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International Renewable Energy Agency

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Proposed Work Programme and Budget for 2012

Report of the Director-General

The proposed Work Programme and Budget for 2012 has been prepared in accordance with Articles XI.E.1. and XII.B. of the IRENA Statute.

In accordance with Article X.F.2., the document will be considered by the Council before submission to the Assembly.

Proposed Programme of Work and Budget for 2012

Contents

Overview

1. World energy demand is rising as a result of economic growth and population increase. The finite nature of traditional energy sources, and their impact on global markets and the environment require a new way of thinking that puts renewable sources of energy at the core of strategies to ensure sustainable and reliable energy. Energy is a key prerequisite for socio-economic development, and with many developing countries in Africa, Asia and Latin America poised at the threshold of economic growth, the energy agenda has become a priority for both policymakers and the private sector alike.

2. Renewable energy is playing a rapidly increasing role in global energy supply, and the trends reflect strong growth in all energy sectors and all regions of the world. The latest Renewables Global Status Report shows that renewables delivered close to 20% of global electricity supply in 2010 and that, by early 2011, they comprised one-quarter of global power capacity from all sources. Total global investment in renewable energy broke a new record in 2010, with investment in renewable power and fuels of US$211 billion, up 32% from $160 billion the previous year. In many countries, policymakers, and the public and private sectors are becoming increasingly focused on accelerating the uptake of renewable energy through, inter alia, deployment of technologies, stimulating innovation and expanding related markets. Some 119 countries now have renewable energy policy targets or support policies, and at least half of them are in the developing world.

3. This growing economic and political sensitivity is also reflected in major international events that will take place in 2012, such as the United Nations Conference on Sustainable Development, Rio+20 Summit, and dedication of 2012 as the International Year of Sustainable Energy for All. Strong efforts are being made at the national and regional levels, and by the international community, to pave the way for renewable energies and thus transform existing energy systems. Recent events, such as the impact of natural disasters on the Fukushima plant, also prompted rethinking of the energy policies in different countries. The creation of new entities at national level such as the Japanese Renewable Energy Foundation (JREF), the Green Investment Bank in the UK or the Moroccan Agency for Solar Energy aimed at catalysing large-scale investment in the renewables sector and the change of energy policy in Germany are examples of such efforts.

4. It is against this background that the International Renewable Energy Agency (IRENA) is supporting the transition to sustainable and secure, low-carbon energy systems by further exploring and promoting the vast opportunities offered by renewable energy to address and alleviate current energy and energy-related challenges. IRENA has 85 Members and 70 Signatories and/or countries processing applications for membership, totalling 155 countries actively involved in its activities. Cooperation at the global, regional and national levels, knowledge sharing, enabling policies and enhanced capacity, as well as the encouragement of investment flows and strengthened technology and innovation, are all essential elements in these efforts. IRENA is positioning itself as a platform for all-inclusive cooperation where stakeholders can make a positive contribution to the common

goals. This cooperation and partnerships are essential underpinnings of IRENA's work.

5. The ambitious mandate entrusted to IRENA, positions the Agency at the forefront of the transition to a renewables-based energy future, while ensuring that the benefits of this transition benefit industrialised and developing countries alike. IRENA's principal role is policy innovation and facilitation, and its tools are policy analysis and advice, capacity building, knowledge management, stakeholder convening, and technology cooperation. IRENA's potential can be realised only if it is an inclusive, accountable and innovative organisation.

6. During 2011 significant efforts have been made to strengthen cooperation among IRENA Members, as well as with institutions and organisations committed to renewable energy. Drawing on their knowledge, experiences and resources, progress has been made in understanding the political, economic, policy and regulatory environment in which renewable energy competes, as well as the concomitant technological possibilities and business models. IRENA has structured its work within three distinct, but intrinsically connected and inseparable areas: innovation and technology, knowledge management and technology cooperation, and policy advice and capacity building.

7. The Proposed Programme of Work and Budget aims to adapt the framework devised in 2011 to meet IRENA's programmatic and management objectives in order to better serve the needs of Members. The year 2012 is expected be marked by an increase in regional activities particularly in Africa, Latin America and the Caribbean, and the Pacific Islands. Building on the institutional and substantive framework set in the course of 2011, and based on the guidance provided by the Members and the experience gained, IRENA's activities have been refined and expanded. They are accompanied by a clear articulation of deliverables and outcomes, as well as the budget allocation required.

8. The organisational structure, as adopted in 2011 and proposed for 2012, reflects the programmatic structure and comprises the following:

   a. Strategic Management and Executive Direction

   b. Knowledge Management and Technology Cooperation

   c. Policy Advisory Services and Capacity Building

   d. Innovation and Technology

   e. Administration and Management Services

Proposed Programme Budget for 2012

Table 1.   Estimates of expenditure (in US$ thousand)

	2011 Approved Budget	2011 Estimated Expenditure		2012 Estimate
		Amount	Percentage Utilisation	
Assessed Contributions (Core Budget)	**13,260**	**10,820**	**81.6%**	**16,000**
Voluntary Contributions from the UAE				
Operations	2,900	2,900	100.0%	2,900
Research	2,900	1,073	37.0%	2,900
Workshops and Conferences	1,600	1,600	100.0%	1,600
Information Technology Infrastructure	1,148	1,148	100.0%	-
Additional Earmarked contribution (Capacity Building)	-	-	-	*500*
Subtotal UAE Contributions	*8,548*	*6,721*	*78.6%*	*7,900*
Voluntary Contributions from Germany				
Innovation and Technology	3,100	2,731	88.1%	4,000
Additional Earmarked contribution (Capacity Building)	**-**	**-**	**-**	500
Subtotal German Contributions	*3,100*	*2,731*	*88.1%*	*4,500*
Total Voluntary Contributions	**11,648**	**9,452**	**88.1%**	**12,400**
Grand Total	**24,908**	**20,272**	**81.4%**	**28,400**

Table 2. Resource requirements by component (in US$ thousand)

Component	Core Budget		Voluntary Contributions		Total	
	2011 Approved Budget	2012 Budget Proposal	2011 Approved Budget	2012 Budget Proposal	2011 Approved Budget	2012 Budget Proposal
A. Governing Bodies Conference Services	-	-	1,600	1,600	1,600	1,600
B. Strategic Management	3,743	4,422	1,800	1,180	5,543	5,602
C. Programme of Work						
Sub-programme 1. Knowledge Management and Technology Cooperation	3,759	4,157	2,000	2,000	5,759	6,157
Sub-programme 2. Policy Advisory Services and Capacity Building	2,509	3,719	2,000	2,500[1]	4,509	6,219
Sub-programme 3. Innovation and Technology	-	-	3,100	4,000	3,100	4,000
Subtotal C	6,268	7,876	7,100	8,500	13,368	16,376
D. Administration and Management Services	3,249	3,702	1,148	1,120	4,397	4,822
Of which: Information Technology	-	-	1,148[2]	-	1,148	-
Total Estimated Requirements	**13,260**	**16,000**	**11,648**	**12,400**	**24,908**	**28,400**

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[1] This includes the Additional Earmarked contribution of US$ 1,000,000 for Capacity Building activities from UAE and Germany (US$ 500,000 each).

[2] Provided directly by UAE to build IT infrastructure.

