### **APEC Project Proposal**

Please submit through relevant APEC Secretariat Program Director.

Proposals must be no longer than 12 pages, including budget and title page.

Project title and number:	Piloting smart/micro grid projects for insular and remote localities in APEC economies						
Source of funds (Select one):	Operational Account  TILF Special Account  APEC Support Fund						
Committee / WG / Sub-fora / Task-force:	=::e:g) ::e::::g =:e:ap / ::e:: a::a ::e::e::a::a =::e:g) ::e:::::a::a						
Proposing APEC economy:	Russian Federation						
Co-sponsoring economies:	Canada; Japan; Korea; Singapore; Chinese Taipei; Thailand; USA						
Expected start date:	January 2012						
Expected completion date:	December 2012						
Describe the project in under 150 words. Your summary should include the project topic, planned activities, timing and location:  (Summary must be no longer than the box provided. Cover sheet must fit on one page)	Many APEC economies feature remote or isolated areas with limited or no access to centralized energy supply infastructure. These areas tend to face bigger challenges of securing a stable and efficient local electric energy supply.  Smart grid is an emerging technology that has already proved its efficiency of transforming the electric supply industry from a centralized, producer-controlled network to one that is less centralized and more consumer-interactive.  Can this technology be an effective solution to the needs of remote/isolated areas? Does it require a special approach, given the small-scale generation, limited local demand and other constraints of local communities? What design a pilot project should follow to introduce smart/micro grid technology to economically disadvantaged communities where energy supply may be mostly isolated from the main grid?						
	These are the questions that the project seeks to address through analytical and physical meeting activities. A workshop is tentatively planned in Russia in May or June 2012.						
Total cost of proposal: (APEC funding + self-funding)	Total amount being sought from APEC (USD): 81,375						
	By category: Travel: 68,975 Labour costs: 9,600						
<b>USD</b> 81,375+96,990 =178,365	Hosting: self-funded Publication & distribution: 2,800 Other: nil						

#### Project Proponent Information and Declaration:

Name: Talyat Aliev (Mr.)

**Title:** Deputy Director, International Cooperation Department **Organization:** Ministry of Energy of the Russian Federation

Postal address: Moscow, Schepkina Street 42

I declare that this submission has been prepared in line with the **Guidebook on APEC Projects**. If approved, I agree to develop the project in line with APEC project requirements.

Name of Project Proponent

Date: 2 November 2011

### **Project Details**

Please answer each question succinctly. Suggested section lengths are provided as a guide.

Proposals must be no longer than 12 pages, including budget and title page.

#### **SECTION A: Relevance to APEC**

[Answers to questions 1-3 may be taken or adapted from the Concept Note]

1. Relevance: Why should APEC undertake this project? What problem or opportunity will the project address and why is it important? [½ page]

It is assumed that with their wide range of size and level of development, APEC economies can act as an important test bed for smart grid technologies and practices. Each member economy has unique attributes that determine the expected benefits of smart grid technology and shape the deployment strategies. However, in many cases long internal distances, existence of remote or geographically isolated areas within APEC economies coupled with internal disparities in economic development constitute a common pattern constraining the efficiency of local electric energy systems.

Insular and remote localities are likely to experience bigger challenges in securing reliable and efficient energy supply. A tailored approach is needed to offer efficient and smart energy solutions for these areas. It should account for critical factors such as limited local demand, reserved capacities, fuel supply, role of renewables. Importantly, smart grid technology is expected to offset the fluctuations of renewable energy supply and allow for better synchronization of various energy sources within a less centralized locally managed energy system.

Microgrids are novel distribution network structures offering a number of important advantages. From the customer point of view, besides providing to the electricity needs microgrids enhance local reliability, reduce emissions, improve power quality by supporting voltage and reducing voltage dips, and potentially lower costs of energy supply. From the utility point of view, the application of distributed energy sources through microgrids can potentially reduce the demand for distribution and transmission facilities. Intelligent microgrids are required to integrate distributed generation and dispersed loads into a future smart grid.

This project proposal will be designed to give special consideration to the interest of APEC developing economies to ensure that their remote and economically disadvantaged localities benefit from smart grid technology deployment.

