Asia Pacific, Europe, Canada and North America. This allows us to be deployed at a moment's notice to immediately help you power a more sustainable world.

## Proven Market System reputation

Distributed energy and distribution-level markets are a necessity in today's electricity environment. They afford us significant benefits and also require strong know-how, outstanding skills and adaptability. Our job at PSC is to avail you the tools you need to meet your performance goals and thrive. PSC's successful track record includes support of the market clearing engine (MCE) for the National Electricity Market of Singapore (NEMS) with services like monitoring and reporting, studies and analysis, supporting the market rule formulation process, and enhancement and development.

We conduct metering upgrades for customers like Meridian Energy's hydro power stations in New Zealand and replace incumbent systems like we did for the Philippine Electricity Market Corporation.





Specialist Consultants to the Electricity Industry pscconsulting.com

New Zealand Wellington +64 4 232 7680 
 Australia
 North America

 Fortitude Valley, QLD
 Kirkland, WA

 +61 1300 933 632
 +1 425 822 8489

**Europe** Warwick, UK +44 1926 675 851 **Asia** Singapore +65 9823 1912

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