Table 3.   Post requirements

	Core Budget		Voluntary Contributions		Total	
	2011	**2012**	**2011**	**2012**	**2011**	**2012**
Professional and above						
ASG	1	1	-	-	1	1
D-2	1	1	-	-	1	1
D-1	3	3	1	1	4	4
P-5	14	14	3	3	17	17
P-4	5	6	1	1	6	7
P-3	17	17	3	3	20	20
P-2/1	3	2	-	-	3	2
Subtotal	*44*	*44*	*8*	*8*	*52*	*52*
General Service	**18**	**18**	**2**	**2**	**20**	**20**
Total	**62**	**62**	**10**	**10**	**72**	**72**

Table 4.   Resource requirements by object of expenditure and source of funds (in US$ thousand)

(1)   Core budget

Object of Expenditure	2011 Approved Budget	Resource Growth		2012 Estimate
		Amount	*Percentage*	
April to December 2011				
Posts	7,183	X	N/A	10,128
Other Staff Costs	50	X	N/A	-
Seconded Personnel	584	X	N/A	903
Consultants and Interns	1,560	X	N/A	1,701
Experts/ Ad hoc Group Meetings	615	X	N/A	1,770
Travel of Staff	479	X	N/A	485
Contractual Services	765	X	N/A	170
General Operating Expenses	200	X	N/A	529
Hospitality	5	X	N/A	8
Supplies and Materials	200	X	N/A	279
Furniture and Equipment	-	X	N/A	275
Subtotal	*11,641*	X	*N/A*	*16,000*
January to March 2011	1,619	X	N/A	-
Subtotal	**13,260**	**2,740**	**21%**	**16,000**

(2)   Voluntary Contributions (*in US$ thousand*)

Object of expenditure	2011 Approved Budget	Resource growth		2012 Estimate
		Amount	Percentage	
UAE Contribution	7,400	-	0%	7,400
Information Technology[3]	1,148	-	-100%	-
Additional Earmarked contribution (Capacity Building)	-	500	-	500
German Contribution	3,100	900	29%	4,000
Additional Earmarked contribution (Capacity Building)	-	500	-	500
Subtotal	**11,648**	**752**	**6%**	**12,400**

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[3] Provided directly by UAE to build IT infrastructure

(3)   Core Budget and Voluntary Contributions (in US$ thousand)

Object of expenditure	2011 Approved Budget	Resource growth		2012 Estimate
		Amount	Percentage	
Total (1) and (2)	**24,908**	**3,492**	**14%**	**28,400**

9. The level of resources proposed for 2012 amounts to $28,400,000, of which $16,000,000 is funded from assessed contributions and $12,400,000 from voluntary contributions. A thorough review and extensive consultations with programme managers have been carried out to ensure the optimal utilisation of resources and ensure full, efficient   and effective implementation of the objectives and mandates set by Members.

10. The proposed core budget requirements for 2012 total $16,000,000, which comprises $9,880,000 for 62 core posts[4] and $6,120,000 for various non-post requirements including general temporary assistance, consultants, seconded personnel, expert group meetings, travel of staff, contractual services, supplies and materials and information technology.   The distribution of the core budget requirements, by component, is as follows:

    a. $4,422,000 under strategic management, comprising $3,063,300 for 20 posts and $1,358,700 for non-post requirements;

    b. $7,876,200 under Programme of Work, comprising $4,174,000 for 23 posts and $ 3,702,200 for non-post requirements;

    c. $3,701,900 under Administration and Management Services, comprising $2,641,000 for 19 posts and $1,060,900 for non-post requirements.

11. It is proposed that the amount of $12,400,000 should be funded from voluntary contributions as follows:

    a. $7,400,000 from the UAE bid to provide for operations, research, workshops and conferences. An additional contribution $500,000 is earmarked for capacity building, and,

    b. $4,000,000 from Germany to provide $1,586,000 for the continuation of 10 posts in Bonn and $2,414,000 for non-post requirements. An additional contribution $500,000 is earmarked for capacity building.

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[4] This does not include the 10 posts of IITC

A. Governing Bodies Conference Services

Voluntary Contributions: $1,600,000

12. The Assembly is the supreme organ of IRENA and its main decision-making body. It is composed of all Members of IRENA and meets in regular annual sessions. The Assembly considers and approves IRENA's Work Programme and Budget and determines the guiding principles and policies of the Agency. The IRENA core budget does not cover the costs of delegations' participation at the Assembly.

13. The Council carries out functions entrusted to it under the Statute of IRENA and functions delegated to it by the Assembly. The Council has 21 members, elected by the Assembly on a rotating basis for a two-year term; it meets semi-annually. Until its third meeting, the Council has three subsidiary organs: the Policy and Strategy Committee, the Governance and Legal Committee, and the Finance Committee, which meet as required.

14. The Secretariat assists the Assembly, the Council and their subsidiary organs in the performance of their functions. The core resource requirements for this support are included under Strategic Management in Part B below.

Table 5.   Resource Requirements: Meetings of the Governing Bodies

Category	Resources (in US$)		Posts	
	2011	2012	2011	2012
UAE Government Bid	1,600,000	1,600,000	-	-
Total	**1,600,000**	**1,600,000**	**-**	**-**

B.   Strategic Management

Core Resource requirements: $4,422,000
Voluntary Contributions: $1,180,150

Table 6. Objectives, expected accomplishments and indicators of achievement

Objectives: To effectively and efficiently manage the Agency and its Work Programme	
Expected accomplishments	**Indicators of achievement**
(a) Visibility of IRENA as the global voice for renewable energy.	i. Growing recognition of IRENA among renewable energy stakeholders. ii. Growing recognition of IRENA as authoritative voice on renewable energy in international forums.
(b) Transparent responsive and effective management of resources of the organisation	iii. Effective implementation of administrative procedures and mechanisms. iv. Prioritized result oriented implementation of programme of work and budget.
(c) Provision of support to members of the governing bodies of IRENA.	v. Timely delivery of documentation. vi. Effective support to inter-governmental meetings. vii. Effective communication with representatives of governments, international/regional organisations and stakeholders.
(d) Effective formulation, prioritisation and implementation of the Programme of Work.	viii. Recognition by States Parties of an effective programme formulation, implementation and evaluation. ix. Effective internal budget management and coordination among sub-programmes.
(e) Timely and adequate mobilisation of financial resources.	x. Percentage of resources mobilised in a timely manner to implement the Programme of Work.

Governance Support Office

15. The establishment of the three principal organs of the Agency, namely the Assembly, the Council and the Secretariat, requires that the Secretariat focuses on the institutionalisation of structures and processes. The Secretariat will ensure effective support to Members in an accountable and transparent manner, to meet the needs of the entire membership. The Governance Support Office will ensure a timely and efficient dissemination of documentation and effective support to Members and to intergovernmental meetings.

Communication and Outreach

16. Within the context of a broad communications umbrella for IRENA, the Communications Unit will maintain a continuous focus on communications and marketing, whose complementary but distinct roles should add to and multiply the value of every aspect and activity of the organisation. The 2012 International Year of Sustainable Energy for All and the Rio+20 Summit in June 2012 present a unique opportunity to place renewable energy prominently on the agenda, and IRENA will continue to contribute to this effort by participating in the UN Secretary-General's High Level Group on Sustainable Energy for All; it will serve as a core partner in the initiative, organising side events and taking the lead in issues related to renewable energy. IRENA is a partner at the World Future Energy Summit (WFES) at which the International Year will be launched, ensuring that the messaging for the year will start from a global platform. Outreach will be undertaken at global renewable energy initiatives such as the Interstate Renewable Energy Council (IREC), the Clean Energy Ministerial (CEM), and regional forums, especially in Africa, Asia-Pacific and Latin America and the Caribbean, and at global events such as Rio+20.

17. The communications strategy will also provide support to the implementation of the Programme of Work. The Communications Unit will partner with the Information Communication Technology and Governance Support Office in continuing its efforts to expand the IRENA website towards becoming a one-stop-shop for relevant renewable energy information. A new interactive web platform will replace the current delegates area. This new platform will enhance collaboration and information sharing. Training will be provided to all Members, and a phased approach will be adopted during the transition.

Strategic partnerships

18. The key drivers of success for IRENA are connectivity and the ability to galvanise critical partnerships with all key players in the renewable energy field. Selecting strategic collaborating partners is central to IRENA's work, fostering a wide array of opportunities to pursue the Agency's mission. The Director-General is responsible for forging major long-term relationships with key players in the field, while sub-programmes focus on continuous development and strengthening of partnerships related to defined activities.