- 2. <u>Objectives:</u> Describe the 2-3 key objectives of the project. (e.g. to create a framework for...; help participants to...; share experiences in...; enhance understanding of...; etc.) [1/4 to 1/2 page]
  - To compile and share member economies' experiences in introducing new technologies for local energy systems including smart & micro grid technologies to support sustainable development of remote and isolated areas;
  - To emphasize microgrid as a critical component of smart grid concept that is designed to maximize
    the economic and environmental effect of tested and ready-to-use technologies for local energy
    systems;
  - To provide a menu of options to APEC economies for piloting of smart/micro grid projects in the form of assessment methodologies, business scenario models and specific recommendations.
- 3. <u>Alignment:</u> Describe how the project will help achieve APEC's key priorities and meets your forum's work-plan or medium-term plan. [less than ½ page]

The project responds to both APEC-wide and EWG priorities.

Under the green growth agenda the APEC Leaders committed in Yokohama, November 2010, to "implement policies to create new green jobs, technologies, and industries to enhance regional energy security, decrease environmental degradation and the effects of climate change, and promote sustainable growth".

The APEC Leaders' Growth Strategy encourages "steps to facilitate the diffusion of clean energy technologies and systems".

The Fukui Declaration from the Ninth Energy Ministers Meeting (EMM-9), June 2010, explicitly recognized smart grid technologies as a means to "enhance the reliability of electricity supply, extend the useful life of power system components, and reduce system operating costs". EMM-9 instructed EWG "to start an APEC Smart Grid Initiative (ASGI) to evaluate the potential of smart grids to support the integration of intermittent renewable energies and energy management approaches in buildings and industry." The APEC Smart Grid Initiative was accordingly incorporated into the EWG Medium Term Workplan 2010-2015.

The project may be also seen as an element of the APEC Energy Smart Communities Initiative (ESCI) and its Smart Grid pillar. The particular area that may benefit from the implementation of the project is Smart Grid Test Bed Network.

By looking into a special case of smart grid deployment the project directly contributes to achieving the said APEC priority objectives.

4. For TILF Special Account applications: Briefly describe how the project will contribute to APEC trade and investment liberalization and facilitation with reference to specific parts of the Osaka Action Agenda (Part 1, Section C and, where appropriate, Part 2).

For APEC Support Fund applications: Briefly describe how the project will support the capacity building needs of APEC developing economies, and how they will be engaged. [¼ page]

Smart and micro grid represent a technology and policy domain where developed economies exercise their leadership. Meetings of APEC Energy Working Group and APEC New and Renewable Technologies Expert Group revealed that developing economies need to be actively engaged in sharing the benefits of smart grids development. The uptake of this type of new energy technology by APEC developing economies will largely depend on the intensity of various capacity building activities, including those which will enable pilot/demonstration smart grid projects in those APEC members.

The project budget will allow for funded participation of two representatives of APEC developing economies in the workshop to ensure that they learn the project findings and have the opportunity to interact with the project team. Specific needs of developing economies for smart/micro grid deployment in their remote and economically disadvantaged areas will be identified and addressed from the early stages of the project.

#### **SECTION B: Project Effectiveness**

- 5. Work plan: Provide a timeline of actions you will take to reach your objectives. For each, include:
  - . How it will be carried out and how member economies, beneficiaries & others will be involved
  - Related outputs for that particular step (e.g. contract, agenda, participant list, workshop, report)

    [1-2 pages. Answers may be taken or adapted from the Concept Note]

A project team will be established to carry out daily operations under the project. It is expected that an expert in smart grid will coordinate the project team and will be responsible to the Project Overseer. The composition of the project team may vary at different steps of the project and will comprise up to five consultants from Russia, co-sponsoring and other APEC economies.

It is envisaged that the project work plan will include the following steps.

<u>Step 1. Establish an effective contact point network for data collection, surveys and other communications (January-February 2012).</u>

As the project entails ongoing interaction with beneficiaries and stakeholders, an extensive and effective network of contact points will be required to move further steps forward. The project team coordinator will consult with EGNRET members to identify proper contact points in all APEC economies. The project team may also capitalise on the experience of completed projects within the APEC Smart Grid Initiative in terms of participants and targeted audiences (in particular, 2011 APEC Workshop on Addressing Challenges in AMI Deployment and Smart Grid in APEC Region, Chinese Taipei, 24-25 August 2011).

