

RENEWABLE ENERGY & DISTRIBUTED GENERATION TASK FORCE

**Chair: Dr. Terry McIntyre - CANADA
Environment Canada**

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Department of the Environment, Water, Heritage and the Arts**



**ASIA PACIFIC PARTNERSHIP ON CLEAN DEVELOPMENT & CLIMATE
RENEWABLE ENERGY & DISTRIBUTED GENERATION TASK FORCE
7th PIC Meeting, Australia, 19-20 May, 2009**

Presentation Outline

- Task Force Objectives & Operational Structure
- 6th REDGTF Meeting
- Strategic Action Items
- Administrative Action Items
- Project Update
- NEW REDGTF Project
- Opportunities for Future REDGTF Activities
- Upcoming Task Force Meetings

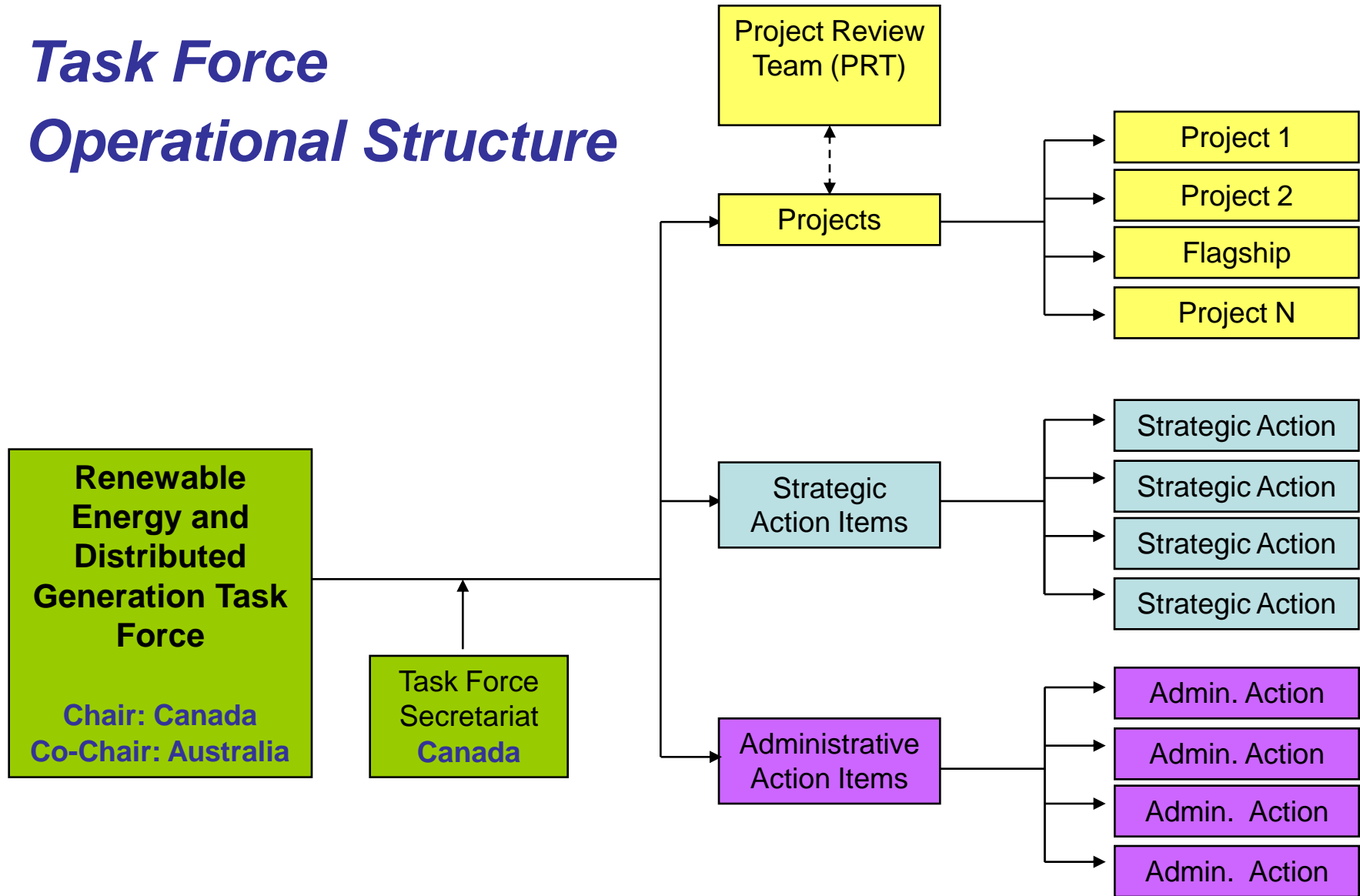


Task Force Objectives

- Facilitate demonstration and deployment of RE&DG technologies in partner countries.
- Identify country development needs and the opportunities to deploy RE&DG technologies, systems and practices, and the enabling environments needed to support wide-spread deployment, including in rural, remote and peri-urban applications.
- Enumerate financial and engineering benefits of distributed energy systems that contribute to the economic development and climate goals of the Partnership.
- Promote further collaboration between Partnership members on research, development and implementation of RE technologies.
- Support cooperative projects to deploy RE&DG technologies to support rural and peri-urban economic development and poverty alleviation.
- Identify potential projects that would enable Partners to assess the applicability of RE&DG to their specific requirements.