Management of the Agency

19. The Director-General has overall responsibility for providing leadership to carry out the Agency's mandate and is also responsible for the efficient and effective management of the Agency and its Work Programme. The Director-General is supported by a Deputy Director-General both in overall management and in strategic management and programme design, formulation, and implementation, in line with IRENA's mandate, mission, objectives and accountability framework.

20. The Office of the Director-General provides support for the timely discharge of his responsibilities and for the management of his Office. It also monitors the implementation of the Programme of Work and acts as the focal point for information on all aspects of the work of the Office. Strategic Management also includes an internal audit function. The internal auditor will ensure that sub-programmes and activities are executed effectively and that internal control and risk management measures are in place to enable rapid response and reaction as required or appropriate. A Legal Advisor, inter alia, prepares and reviews agreements and contracts to ensure requisite compliance and to protect the interests of IRENA.

Outputs

21. During 2012, the following final outputs will be delivered:

    a. Servicing of governing bodies:

        i)   Substantive servicing of meetings of the Assembly and the Council (3 meetings), and, as required, subsidiary organs (up to 6 meetings);

        ii) Parliamentary documentation: Reports to the Assembly, the Council, and subsidiary organs (approx. 30 reports), delegates' web-site portal.

    b. Communication and outreach:

        i)   Publications: Key publications including newsletters, production of policy and programme documents in support of PACB, KMTC, and IITC's publications outputs, information and representational materials;

        ii) Updates to Members in collaboration with the Governance Support Office including quarterly newsletters on IRENA events and activities;

        iii) Continuing development of web site content;

        iv) Ongoing media outreach, and development of additional media contacts and networks to further knowledge about IRENA's work;

        v)   Development and implementation of new information portal for Members replacing the current delegates' area in collaboration with the Information Communications Technology and Governance Support Office;

        vi) Implementation of IRENA's communications strategy supporting the Programme of Work and the midterm Strategic Plan;

vii) Enhanced engagement with current and new partners and collaborative arrangements to facilitate wider outreach;

viii) As a core partner of the 2012 International year of Sustainable Energy for All campaign, IRENA will support and participate in regional rollouts throughout the year. Communications activities will also support the Director-General as a senior advisor to the UN Secretary-General's High-Level Group of Sustainable Energy for All. Outreach support includes:

- World Future Energy Summit, Abu Dhabi Launch of the 2012 International Year of Sustainable Energy for All;

- Delhi Sustainable Development Summit, New Delhi – Asian rollout of the 2012 International Year of Sustainable Energy for All;

- African rollout of the 2012 International Year of Sustainable Energy for All, Nairobi;

- Americas rollout of 2012 International Year of Sustainable Energy for All;

- Support to the Director-General in his role as senior advisor to the UN Secretary General on Rio+20 side events at the Rio+20 Summit, Rio de Janeiro, Brazil (June 2012);

- Side events at COP 18 /Climate Change Conference.

c. Management and oversight:

i) Overall management: direction, guidance and policy clearance of all programmatic and administrative actions;

ii) Planning and strategic management: Programme of Work and Budget, annual report;

iii) Audits: facilitation of audits and written management responses showing the actions being taken to implement the audit recommendations provided;

iv) Evaluations: coordination and management of the evaluation of sub-programmes and activities. Evaluation reports for completed activities and written management responses to evaluation findings.

Table 7.   Resource requirements: Strategic Management

Category	Resources (in US$)		Posts	
	2011 Budget	2012 Estimate	2011	2012
Core Budget				
Post	2,405,300	3,064,000	20	20
Non-post	880,300	1,358,000	-	-
Subtotal	*3,285,600*	*4,422,000*	*20*	*20*
January to March 2011	457,017	-	-	-
Voluntary Contributions				
UAE Government Bid	1,800,000	1,180,150	-	-
Subtotal	*1,800,000*	*1,180,150*	-	-
Total	**5,542,617**	**5,602,150**	**20**	**20**

22. The amount of $3,064,000 would provide for the continuation of 20 posts approved in 2011 including the reclassification of 1 P-3 post to P-4 (1 ASG, 1 D-2, 5 P-5, 2 P-4, 3 P-3, 1 P-2 and 7 GS). Resources totalling $1,358,000 would provide for non-post requirements including:

   a.   Support to the United Nations Secretary-General's High Level Panel on Sustainable Energy for All;

   b.   Participation in international renewable energy conferences/meetings and initiatives;

   c.   Consultants to avail of specialised expertise in policy and substantive areas;

   d.   Seconded personnel;

   e.   Travel of staff;

   f.   Supplies and materials;

   g.   Hospitality.

23. Voluntary contributions totalling $1,180,150 from the UAE bid will continue to be utilised to assist in strategic stakeholder consultations, experts, outreach, support to IRENA's role as UN observer in particular during the International Year for Sustainable Energy for All and Rio+20 process, and meetings and conferences.

C. Programme of Work

Table 8. Resource requirements by sub-programme

	Core				Voluntary				Total			
	Resources		Posts		Resources		Posts		Resources		Posts	
	2011 Appropri-ation	2012 Estimate	2011	2012	2011 Appropri-ation	2012 Estimate	2011	2012	2011 Appropri-ation	2012 Estimate	2011	2012
Sub-programme 1 Knowledge Management and Technology Cooperation	3,759,020	4,156,700	14	14	2,000,000	2,000,000	-	-	5,759,020	6,156,700	14	14
Sub-programme 2 Policy Advisory Services and Capacity Building	2,509,545	3,719,500	9	9	2,000,000	2,500,000[5]	-	-	4,509,555	6,219,500	9	9
Sub-programme 3 Innovation and Technology	-	-	-	-	3,100,000	4,000,000	10	10	3,100,000	4,000,000	10	10
Total	**6,268,565**	**7,876,200**	**23**	**23**	**7,100,000**	**8,500,000**	**10**	**10**	**13,368,565**	**16,376,200**	**33**	**33**

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[5] This includes the Additional Earmarked contribution of US$ 1,000,000 for Capacity Building activities from UAE and Germany (US$ 500,000 each).

Sub-programme 1: Knowledge Management and Technology Cooperation

Core Resource requirements: $4,156,700
Voluntary contributions: $2,000,000

Table 9. Objectives for the expected accomplishments, indicators of achievement and performance measures

Objective: The objective of KMTC is to support countries in accelerating renewable energy uptake through dissemination and transfer of knowledge, and to facilitate international technology cooperation in the field of renewable energy.	
Expected accomplishment in 2012	**Indicators of achievement**
(a) Establishment of processes to systematise relevant global knowledge on renewable energy.	i. Strategic partnerships contribute to development of Global Solar and Wind Atlas. Atlas (technical partners: e.g. NREL, DLR, Risoe/DTU, CENER. ParisTech, MASDAR/MIST, WMO, World Bank; regional partners e.g. ECREEE, RCREEE, SADC, SPC; and additional committed parties).
	ii. Enhancing knowledge about developments in renewable energy by building datasets and thematic reports, to reflect efforts being undertaken by countries in the sector.
	iii. Building renewable energy indicators as a strategic tool for decision makers.
(b) Deployment of renewable energy readiness assessment in selected countries and regions.	iv. Finalisation of the methodology for assessing renewable energy readiness in countries.
	v. Four regional workshops build capacity of countries to carry out their readiness assessments.
	vi. Assessment of renewable energy readiness carried out in 2 regions
(c) Devise technology readiness to facilitate North-South and South-South cooperation.	vi. Engagement of key stakeholders in discussions on technology cooperation strategies to allow peer to peer interaction and agreement on collaborative plans.
	vii. Continued development of a strategy on North-South and South-South technology cooperation.
	viii. Development of the conceptual framework of a technology readiness readiness assessment toolbox

	ix. Policy frameworks in two technology sectors assessed to lay the groundwork for action plans to be implemented by countries to harness renewable resources.