Output: list of contact points, including additional consultants if required, communication plan.

#### Step 2. Data collection and survey (February-March 2012).

The following sources will be employed to compile relevant information:

• contact points identified at step 1 (who will be asked to fill and/or distribute online or e-mailed data collections forms and survey questionnaires);

- related smart/micro grid project websites;
- related reports, papers and presentations, in particular, from completed APEC projects;
- additional interviews with industry players and other stakeholders.

Data collection forms will be designed to compile information on experiences and ongoing projects of introducing smart & micro grid technologies in remote and isolated areas. Survey questionnaires will be used to know member economies expectations and requirements for piloting smart & micro grid projects.

Output: raw information for further analysis at step 3.

#### Step 3. Review and analysis (March-May 2012).

The project team will give special consideration to the following points:

- review the electric energy needs of remote/isolated areas in a decentralised energy supply system with a focus on environmental effects on local communities:
- review the concept of microgrid (virtual power plant) and its extensions;
- overview the demonstration or pilot microgrid projects and their benefits;
- identify existing methodologies to assess the feasibility of pilot smart/micro grid projects, including a possible multi-criteria assessment framework to capture complex investment decision preferences;
- outline successful business scenario models for running pilot microgrid projects in remote localities of developing economies.

Output: draft report, draft workshop agenda, discussion papers.

#### Step 4. Organise and hold workshop (May-June 2012).

A workshop will be held to present and discuss the findings of the project team. It is expected to involve the project beneficiaries represented by at least 20 participants from the travel eligible economies. Other participants are supposed to include EGNRET members, APEC economies' organisations involved in APEC Smart Grid Initiative and APEC Energy Smart Communities Initiative. International organizations and non-APEC economies will be invited upon consultation with the EWG.

One of tentative venues for the workshop is the city of Vladivostok, Russia where a local smart grid cluster project is under development. However, alternative venues may need to be considered.

Output: workshop attended by ~50 participants, workshop proceedings.

#### Step 5. Finalise and disseminate the output of the project. Prepare final report (July-October 2012).

Project team will evaluate the workshop outputs. Based on participants' feedback, the project team will produce a final report of the project which is supposed to offer a menu of options to APEC economies for piloting smart/micro grid projects with successful experiences, business scenario models, assessment methodologies and specific guidance. This step will entail further interaction with the stakeholders and beneficiaries via the contact point network. As an option to pursue such postworkshop interaction, additional survey may be carried out. The project team coordinator and Project Overseer will consult with EGNRET to ensure better coverage of the target audience for the final report and its better positioning within APEC.

Output: final report for publication and distribution (e-publication and a limited number of hard copies), survey of APEC economies responses (optional).

# 6. Risks: What risks may be involved in implementing the project and how will they be managed? [1/8 to 1 page, depending on project nature/complexity]

A project team of relevant experts committed to the project will be a critical factor for success. To prevent the failure to identify correct team coordinator and team members (consultants), the Project Overseer will recommend highly qualified candidates to carry out the project tasks. These will include, but not limited to, experts from the Higher School of Economics (National Research University) Moscow, the Russian Energy Agency, New Energy and Industrial Technology Development Organisation, Japan (NEDO), Korea Smart Grid Institute. In case consultants from APEC economies are busy or otherwise not available, or there is a need for additional expertise, the Project Overseer will recommend to engage the participating experts of the EU *More Microgrids* Project (completed in 2009) and other relevant European consultants.

## Step 1. Establish an effective contact point network for data collection, surveys and other communications (January-February 2012).

The risk is associated with selection of proper contact points to facilitate further interaction with member economies. To mitigate this risk, the project team coordinator will carefully review the participation to previous projects within the APEC Smart Grid Initiative identifying a number of alternate contact points for each economy. Besides, contact points may be differentiated by government, industry, academia and civil society groups and include numerous persons for each economy.

#### Step 2. Data collection and survey (February-March 2012).

The major risk at this stage is weak response from stakeholders, interviewees and low availability of required input information. This situation will be addressed by carefully reviewing previous experience (including the EU experience) of cataloguing smart grid projects and devising proper data collection forms, making data collection forms and questionnaires easy to fill online, widely distributing the enquiries across all contact points. Insufficiency of first-hand information on the smart & micro grid project experiences may be partly compensated by carefully reviewing available project websites, documents and literature provided by co-sponsoring economies.