Task Force Operational Structure



6th REDGTF Meeting

- Tokyo, Japan
- 23-24 April 2009
- 37 delegates and numerous Japanese industry participants
- Dr. Terry McIntyre, Canada confirmed as new REDGTF Chair
- Amanda Kramer, Canada confirmed as new REDGTF Secretariat
- Country updates as well as discussion/updates on administrative action items, strategic action items and projects
- Industry Roundtable Session & Japanese Industry Presentations
 - GE Australia
 - Vestas
 - Canadian GeoExchange Coalition
 - Seabell International
 - New Energy and Industrial Technology Development Organization (NEDO)
 - NTT Facilities Inc.
 - Marubeni Corporation
 - NKG Insulators Ltd.
- One new project endorsed and several under development were discussed



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Strategic Action Items

- Collaboration with the Cleaner Fossil Energy Task Force on cost and diffusion barriers to include REDG technologies
 - Opportunity to consider a comprehensive study in collaboration with CFE that considers the impact of the Global Financial Crisis, introduction of emission trading schemes currently under consideration and the impact on energy costs.
- Increasing financial capacity in the RE&DG sector
 - Discussion and information sharing regarding the resources that exist in member countries to support matchmaking and build financial skills and knowledge amongst the financial and RE&DG sectors.
- Expertise available to exporting RE&DG companies
 - Development of a compendium to identify the resources in member countries to provide detailed expertise to RE&DG industries looking to export/deploy technologies.



Strategic Action Items

- Barriers to RE&DG deployment
 - Identification of the barriers to RE&DG deployment
 - Next step identification of the policy activators that will effect these barriers and consider using the task force to seek resolution to the identified barriers.
- Collaboration with the Building & Appliances Task Force
 - Identification of opportunities for collaboration includes the Net Zero Energy project, heat pumps, green leases, smart grids and energy service companies.
- Collaboration with the Power Generation and Transmission Task Force on transmission constraints and gaps
 - Draft paper shared with PGT Task Force resulting the request to develop a series of case studies. Considerations include generation and transmission of RE, grid stabilisation and reliability, intermittency of supply and smart grids.



Administrative Action Items

- Update of Action Plan - *complete*
- Policy Inventory and Analysis - *complete*
- Pursuing Clean Energy business in India Report – *circulated to REDGTF*
- Regulator workshop focused on the REDGTF policy inventory and analysis
 - Consideration to hold in conjunction with India International Renewable Energy Conference (IIREC) – February 2010 in New Delhi
- Review of the Project Review Team for REDGTF
- Presentation / discussion update on the Private Financing and Advisory Network (PFAN) project at next Task Force Meeting
- Transition of REDGTF Secretariat to Canada including development of distribution list for members.
- Identification of new members for the REDGTF



Current Status of Projects

30 PIC endorsed projects including 2 Flagship projects

- 29 active
- RDG-06-10 Barriers to Clean Technology Investment Development and Deployment Between Australia and India - *complete*

RDG-06-06 Renewable Energy Rural Business Hubs in China and India (USA) *cancelled*

NEW project: Accelerate Distributed Generation – Combined Heat and Power Applications in China (USA/CHINA)

NEW project: Cooperative research for long term reliability of PV modules in India and Japan (JAPAN/INDIA)



Flagship Project 1

Title	High Efficiency Solar Power Stations for Affordable Energy
Partner Countries	Australia (Lead) & China
Objective	To demonstrate and optimise Solar System's zero-emissions Heliostat Concentrated Photovoltaic (HCPV) technology on a large scale to enable cost effective commercial "roll out" in Australia and other APP countries
Financial Resources	\$AU4.5 million – Australian Federal Government APP funding \$AU4.5 million – Victorian State Government \$AU17.2 million – private sources
Project Type	Deployment
Status	Completion of a 140kW Demonstration Facility (October 2008) Completion of operation and testing of facility (December 2008) Continued testing is contributing to the design process for next phase Development of a Prototype HCPV unit Site selection underway with completed community consultation, site selection and negotiation/contracts currently being finalized