External factors

24. The sub-programme is expected achieve its objectives based on the assumption that countries will be willing to engage with IRENA to build a long-term plan of action to increase the deployment of renewable energy.

25. Recent reports on renewable energy bear testimony to the progress made in developing and deploying renewable energy resources; such progress is reflected in the increased contribution of renewable energy to the energy mix and the growth in global investments in the sector. Positive trends in new investments in emerging economies and developing countries have provided momentum to the markets. Policies and measures which are aimed at giving impetus to the deployment of renewable energy have been framed by a large number of countries. However, of the nearly 100 countries that have announced national targets for increasing the share of renewable energy in the energy mix, only half have received investment flows of more than $10 million. This clearly indicates the need to assess existing policy structures and to help countries build enabling frameworks to accelerate deployment of renewable energy.

26. *Systemising relevant global knowledge on renewable energy.* Efficient creation and transfer of knowledge is central to promoting and facilitating change. In 2011, a statistic database was initiated which builds on the main global databases (IEA, UN, others) by gathering additional information through partnerships at country level. Information on potentials is being collected, and a global repository of studies has been initiated. Partnerships with the Clean Energy Ministerial experts lead to a concept and prototype, which need to be presented to end-users. A conceptual framework is under development for energy indicators, which need to be presented to experts and countries for direct engagement. The components and activities proposed in 2012 will build upon these foundations and will develop a knowledge management platform which will enable stakeholders at global, regional and local levels to be part of the creation, use and dissemination of information and knowledge. Five activities are planned for 2012:

- **Activity 1: Operationalising the Knowledge Management (KM) strategy for IRENA.** Following the mapping of existing sources of knowledge and gap analysis undertaken in 2011, a Knowledge Management strategy for IRENA will be developed. The strategy will establish a Knowledge Management framework that ensures easy access on the part of Members, academia, civil society, and other stakeholders to the renewable energy information and knowledge relevant to their needs. It will also provide for the management of knowledge within the organisation, establishing a system for institutional memory and a documentation centre that will allow the creation of internal resources and foster experience sharing.

- A workshop will be held to present the Knowledge Management Framework to countries in order to integrate their comments and expectations. A Knowledge Management follow-up panel will be established to monitor and assist in the implementation of the Knowledge framework within IRENA. This process will include a capacity-building component to enhance internal capacity and motivate IRENA staff to make use of the whole process more effectively.

- In 2011, the methodology was developed and tested in two Sub Saharan African countries namely Senegal and Mozambique. In 2012, two regional workshops will be held in ECOWAS and SADC for rolling-out the methodology. Readiness assessments will be conducted in one Latin America/ Caribbean country and one Pacific Island. These countries could subsequently act as a channel for dissemination and engagement across their respective regions. Following this process, the methodology would be further refined and finalised based on the feedback received and subsequent consultation with stakeholders. The methodology will be published along with the templates necessary to roll out readiness assessments.

- **Activity 2: Renewable Energy Potentials.** Knowledge of energy potentials is the basis for planning the energy transition. In partnership with the Clean Energy Ministerial Multilateral Solar and Wind Working Group (CEM MWG), IRENA is coordinating the development of the Global Solar and Wind Atlas. This initiative will not only enhance IRENA's ability to provide targeted services to its Members, but will also make this global process responsive to its specific requirements. Building on the existing international initiatives to enhance the quality of data, IRENA will contribute to developing services to assess renewable energy potentials by carrying out the following tasks:

  a. Engage end users in the process so as to be able to respond to their needs and ensure that Members become strong stakeholders in the process.

  b. Provide a platform for global data providers like the National Renewable Energy Laboratory (NREL) of the US Department of Energy, the German Aerospace Centre (DLR), the Danish National Laboratory for Sustainable Energy (Risø), the Spanish Renewable Energy Centre (CENER), and NASA among others. The collaboration with the World Meteorological Organization (WMO) begun in 2011 will benefit from the network of WMO members and its convening power in the verification phase of the Global Solar and Wind Atlas. Recommendations will be formulated on the elements and instruments required to densify the measurement network so that an enhanced level of accuracy in terms of evaluating renewable energy potentials, starting with wind and solar, can be provided.

  c. The Global Atlas would contribute to the upcoming Global Framework for Climate Services (GFCS), by ensuring that end-user recommendations are transmitted to the GFCS programme. Demonstration campaigns within the Global Atlas would be organised jointly with WMO and the GFCS programme.

d. A simplified version of the final system for the Global Solar and Wind Atlas will be made available to a group of end-users gathered on the occasion of the second session of IRENA's Assembly. It will demonstrate the feasibility of delivering adequate data and services at the global level, and also to gather recommendations from end users, before developing a more complete system including additional datasets and outputs.

e. A strategy paper on developing and exploiting renewable energy potentials for policymaking would be prepared. Three case studies of countries at different stages of resource assessment would be studied and also assisted in building methodology to provide critical inputs for policymaking.

f. Formative activities for developing a global biomass dataset, building datasets of the Food and Agriculture Organization (FAO) and the International Institute for Applied Systems Analysis (IIASA) would be initiated.

- **Activity 3: Renewable Energy Statistics.** Consultations with Members have highlighted the need for a continuous coordinated data-collection process to develop reliable and consistent data on renewable energy. Current and accurate statistical information is essential for knowledge management and will remain a critical underpinning of KMTC work. To provide better quality of data, KMTC will focus on data collection of the countries that IEA doesn't provide, which are mostly in Africa and Pacific islands. In 2011, KMTC started to collect data for some countries in Africa through IRENA focal points and this will be extended to the rest countries in Africa and Pacific islands in 2012. This effort will include a capacity-building component where needed, which will be undertaken in collaboration with PACB. The following set of tasks will be carried out:

a. In collaboration with REN21, an expert group will be set up to conceptualise a framework of datasets focusing on the efforts of countries to deploy renewable energy. The framework would be based on official statistics, where these exist, and on data provided by the IRENA focal points, industry, financial institutions, NGOs and other relevant actors. This exercise will also help to identify additional data sources, major programmes and projects, and highlight the capacity-development needs with respect to gathering renewable energy data.

b. A special series on statistics would be developed – Beyond Energy Balances – which would include the analysis required to start discussions on an appropriate statistical methodology.

c. Country profiles for two regions – Asia and Latin America – will be produced following the development of the country profiles for the Pacific and African countries. These profiles aim at giving the general audience a brief yet comprehensive picture of renewable energy in each country and provide information on energy supply, energy access, targets, policies and measures, projects and resource endowment that is easy to access and

understand. The profiles will be updated when new data become available and after consultation with focal points in each country.

- **Activity 4: Renewable energy indicators.** In order to enable tracking of renewable energy trends and the effectiveness of policies, in 2011, a literature review on framework and methodologies for existing indicators such as Human Development Indicators was carried outas the initial step for the development of Renewable Energy indicator The review will continue in 2012. As a coordinator and the central agency on the Renewable Energy information, IRENA will bring together experts and institutions active in the fields of statistics, energy planning, macroeconomics and renewable energy policy. A concept paper on the framework would be developed for a wider discussion among Members, leading to the finalisation of the methodology.

- **Activity 5: Global and regional reports.** To make a substantive contribution to the production of global and regional assessment reports, cooperation with key actors would continue. In collaboration with PACB and IITC, an annual renewable energy report would be produced. The first edition will focus on Africa, and the KMTC would provide inputs relating to resource and policy assessment based on the findings of the renewable energy readiness assessments.

- A report on trends in investments for a limited number of countries will be prepared to gain a better understanding of how particular policy initiatives impact investments in the renewable energy sector as a whole and in specific technology areas.