#### Step 3. Review and analysis (March-May 2012).

The risks may include inconsistency in review and analysis followed by incoherent and inapplicable results. This risk should be managed at the early steps of the project by engaging a proper core team of consultants committed to the consistent implementation of the project. The consultant selection process will strongly prioritise the specific expertise for specific tasks, i.e. expertise with pilot smart & micro grid projects. The success of this step will also critically depend on the quality of information collected at step 2.

#### Step 4. Organise and hold workshop (May-June 2012).

Major risk owes to possible delays in preparation for the workshop. This may be partly associated with a prolonged approval of the self-funded component of the project budget which will be allocated from the Federal Budget of the Russian Federation, which in turn may cause delay in working out administrative arrangements for the workshop. While minor delays will be acceptable, strict deadlines will be set by the Project Overseer to encourage advance decisions on major budgeting issues.

To ensure the expected attendance the project team will maintain regular communication with the contact points, consult with the co-sponsoring economies, EGNRET and APEC Secretariat (for travel eligible economies).

#### Step 5. Finalise and disseminate the output of the project. Prepare final report (July-October 2012).

Similarly to steps 2 and 3, the risks include low interest from the project beneficiaries and lower-thanexpected quality of project output, e.g. inapplicability of the findings to the real circumstances of APEC developing economies. To prevent this kind of situation, the project team will engage with the stakeholders as closely as possible to verify their capacities and needs. Thus the project may offer real-life business scenarios and models for piloting microgrids within smart grid environments.

7. Monitoring and Evaluation: What indicators will you use to know if the project is on track (monitoring) and successful in meeting its objectives (evaluation)? What information will you collect (e.g. stakeholder feedback, website hits, participant stats etc.) and how will you collect it (e.g. meetings, surveys, interviews, peer review, records review)? [½ page]

The nature of the project and the work plan suggest that the following indicators of progress may be used:

- number and accuracy of member economies' responses to the data collection enquiries and survey questionnaires (at step 2 and 5);
- number of pilot projects studied (step 3);
- number of the workshop participants (step 4);
- quality and usefulness of the workshop, assessed by means of an evaluation form to be filled by the workshop participants (step 5);
- feedback and comments by APEC economies at EGNRET and EWG meetings (throughout the whole project);
- occurrences of media coverage (steps 4 and 5);
- number of publications downloads or site visits (if feasible).

A qualitative measure of success may be expertise and qualification of the organisations and individuals involved at step 2, i.e. data collection and survey, and step 3, review and analysis. Indirectly, number of newly proposed microgrid projects in APEC developing economies may also be an indication of project

relevance. Although it must be clear that the direct causal relationship may not exist. As a more ambitious outcome, proposals of new smart/micro grid test beds in APEC developing economies will surely attest to the significance of the project impact.

- 8. Linkages: Describe the involvement of other APEC fora, and relevant other organisations. Include:
  - Engagement: How are you engaging other relevant fora, within and outside of APEC?
  - Previous work: How does this project build on, yet avoid duplication of, previous or ongoing APEC initiatives, or those of other organisations?
  - APEC's comparative advantage: Why is APEC the best sources of funds for this project?

[¼ to 1 page. Answers may be taken or adapted from the Concept Note]

Among the non-EWG fora, the project is expected to engage the APEC Regulatory Cooperation Advancement Mechanism on Trade-Related Standards and Technical Regulations (ARCAM). To promote a mass scale development of microgrids, it is essential to develop standards of technical and commercial protocols that will allow easy installation of microsources with plug and play capabilities. In view of the success of the first ARCAM Dialogue on Smart Grid interoperability standards in Big Sky, Montana, US in May 2011, ARCAM coordinator or participants will be invited to share their perspective with focus on microgrids.

Outside of APEC, the project would benefit from the involvement of the International Smart Grid Action Network (ISGAN) which is linked to APEC via the Smart Grid Road Map and the European Technology Platform for Smart Grids (SmartGrids ETP) which has extensively studied and documented smart/micro grid pilot projects in Europe. Individual members of the SmartGrids ETP or the above mentioned *More Microgrids* EU project may also be approached for sharing expertise or otherwise contributing to the project.