Flagship Project 2

Title	Feasibility Study and Development of Smart Energy Solutions Using Various Renewable Energies
Lead Country	Korea and Japan
Objective	To develop an integrated micro-grid management system and a manual for optimal combination of various distributed resources in a grid that takes into account environmental conditions and customer energy patterns.
Financial Resources	\$US572,000 (\$US374,000 cash / \$US198,000 in-kind)
Project Type	Market enabling
Status	Completed development of remote monitoring & control system Development of optimal combination of various DGs and case studies Operation of monitoring system for wind turbine and data gathering for analysis Analysis of the optimal configuration of CHP, WP and PV systems Development of generation prediction of WP with respect to wind characteristics Completed documentation of guidebook including comprehensive evaluation criteria and case study in India



NEW REDGTF Project

Accelerate Distributed Generation – Combined Heat and Power Applications in China

Partners:

USA - World Alliance for Decentralized Energy, EXERGY, ICF, Solar Turbines
China - Broad Air Conditioning, CECIC biomass, approval from NDRC

Aim:

Provide Chinese stakeholders, including policymakers, utilities, engineers, and energy users, and others, with the necessary information, tools, and experience from other programs to enhance the effectiveness of their efforts to promote CHP and other forms of clean distributed generation.

Funding: \$970,000 WADE and \$963,000 US DOE

Status: Endorsed by REDGTF



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NEW REDGTF Project

Cooperative Research for Long Term Reliability of PV Modules in India and Japan

Partners:

Japan - National Institute of Advanced Industrial Science and Technology

India - Solar Energy Centre, Ministry of New and Renewable Energy & National Physical Laboratory

Aim:

The project is intended for the development of anti-degradable PV module (life of more than 35 years) to perform under the harsh environmental conditions of India and Japan.

Funding: JPY 69,720,440

Status: Endorsed by REDGTF



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Upcoming REDGTF Meeting

India International Renewable Energy Conference (IIREC) – 2010

- February 17-19, 2010, New Delhi
- Following the WIREC model
- Possible workshop with regulators focused on the REDGTF policy inventory and analysis

7th meeting of the REDGTF to be hosted by Canada in March 2010 in Vancouver

- Held in conjunction with GLOBE 2010 www.globe2010.com
- Held in conjunction with BATF and CTF meetings
- Proposed joint session of BATF, REDGTF and CTF

A REDGTF meeting may be convened prior to March 2010

- TBD based on PIC dialogue
- Task Force favours meeting on the margins of an international conference



Challenge Agenda

- TF members are an important representative group globally and many are already embedded in other complementary renewable energy initiatives. Some interest in expanding connections with other countries.
- Businesses involved in RE are different to those involved in other Task Forces and have different expectations of the APP.
- Some TF members see the TF at a crossroads as most funds are committed and industry is looking to move beyond demonstration projects into mass deployment.
- Strong interest in contributing to PIC discussion on APP future.



Synopsis of Key Global Developments in Renewable Energy(1)

- Rapid APP member countries and global expansion of renewable energy with no global champion or co-ordinating mechanisms.
- Renewable energy mechanisms will consequently operate ‘sub-optimally’ and only as “sub-critical” masses of technical awareness and competency.
- In the coming years, international trade in renewable energy technologies and capacity is expected to escalate dramatically to satisfy increasing worldwide energy demand
- The importance of developing renewables in a sustainable and environmentally friendly manner is universally recognized, and remains a challenge with no international standards yet in place .
- There is a move towards harmonization of technical standards regionally and internationally. This is vital for quality assurance, equipment compatibility, and the facilitation of trade.



Synopsis of Key Global Developments in Renewable Energy(2)

- Some renewable energy technologies (RETs) are close to becoming commercial and should be the first to be deployed on a massive scale.
- Other RETs, which have a large potential, are less mature and require long-term visions. Reducing their costs will require a combined effort in research, development and demonstration (RD&D).
- A combination of both more and less mature RETs are expected to play a major role in achieving deep CO2 emission cuts in a competitive fashion.
- This finding highlights the urgency with which a global framework of consistent, effective and long-term policies need to be implemented if a wide range of RETs is to be encouraged to move towards full market integration.
- Tremendous future role(s) for APP / REDPG to play if interested



NEW Opportunity and Challenge Agenda for APP?

Global Expansion of Renewable Energy

Explosive growth of renewable energy development amongst APP countries and global community since early 2008, such as:

- Global Bioenergy Partnership Initiatives
- Asia Pacific Economic Co-Operation
- IPCC Special Study on Renewable Energy (SSREN) for Copenhagen 2010
- Evolving International Renewable Energy Agency (IRENA)
- United Nations Industrial Development Organisation (UNIDO) – Meeting the Future Energy and Climate Challenges of Developing Countries
- International Energy Agency-Deploying Renewable energy Technology

Possible future RE&DG Task Force role /s and focus in relation to other global agencies:

- Status quo?
- Conduit / facilitator / co-ordinator / catalyst for expanded renewable energy development activities?
- Assumption of responsible global leadership role in renewable energy?



THANK YOU



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