27. ***Promotion of regional consensus to adopt renewable energy.*** Regional economic and political forums are the primary entry point in discussing policy interventions at regional and country levels. The work in this respect was initiated in 2011 by engaging with leaders and other stakeholders from Africa and the Pacific Islands. Two activities are envisaged in 2012:

- **Activity 1: Renewable energy readiness assessments.** Renewable readiness assessments aim to identify the elements necessary to devise an effective policy framework to support market development. The renewable readiness assessments are being designed to provide inputs to regional renewable energy action plans and bring together partners able to support the implementation of action plan, including providing solutions to energy access. The renewable energy readiness reports would enable IRENA to structure policy advice, by providing systematic guidelines for specific policy challenges and also creating architecture for the development of innovative policy tools.

- In 2011, the methodology was developed and tested in two Sub Saharan African countries namely Senegal and Mozambique. In 2012, the readiness assessment will be conducted in one Latin America/ Caribbean country and one Pacific Island. Two regional workshops will be held in ECOWAS and SADC for rolling-out the methodology. These countries could subsequently act as a channel for dissemination and engagement across their respective regions.

Following this process, the methodology would be further refined and finalised based on the feedback received and subsequent consultation with stakeholders. The methodology will be published along with the templates necessary to roll out readiness assessments.

- **Activity 2: Forging partnerships for action.** The regional and country level assessments carried out in 2011 enabled IRENA to identify organisations and other stakeholders in the Economic Commission of West African States and the Southern African Development Community as partners for bridging gaps with concrete action plans. These partnerships are expected to be at the country level and will involve matching the needs that have emerged from the renewable readiness assessments with the added value that specific partnerships can bring in.

- In 2012, the cooperation with regional organisations will be further enhanced. This cooperation will be expanded to North Africa. In this context, a MoU will be signed with the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) who is very active in the MENA region particularly in North Africa. With this strategic partnership, IRENA will be able to better implement its work at the regional and local levels. A work plan will be developed jointly between IRENA and RCREEE and implemented taking into account the real needs of these countries.

- A network will be established between the regional centers in Africa with the perspective to create synergies and reinforce South-South cooperation

28. *Assist and catalyse multilateral cooperation in renewable energy technology.* In an effort to catalyse North-South and South-South technology cooperation, IRENA will continue to provide a platform for dialogue and to develop modalities for fostering technology cooperation. Four activities are planned:

- **Activity 1: Catalysing South-South Technology Cooperation.** During 2011, IRENA convened an entrepreneur workshop in collaboration with E+Co and SELCO, as a result of which a working paper on South-South technology cooperation was produced. Building on this work and in cooperation with governments, international organisations, the private sector and the academic and scientific community, IRENA will work in the development of a comprehensive, cross-disciplinary strategy for catalysing South-South technology cooperation.

- **Activity 2: Development of a methodology for assessing technology readiness**. In support of the renewable energy readiness assessments, during 2012, IRENA will initiate the process of developing a toolbox for enabling countries to assess the compatibility of their national legal regimes against internationally-recognised best practices in the field of technology cooperation. The first stage in this process involves the establishment of the conceptual framework of the assessment methodology. A workshop will be organised and a discussion paper will be developed in collaboration with governments, international organisations, the private sector and the academic

community. The first stage will be followed by the development of the assessment methodology, and its subsequent validation and testing.

- **Activity 3: Policy dialogue for technology cooperation.** In 2011, the review of renewable energy technology cooperation was conducted in order to map best practices. In this connection, the IRENA-NREL workshop was organised in order to initiate discussions at the expert level. In 2012, two meetings of experts, multilateral and bilateral organisations, and representatives from Member countries will be organised to initiate a dialogue among IRENA Members on technology cooperation. The report being prepared on the good practices will constitute the background information for Members to identify gaps that can be addressed by collaborative action, and to discuss the approach and framework within which these could be launched effectively. This forum will also provide a platform for discussing other technology cooperation issues, including the environmental impacts of renewable energy solutions and a strategy for regional centres, both of which will be addressed in cooperation with IITC.

- **Activity 4: Engagement with industry in specific technology areas.** Assessment of policy frameworks in specific technology sectors will be taken forward. Building on the work undertaken in the wind sector to date will allow the design of concrete action plans for replicating successful approaches. This work will be complemented by formulation of appropriate policy advice by PACB, where needed, to assist the Members in adopting a holistic approach to addressing the issue. Based on experience in the wind sector, such engagement is expected to be expanded to two more technology sectors.

Outputs

29. During 2012, the following final outputs will be delivered:

a) Parliamentary documentation, publications and technical materials:
   i) A publication on the knowledge management strategy for IRENA, leading to implementation activities;
   ii) A publication on the services provided by the Global Solar and Wind Atlas, based on end-user recommendations;
   iii) A simplified version of the Global Solar and Wind Atlas for demonstration purposes;
   iv) A technical paper on the methodology for the Global Solar and Wind Atlas, supported by the scientific community;
   v) A strategy paper on the use of information on renewable energy potential for building a reliable policy and financial environment for renewables;

vi) Three case studies for assessing renewable energy potential, initiating policy development processes, and economic assessment of opportunities in the renewable energy field;

vii) Updated renewable energy statistics for Members up to 2010;

viii) Two papers on aspects of the methodology of energy statistics aiming at starting a discussion on how renewables are accounted for;

ix) Country Profiles for Asian and Latin American Countries;

x) Report on the framework of datasets, highlighting the efforts being made by countries to develop renewable energy;

xi) A report on the energy trends in Pacific Island States and the deployment of renewables, in preparation for the 2012 World Renewables Islands Summit in Malta.

xii) Concept note on the methodology for renewable energy indicators;

xiii) Pilot studies for testing the Renewable Readiness Assessment Methodology in one country in Latin America/Caribbean and one in the Pacific Islands;

xiv) Regional reports on Renewable Energy Readiness Assessment for Latin America/Caribbean and for the Pacific Islands;

xv) Final report on the Renewable Energy Readiness Assessment methodology;

xvi) A strategy paper on South-South technology cooperation;

xvii) A discussion paper on the conceptual framework for an assessment methodology for technology readiness;

xviii) Assessment of policy frameworks in two technology sectors in collaboration with industry.

b) Expert meetings and workshops

i) Two meetings of the forum for policy dialogue for technology cooperation;

ii) Four regional workshops to help countries to prepare their Renewable Readiness Assessments;

iii) One workshop to discuss the conceptual framework of a technology-transfer readiness toolbox.

iv) Two regional workshops will be held in connection with the Renewable Energy Readiness Assessment Methodology; one in ECOWAS and one in SADC.

*Table 10. Resource requirements: Knowledge Management and Technology
Cooperation*

Category	Resources (in US$)		Posts	
	2011 Appropriation	2012 Estimate	2011	2012
Core Budget				
Post	1,945,000	2,509,000	14	14
Non-post	1,355,000	1,647,700	-	-
Subtotal	*3,300,000*	*4,156,700*	*14*	*14*
January to March 2011	459,020	-	-	-
Voluntary Contributions				
UAE Government Bid	2,000,000	2,000,000	-	-
Subtotal	*2,000,000*	*2,000,000*	-	-
Total	**5,759,020**	**6,156,700**	**14**	**14**

30. The amount of $4,156,700 would provide $2,509,000 for the continuation of 14
posts (1 D-1, 3 P-5, 2 P-4, 6 P-3, 2 GS). Non-post resources totalling $1,647,700
would cover the following requirements to allow the anticipated results to be
achieved and delivery of the outputs elaborated above:

    a.   Specialised expertise not available in IRENA;

    b.   Seconded personnel;

    c.   Expert meetings;

    d.   Travel of staff related to undertaking targeted studies and participating in
relevant forums;

    e.   Training related to the concept paper and partnership agreements for a
renewable energy potentials platform;

    f.   External printing of the design process related to engagement with partners in
Africa and the Pacific Islands on renewable readiness assessments;

    g.   Proprietary software related to the prototype renewable energy statistics
database and data collection methodology;

    h.   Technical publications and information related to the knowledge mapping
report and the renewable readiness assessment.