A number of projects have been recently completed and are being implemented and proposed as part of the APEC Smart Grid Initiative to explore the potential of smart grid technologies in APEC economies. They focus on using smart grids for renewable energy and energy efficient buildings, appliances and equipment, grid-interconnection, technical regulation issues, among others. Some activities emphasize specific technical issues like advanced metering infrastructure. However, none of the completed or proposed projects explicitly addressed the issue of smart/micro grid applications in the case of remote or isolated localities. Hence, the proposed project is neatly aligned and complementary to other activities undertaken in APEC on smart grid. EWG members at their 41<sup>st</sup> meeting in May 2011 suggested that the project be included in the APEC Energy Smart Communities Initiative (ESCI).

APEC is well positioned to undertake this project thanks to its current focus on, and leadership in smart grid deployment, established cooperative frameworks such as APEC Smart Grid Initiative and APEC Energy Smart Communities Initiative and a rather flexible funding mechanism of the APEC Support Fund which will facilitate the sharing of smart grid benefits between developed and developing economies.

#### **SECTION C: Project Efficiency**

- 9. <u>Budget:</u> Complete the budget and budget notes for the project in the template in SECTION F of this form. The budget should include calculation assumptions (e.g., unit costs) and self-funding contributions. Please consult the *Guidebook on APEC Projects* for eligible expenses.
- 10. <u>Cost Efficiency:</u> Highlight how the project offers APEC maximum value for money. In what ways will the project maximize the cost-efficient use of resources? [½ to ½ page]

The level of self-funding is more than 50%, so the proposing economy will substantially contribute to financing labour and hosting expenses, while APEC funds will be spent primarily to enable the participation of travel eligible economies.

Project outputs will be mostly disseminated in electronic form with only a limited number of hard copies.

The project team will save lots of time and money by utilising the results of previous APEC projects and in particular the contact networks created within the APEC Smart Grid Initiative and APEC Energy Smart Communities Initiative.

Project team will consist of consultants and managers with experience of working on similar projects and a good reputation, committed to the sustainability and efficiency of the project.

#### **SECTION D: Project Impact**

11. <u>Beneficiaries:</u> Explain who the direct project beneficiaries are and what the intended benefits will be. Include an explanation of how the project outputs (e.g. workshop, symposium, research paper, best practices etc.) will assist the project beneficiaries. [less than ½ page]

Direct beneficiaries will be those who may be involved in promoting and implementing pilot smart/micro grid projects in APEC developing economies. Since APEC economies have varied structures of planning and implementing agencies which may be interested in the promotion of such projects, the beneficiaries may have different background.

- Energy policy planning agencies, supervising administrations and regional development authorities will benefit from enhanced awareness of microgrid based solutions for remote economically disadvantaged localities in a distributed energy supply and smart grid environment. As most smart grid benefits are systemic in nature and arise from the combination of technological, regulatory, economic and behavioural changes, it is important that policy planners don't overlook innovative solutions at a micro level for remote and isolated areas. The project report and workshop proceedings will be a good reference material.
- Industries and institutions engaged in smart grid research, development and deployment will benefit from learning the opportunities for piloting smart/micro grid projects in remote economically disadvantaged areas. They are also likely to obtain a valuable input of information to pursue R & D in the area of local energy supply systems.
- Investment promotion authorities and network owners/operators will obtain an assessment framework that may be useful to identify the feasibility of pilot or demonstration smart/micro grid projects in remote and isolated areas.

Indirect beneficiaries may also comprise environmental groups and renewable energy advocates which will benefit from APEC economies' better access to cleaner energy technologies.

12. <u>Gender:</u> What steps will the project take to ensure the participation and engagement of both men and women throughout the project? How do project objectives benefit women? [less than ½ page]

The project does not aim to explicitly benefit men or women. However, from the early stages of this project women were included in planning and management. Project Overseer is assisted by a female official of the Ministry of Energy of the Russian Federation and a leading Russian researcher who provided consultation was a female from the Higher School of Economics (National Research University) Moscow.