31. The voluntary contributions resources of $2,000,000 to be funded from the UAE
bid will contribute to the implementation of the outputs outlined in the paragraphs
above.

Sub-programme 2: Policy Advisory Services and Capacity Building

Core resource requirements: *$ 3,719,450*
Voluntary contributions: *$ 1,500,000*
Additional earmarked contribution (Capacity Building)
from UAE and Germany: *$ 1,000,000*

Table 11.   Objectives, expected accomplishments and indicators of achievement

The objective of PACB is to strengthen countries' abilities to design and implement appropriate policies and supportive financial frameworks as well as build the human and institutional capacities required to achieve IRENA's vision	
Expected Accomplishments	**Indicators of achievement**
(a) Enhance ability of countries to create enabling frameworks for promoting the development of renewable energy policies and markets.	i. Increased number of partnerships and joint initiatives in policy related work. ii. Increased number of relevant stakeholders that refer to IRENA's policy work in the area of renewables. iii. Increased awareness and understanding on challenges and opportunities related to energy access programmes. iv. Increased dissemination of lessons learned and best practices on socio-economic benefits of renewable.
(b) Strengthen understanding of the financing possibilities to leverage renewable energy investment.	v. Increased dissemination of existing financial mechanisms and new approaches to finance renewables. vi. Increased understanding on business models for rural renewable energy-based schemes.
(c) Enhance the understanding of governments about the significance of mainstreaming capacity building.	vii. Widely accepted organisational strategy towards capacity building laying the basis for future capacity building services provided by the Agency. viii. Increased number of national strategies and plans that recognize and consider capacity building as a component for development of the renewable energy sector. ix. Increased number of countries that are able to identify the capacity gaps and challenges through assessment processes.

(d) Strengthen in-country capacities to design or adapt, and implement effective renewable energy education and training.	x. Increased number of inter-agency partnerships and joint initiatives in the field of education and training.
	xi. Enhanced understanding of the gaps and needs in renewable energy education and training.
	xii. Integrated pool for education and training materials, handbooks, manuals and further guiding documentation made available for the use of governments, education and training providers, students and trainees.
	xiii. Increased opportunities for students and trainees to follow renewable energy study programmes, research projects, trainings.

External factors

32. The sub-programme will achieve its objectives and expected accomplishments based on governments continuing to make commitments to advance the deployment of renewable energies at national and local levels, and also being willing to provide access to relevant data and information and to participate in assessment processes. The readiness of international organisations, civil society, the private sector, and the academic and scientific communities, to share information and to partner with IRENA is also of equal importance.

33. The rapid rise of renewables in the past few years has been mainly driven by an enabling policy framework. According to the latest statistics, policies and targets that support and stimulate renewable energy have continued to escalate in number and are currently in place in more than 100 countries. Despite these positive developments, there remains a continued need to craft and implement policies to address the enduring barriers to the greater deployment of renewables. As a result, PACB will continue to pursue its stated goal of *"strengthening countries' abilities to design and implement appropriate policies and supportive financial frameworks as well as build the human and institutional capacities required to achieve IRENA's vision"*.

34. ***Enhance ability of countries to create enabling policy frameworks for promoting the sustainable development of renewable energy policies and markets.*** Trends in installed renewable energy capacity and investment flows into renewables indicate that, despite much progress, renewable energy is prospering in only a small number of countries. Policy initiatives and target setting alone are insufficient to drive the necessary deployment of renewables. In fact, there is an urgent need to create enabling environments that allow for the optimal conditions required to stimulate investment in renewable energy. PACB will thus provide i) **policy assessment** with state-of-the art information on specific renewable energy policy challenges using

Policy Briefs, Policy Insights and Thematic Reports and ii) **policy implementation** advice to countries to support their efforts in establishing enabling institutional frameworks for renewables through Expert Groups providing direct support to countries. Furthermore, PACB will support countries to better address social and economic aspects of renewable energy including energy access, employment, and industry creation. In total, four activities are planned in Policy Advice:

- **Activity 1: Policy Assessment**. PACB will regularly publish state-of-the-art information covering different aspects of renewable energy policy challenges. This information will be presented in four formats: Best Practice Briefs, Policy Insights, Annual Reports, and a Joint IEA-IRENA database. Collectively, these will allow IRENA to keep abreast of the latest trends and developments in renewable energy policy, as well as provide policymakers with up-to-date information. They aim to position IRENA as an authority on relevant issues in the renewable energy field. In 2012, PACB will carry out the following:

  a. Best Practice Briefs: Using a case-study approach, Best Practice Briefs will cover the enabling policy conditions that will permit renewables to adopt their optimal place in the energy mix, with clear articulation of lessons learned and best practices. For 2012, these will focus on two topics:

     - *The role of cities, towns and local governments in enacting renewable energy promotion policies*. This Brief will demonstrate how local policies and actions are being shaped to guide communities in the transition to a renewable energy future. This will serve as the basis for a guidebook for decision makers, carried out in cooperation with ICLEI, to promote activities in renewables by local governments. This activity will complement work being done by IITC and KMTC on RE technologies for cities;

     - *Renewable energy tariff-based support mechanisms*. This Brief will present current trends in renewable energy tariff-based support mechanisms and analyse their success in promoting renewable energy.

  b. Policy Insights: These will provide policy assessments on a variety of topics, selected in response to emerging issues. They will be published in a timely manner so as to influence the emerging debate on specific issues of interest. For 2012, policy assessments will focus on three topics:

     - *Enabling the sustainable development of islands* by the deployment of renewables. Building on the work carried out in 2011 in the Pacific region, PACB, in collaboration with REEEP, will prepare a Policy Insight which will present an assessment of existing challenges and enabling policy frameworks needed to ensure enhanced development of renewable energy in small islands;

- Addressing renewables in the context of *Nationally Appropriate Mitigation Actions (NAMAs)*. NAMAs have become a key component in the discussions on a new international climate regime. This Policy Insight will analyse strategies to enhance the role of renewable energy in the context of the NAMAs.

c. IRENA Annual Thematic Renewable Energy Report: This report will have a regional focus, concentrating on Africa for the year 2012 where IRENA has identified a real need to address specific conditions of the continent during the 2011 High-Level Consultations with African Energy Ministers and experts. PACB will provide policy assessments and recommendations for accelerating the use of renewable resources in Africa. The report will be completed in collaboration with KMTC and ITTC.

d. IRENA Study on Renewable Energy Support. Information on the level of national support to renewable energy is relatively limited. PACB will carry out a quantitative and qualitative analysis of the national policies and financial support provided to the sector globally. The primary source of data will be gathered by PACB through a questionnaire to all countries. Such an analysis will fill a major gap in understanding the real cost of renewable energy deployment.

e. Joint IEA-IRENA Database: In 2011 IRENA and the IEA agreed on the establishment of a joint IRENA-IEA renewable energy policy database. Continuing this work, PACB will prepare and submit requests for information to IEA non-member states. The information received will be systemised and integrated into a publically accessible online platform. IRENA will therefore help develop a comprehensive global database with primary information from developing countries currently not being covered by the IEA.

- **Activity 2: Policy Implementation Advice.** PACB will support the creation of an enabling environment for the deployment of renewable energy technologies. This will be achieved through Expert Groups that will help to translate policies and strategies into results on the ground. To build on existing synergies, IRENA will initiate cooperation with institutions currently providing tailored advice on the deployment of various renewable energy technologies, such as the Clean Energy Solution Center. For 2012, PACB will provide policy implementation advice on wind deployment and initiate policy assessments on two other technologies. Activities will include:

  a. Collaboration with the European Wind Energy Association's Annual Event in April 2012 to support the design of concrete action plans replicating successful approaches in the wind energy sector. This will be carried out in collaboration with KMTC.

b. Establishment of an Expert Group (policymakers, academia, private sector) to provide support to countries on the development of policy frameworks to attract investment in the wind energy sector. This activity will build on the initial work by KMTC in consideration of their 2011 Report on *Assessment of Successful Policy Frameworks in the Wind Sector* as well as on the outcomes of the above-mentioned design of concrete actions plans. A similar approach will also be initiated with KMTC on two other technology sectors, solar and geothermal. A workshop will be organised to initiate the activities of the Expert Group

- **Activity 3: Access to Energy.** Renewable energy plays a key role in achieving universal energy access. In continuation with the activities of 2011, PACB will carry out the following activities in 2012:

  a. Renewable Energy-Based Rural Electrification Schemes: In partnership with various stakeholders, such as the Alliance for Rural Electrification (ARE), PACB will:

    - Organise a conference on access to electricity to increase awareness and advise policymakers on how to overcome barriers to the expansion of renewable energy-based access to electricity programmes in developing countries.

    - Present and synthesise findings from PACB's 2011 *Report on Policies and Measures to Overcome Barriers in Rural Electrification*, completed in collaboration with GNESD, in a publication on guidelines and recommendations for policymakers.

  b. Renewable Energy Jobs in the Context of Access to Energy: Based on PACB's 2011 *Report on Renewable Jobs in the Context of Access to Energy in Developing Countries*, a workshop will be organised to coincide with a major international event;

- **Activity 4: Analyses of impact on social and economic variables.** PACB will carry out analyses on employment and industry creation in the context of renewable energy. For 2012, PACB will carry out the following:

  a. Renewable Energy and Employment: Policymakers in many countries are enacting renewable energy policies with the purpose of advancing economic development and creating jobs. According to REN21, worldwide jobs in renewable energy industries exceeded 3.5 million in 2010. Figures on employment creation, however, are not always coherent and depend on the methodologies applied. IRENA will provide both specific case study evidence of the job creation potential of renewables as well as guidelines and measures to facilitate and harmonise the assessment of employment effects in developed and developing countries.

- PACB will publish a report on the links between renewable energy and job creation. This will be completed in collaboration with the ILO and the WWI, to extend the corresponding chapter of the ILO's 2011 "Green Jobs" report.

- Dissemination will include launching of the findings event at the United Nations Conference on Sustainable Development (Rio+20), in collaboration with the ILO.

    b.   Methodologies to Measure Employment:

- A report on guidelines for methodologies to measure renewable energy employment in both developing and developed countries (EMPLOY Project) will be produced. This project will be carried out in collaboration with the IEA-RETD.

- The guidelines developed under the EMPLOY project will be presented at a meeting IRENA will organize with experts from selected developing countries to encourage the application of these methodologies.

    c. Renewable Energy and Industry Creation: The transition to an energy system primarily based on renewable energy technologies provides potential for countries to establish new industries. These include those created both within the renewable energy industry itself and in non-energy-related sectors, created by technology supply chains or productive uses of renewable energy technology. PACB will carry out, in collaboration with IITC, an analysis on the impact of renewable energy on specific segments of the industry, of policies that promote the local development of renewable energy technologies and/or component parts as well as beneficial economic spill-over effects.

35. ***Improve understanding of the financing possibilities for renewable energy and the framework conditions to leverage renewable energy investment.*** Although new global investment in renewable energy reached $211billion in 2010, its share in developing countries outside China, Brazil, and India remains limited. Accessing greater finance and investment will be a decisive factor in achieving higher levels of renewable energy uptake in developing countries. However, renewable energy projects in emerging markets and developing countries face a number of challenges, including volatile exchange rates or lack of infrastructure. Smaller-scale projects face further barriers given the level of due diligence required as a proportion of the overall deal size. Mitigation of these risks can be achieved through a policy environment conducive to attracting investment opportunities, as well as local partnering and application of public funding. PACB will continue to identify the obstacles to the private and public sector making renewable energy investments, including trade barriers, and provide a basis for understanding the conditions necessary for scaling up investment in renewable energy. To build the renewable energy business case, analysis of the financial framework will include highlighting the return on capital opportunity to investors,

ensuring efficient access to capital from a blend of both public and private institutions; removing investment risks; effectively reducing capital costs (e.g., standardization of contracts and other documents along the renewable energy value chain to bring transparency to investment). In this context, two activities are planned for 2012:

- **Activity 1: Analyses of Renewable Energy Financial Flows and Mechanisms.** Continuing the work done in 2011, PACB will carry out the following activities:

  a. Financial Flows and Mechanisms:

     - In continuation of the series initiated in 2011, *Report on Financial Flows and Mechanisms in Developing Countries*, an in-depth analysis of six new country case studies will be carried out in collaboration with BASE. This series will provide relevant stakeholders with case-study based information on investment challenges and ways to overcome them.

     - To disseminate the report, discuss best practices and provide advice on creating an enabling environment for the deployment of renewables, a regional workshop will be organized.

  b. Upscaling Renewables through New Sources of Funding: In continuation of work done in 2011 on facilitating the upscaling of renewable energy through a programmatic approach, PACB will convene an expert meeting. The aim will be to disseminate information on the new sources of funding available for upscaling renewables and how to access them.

  c. Business Models for Renewable Energy Schemes: Based on PACB's 2011 *Workshop on Enabling Local Renewable Energy Entrepreneurship in Bangalor*e:

     - A handbook of recommendations for entrepreneurs on business models for renewable energy-based access to energy schemes in rural areas will be prepared and disseminated.

     - One regional workshop will be organised to disseminate the handbook, discuss best practices and provide advice to practitioners in the field.

- **Activity 2: ADFD.** PACB will administer and assist in the first project cycle of the ADFD. Preparations for the second call will also be initiated.

36. Countries repeatedly highlighted the significance of capacity building as a means of enhancing national competence to develop the renewable energy sector and it is clear that the expectations towards the Agency are high. In continuation of the work carried out in 2011, PACB carries its efforts to support the provision of adequately qualified human resources able to work in the renewable energy sector forward. This necessitates that governments and their agencies, educational and

training institutions as well as private sector and civil society act in concert. This will be achieved through building of a framework and outlook for the Agency's capacity building services addressing the expectations; additional analysis of capacity assets and gaps in countries and determination of ways to bridge the latter; work in the relevant methodologies to carry out assessments and disseminate the knowledge through expert and development networks; analysis of relevant education and training available and outlining ways to increase the provision of such. While doing so, PACB will assist countries in developing their own capacity building interventions, improve connectivity among relevant actors and enhance the learning environment. Seven activities are planned.

37. ***Enhance the understanding of governments about the significance of mainstreaming capacity building.*** Countries worldwide have mandated IRENA to accelerate the uptake of renewable energy, inter alia, through dissemination of information and knowledge and the provision of capacity building services. To keep pace with developments on the ground and to ensure that IRENA services are up-to-date and respond to the specific needs of governments, effective exchange is needed with governments, other governmental and non-governmental organisations, the private sector and renewable energy technology end-user representatives.

- **Activity 1: IRENA Capacity-Building Strategy.** Based on the analytical work carried out in 2011 and consultation with government representatives, private sector actors and civil society, IRENA's Capacity Building Strategy will be finalised and presented to countries and the wider public. The strategy document will map out clear focus areas and describe the modes of implementation and generate an understanding and subsequently acceptance of the Agency's capacity building services. A *Capacity Building Advisory Panel* will also be established to assist with further strategic development. Because of dynamic technological change and regional variation, adaptation requirements relevant to the strategy could arise. Therefore, key functions of this Panel will be to provide recommendations to the Secretariat for the further development of the Capacity Building Strategy and future IRENA Work Programmes. The group will include different stakeholder groups, will be regionally balanced, and will convene once during 2012. The consultative process will ensure the relevance of IRENA as facilitator and advisor in capacity building in renewable energy.