To ensure that no gender is disadvantaged, the project team will encourage equitable participation by men and women at all steps of the project. Sex-disaggregated data will be applied for project assessment where feasible, i.e. workshop attendance. The selection of consultants, workshop presenters will be organised in an unbiased environment irrespective of gender. Besides, Project Overseer will take care to ensure that the workshop and all related administrative arrangements are executed in a gender-neutral manner, and in particular in a manner that does not disadvantage women. Women from APEC economies will be targeted as workshop participants and presenters.

It is expected that the workshop output would benefit all members of the private and public sector engaged, regardless of gender.

- 13. Dissemination: Describe plans to disseminate results and/or outputs of the project, including:
  - The number, form and content of any publications (Note: APEC will not fund website maintenance or publications that are collections of PowerPoint slides. APEC encourages electronic publication.)
  - The target audience
  - Any intention to sell outputs arising from this project.

[less than ½ page]

The target audience will mainly include beneficiaries identified at para 11 and will be informed on the availability of the published project outputs via the contact point network.

The workshop proceedings will comprise review and analysis findings of the project team, speakers' presentations on economies' experiences, background material on micro and smart grid within APEC context, speaker biographies and other. Electronic version of these documents will be uploaded to the EGNRET and/or APEC AIMP Portal according to the normal procedure.

The final report with a menu of options and business scenario models for microgrid pilot projects will require a wider circulation that will be arranged by fully engaging the contact points, presenting results at EGNRET and EWG meeting and, possibly, uploading content to the APEC publication site. Latter option could allow to monitor number of downloads. A limited number (~70) of hard copies of the report will also be produced for circulation among selected stakeholders (EGNRET members if feasible).

#### **SECTION E: Project Sustainability**

- 14. <u>Sustainability:</u> Describe how the project will continue to have impact after the APEC funding is finished.
  - How will stakeholders and beneficiaries be supported to carry forward the results and lessons from the project?
  - After project completion, what are the possible next steps to build on its outputs and outcomes? How will you try to ensure these future actions will take place? [less than 1 page]

There will be a number of opportunities to ensure that the project impact is sustained in a longer term.

- After the workshop is held, the work plan provides for a reasonable period of about four months for validation of the main findings and finalisation of the report (step 5). Within this period, project will continue to engage beneficiaries and stakeholders through the contact point network established at step 1 and updated at step 4.
- APEC members suggested that the project be a part of the APEC Energy Smart Communities Initiative. It may also be seen as a contributing element of the APEC Smart Grid Initiative and Smart Grid Road Map. Both initiatives are multi-year frameworks that will help to better position the project final report in a longer term. In particular, the report may repeatedly feature presentations on APEC Smart Grid Initiative at EGNRET, EWG meetings and, perhaps, at APEC Energy Ministers meetings.
- The project final report with menu of options, business scenario models and specific guidance may be expected to serve as a reference material to developing economies' policymakers, investors and regional planners interested in piloting microgrids in smart grid environments. The content of the report is expected to be relevant in a medium term, for several years. The Project Overseer will ensure that the report is downloadable from the Internet.
- The contact point network created at step 1 may be utilised for interaction with stakeholders in future EGNRET/EWG projects. It will be available as a part of the workshop proceedings. The project team, will work out other proposals to make it sustainable after the completion of the project. This network may be useful to establish important connections to support the planning and implementation of pilot smart/micro grid projects in developing economies.
- 15. <u>Project Overseers:</u> Who will oversee the project—including any hiring of contractors—and drive it to success? Please include the names and brief biographies of the PO and any other main point(s) of contact responsible for this project. [less than ½ page]

#### Project Overseer: Mr. Talyat Aliev.

Mr. Aliev is currently the Deputy Director of International Cooperation Department in the Ministry of Energy of the Russian Federation. His experience in the public service spans more than 30 years, including 7 years in the energy sector on various leading positions. In his current capacity he oversees Russia's engagement with multilateral and regional organizations, such as APEC, ASEAN, GECF, OPEC, OSCE, etc. as well as bilateral projects and initiatives.

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**Project Overseer is assisted by Ms. Maria Bunina**, Consultant in the International Cooperation Department, Ministry of Energy of the Russian Federation. Ms. Bunina was an EWG member in 2009-2011 and has experience in overseeing APEC projects.

E-mail: BuninaMV@minenergo.gov.ru

**Project Overseer is assisted by Dr. Svetlana Beznasyuk**, who is a Chief Expert in the International Cooperation Department in the Ministry of Energy of the Russian Federation. Dr. Beznasyuk is currently the principal Russian point of contact for the EWG.

E-mail: BeznasyukSA@minenergo.gov.ru

Point of Contact: Mr. Pavel Korovko.

Mr. Korovko is a knowledgeable expert in smart grids and was involved in the development of a local smart grid cluster project on the Russky Island, Vladivostok, Russian Federation.

E-mail: <a href="mailto:pavel.korovko@gmail.com">pavel.korovko@gmail.com</a> (cc: <a href="mailto:kmuradov@hse.ru">kmuradov@hse.ru</a>).

### SECTION F: APEC Project Itemized Budget

Please consult the descriptions of eligible expenses in the Guidebook on APEC Projects

All Figures in USD	# of Units	Unit Rate	APEC Funding	Self Funding	Notes
Direct Labour					
Speaker's honorarium (government officials ineligible)	6 persons	1,000		6,000	
Translator's fees	(# of pages)				
Short-term clerical fees	(# of hours)				
Contractor (including Researcher) fees	840 hours	80	9,600	57,600	
Contractor's secretary fees	(# of hours)				
Travel (Speaker, Experts, Rese	earchers)				
Per Diem (incl. accommodation and "75% additional payment")	8 persons × 3.75 days	213		6390	Vladivostok (tentative)
Airfare	8 persons × 1 trip	2500		20,000	average airfare
Travel for Participants (from Tronly)					
Per diem (incl. accommodations and "75% additional payment")	20 persons × 3.75 days	213	15,975		Vladivostok (tentative)
Airfare (restricted economy class)	20 persons				
Chile	2 persons	4,000	8,000		
China	2 persons	1,500	3,000		
Indonesia	2 persons	2,000	4,000		
Malaysia	2 persons	2,000	4,000		
Mexico	2 persons	3,000	6,000		
Papua New Guinea	2 persons	4,000	8,000		
Peru	2 persons	4,000	8,000		

All Figures in USD	# of Units	Unit Rate	APEC Funding	Self Funding	Notes
Philippines	2 persons	2,000	4,000		
Thailand	2 persons	2,000	4,000		
Vietnam	2 persons	2,000	4,000		
Other items		<u> </u>			
Publication/distribution of report	40 copies	70	2,800		
Specialized equipment or materials ( <i>please describe</i> )	(type, #, and # of days)				
Photocopying	(# of copies)				
Communications (telephone, fax, mail, courrier)				1,000	
Hosting (provide breakdown, e.g., room rental, stationery)	2 days	3,000		6,000	
Total			81,375	96,990	

### <u>Budget Note 1: Drawdown timetable:</u> Provide a timetable for the drawdown of APEC funding requested.

6% upon completion of step 2 of the work plan, within 3 months from the date of contract signing, to partly fund direct labour costs.

Additional 85% upon completion of step 4 (workshop), to fund the active participants' travel within 5-6 months since the date of contract signing. Advance payments may be requested by travel eligible participants (see budget note 3).

Remaining 9% upon completion of step 5 and delivery of the final project report, within 10 months since the date of contract signing.

<u>Budget Note 2: Direct labour:</u> Provide information for APEC-funded positions including general duties, total hours and who will be contracted, if known. (It is not acceptable to contract staff from your own organisation or government employees.)

APEC funds for direct labour costs as shown in the table (120 hours) will cover the administration of the project. It is proposed that this minor APEC-funded contract(s) valued at US\$9,600 are concluded with staff of the Higher School of Economics (National Research University), Moscow, who provided consultation to develop this project and are instrumental to ensure the sustained results.

<u>Budget Note 3: Waivers:</u> Provide details of any requests for waivers from the normal APEC financial rules, with justifications (e.g. from tendering requirements, for advance payment, simultaneous interpretation payment) in the notes column of the budget table, or below if the waiver requires a detailed explanation.

It is anticipated that active participants may request advance payment of travel expenses. Travel eligible participants will represent beneficiaries who include government officials from developing economies. Hence, waiver is requested to fund travel of government officials if they are nominated as active participants.