- **Activity 2: Supporting regional and country capacity-building initiatives.** Within the framework of the capacity building strategy development process, gaps were analysed, priority areas of action identified and a practical framework for implementation designed. In 2012 three regional workshops will be convened to translate this work into concrete and replicable activities, carried out in partnership with Members, with the objective of tackling capacity issues affecting the use of renewable energy technologies. A common understanding of priorities and agreement on activities to be carried out by IRENA will increase acceptance and ownership of IRENA capacity building activities in the respective region. This will result in the development of

regional plans of action on capacity building. In 2011 the following regions will be addressed:

o *Pacific Islands:* Building on the insights gained during the IRENA-Pacific High Level Consultative Meeting, held in October 2011, and a study on capacity gaps hindering Pacific countries to expand renewable energy deployment, a plan of action on capacity building activities will be developed in cooperation with local stakeholders. These actions will strengthen the capacity of governments, the private sector and utilities, and civil society to plan, implement and maintain renewable energy utilization. The experiences will be useful also for future activities in the islands, in particular in the Caribbean.

o *West Africa:* Building upon the experiences and progress made in the ECOWAS region regarding development of policies and strategies, in particular with regard to the contribution of renewable energies to provide access to modern energy services. The region as well as the countries aim to conduct capacity building to allow for implementation of the strategies. The collaboration with ECOWAS is a continuation of the dialogue taken up in 2011 and intends to support the region in achieving its renewable energy related goals.

o *Latin America*: Latin America is a region, with many countries rich in fossil energy resources, but at the same time the region is rich in renewable energy resources like wind, biomass and solar. While in some countries economies are growing, causing an increasing need for fuel, and the potential to massively deploy renewables, there still the challenge of lacking access to modern energy services in rural areas. The workshop aims to determine concrete areas of collaboration to build up capacities in the region to accelerate renewable energy uptake.

- **Activity 3: Capacity needs assessments.** Capacity needs assessments are one of the preconditions for the design of tailored and effective capacity-building responses. The KMTC Directorate has started in 2011 to develop a methodology to systematically assess the readiness of countries for renewable energy uptake. PACB will work on the skills and capacity component of this activity. Since 2011 PACB is collaborating closely with the CEM Multilateral Working Group on Solar and Wind Energy Technologies on the analysis of available methodologies with the aim of providing countries with the means to assess capacity assets and needs of a country, as a basis to develop capacity building responses and monitor progress. PACB will ensure that synergies between these two efforts will be realized. For 2012 two in-country Capacity Needs Assessment and two training workshops on how to conduct capacity needs assessments for government officials are planned;

38. *To facilitate education and training.* The renewable energy sector provides increasing job opportunities and a country with an educated workforce is more likely to realize those. However, it has to be noted that renewable energy technologies are evolving fast. Due to that and the wide range of possible

applications at large parts changed or even completely new skills and capacity sets are needed. This poses a variety of challenges to actors in the already complex energy sector. Based on the endeavors undertaken in 2011, PACB will continue its work to build in partnership with other international organizations, multilateral fora, academia and industry associations a one-stop-shop for education and training issues around renewable energies covering all sources and technology applications. Services provided will guide three major target groups: governmental agencies; students, trainees and professionals; and education and training providers and multipliers. Moreover and striving to provide direct coverage of immediate needs, PACB will carry out additional educational and training measures as spelled out below.

- **Activity 4: IRENA Renewable Energy Learning Partnership.** In 2011 the conceptual and preparatory work for building a common platform to enhance the visibility and accessibility of renewable energy education and training (E&T), and to increase its availability was expedited. A platform for the activities of the partnership will be launched in early 2012 and among its first and core services will be the global E&T database, the library, and the pooling of E&T materials and relevant documentation. Through this partnership IRENA will support the development of curricula for different target groups. Partnership and data exchange are at the core of this activity, with, among others, CEM, E+Co, GIZ, NREL, REEEP, and RETScreen.

- **Activity 5: Global Energy Entrepreneurship Programme.** IRENA and E+Co share the vision to train developing country energy entrepreneurs using distance learning, mentoring and hands-on techniques to produce "ready to invest" businesses and investment plans for lenders, investors and donors. These businesses will bring modern energy to the doorsteps of the energy poor in a way that is economically and environmentally sustainable.

- **Activity 6: IRENA Scholarship Programme.** The IRENA Scholarship Programme, carried out in cooperation with Masdar Institute (MT), will be continued. IRENA will award up to 20 promising students with full scholarships and monthly lecture programme on diverse renewable energy topics, delivered by recognised experts in the field.

- **Activity 7: Support training on energy planning and modelling; statistics; patents; and reporting.** To increase the impact of the activities carried out in the sub-programmes 1 and 3, and to address recognised gaps, PACB will provide training sessions on the following issues:

  o *Energy planning and power sector modelling tools:* In 2011, IITC had developed the power sector modelling tools in order to enable countries to effectively use these tools the PACB will conduct a series of trainings. It is envisaged that the models will be further defined and improved.

o *Renewable Energy Statistics*: In the course of its work in 2011 KMTC has ascertained a critical lack of reliable statistical information that would enable fact based policy making. In order to help alleviating this problem PACB will facilitate the provision of training.

o *Patent information for technology application:* In 2011, IITC in cooperation with WIPO has developed a web portal concept aimed at accessing global patents on renewable energy, by technology. In order to enable countries to use the portal effectively, PACB will conduct a series of training sessions.

o *Messaging renewable energies:* Reporting in energy issues si still focused on conventional sources and systems. The target of the training for journalists is to equip reporters with the necessary and accurate facts & figures to convey the message for renewables.

- **Activity 8: Renewable energy training programme.** Under the auspices of IRENA and funded through voluntary earmarked contributions from Germany and the United Arab Emirates, a training programme will be developed and carried out based on the needs of Members. The implementation of this activity is subject to availability of funds.

Outputs

39. During 2012 the following outputs will be delivered in the Sub-Programme 2 Policy Advisory Services and Capacity Building:

    a.   Parliamentary documentation, publications and technical materials:

        i.   Two best practice briefs:

- The role of cities, towns and local governments in enacting renewable energy promotion policies;

- Renewable energy tariff-based support mechanisms.

        ii.   Two policy insights:

- Enabling the sustainable development of islands by the deployment of renewables, in preparation for the 2012 World Renewables Islands Summit in Malta;

- Addressing renewables in the context of Nationally Appropriate Mitigation Actions (NAMAs).

        iii.   IRENA Annual Thematic Renewable Energy Report on Africa.

        iv.   IRENA Study on Policy and Financial Support to Renewable Energy.

        v.   A joint IRENA–IEA comprehensive global database.

        vi.   Publication on Guidelines on Policies and Measures to Overcome Barriers in Rural Electrification.

vii. A report on the links between renewable energy and employment.

viii. Report on Guidelines for Methodologies to Measure Renewable Energy Employment in both Developing and Developed countries.

ix. A report on Renewable Energy and Industry Creation.

x. A report on Financial Flows and Mechanisms in selected Developing Countries.

xi. A handbook of Recommendations for Entrepreneurs on Business Models for Renewable Energy Schemes in Rural Areas.

xii. IRENA's Capacity Building Strategy, mapping out focus areas and modes of implementation.

xiii. One case study on development of a RE university study programme.

xiv. One report on requirements to design curricula for "financing access to energy".

xv. One global database on renewable energy education and training.

xvi. One virtual library of renewable energy education and training materials.

xvii. Learning Platform for the IRENA-E+Co Global Energy Entrepreneurship Programme.

b. Expert meetings and workshops:

i. Collaboration with the European Wind Energy Association's Annual Event in design of concrete action plans replicating successful approaches in the wind energy sector.

ii. Workshop and establishment of an expert group on development of policy frameworks to attract investment in the wind energy sector.

iii. A conference for policymakers on how to overcome barriers to the expansion of renewable energy-based access to electricity programmes in developing countries.

iv. Workshop on Renewable Energy Jobs in the Context of Access to Energy in Developing Countries.

v. Launching of Report on the Links between Renewable Energy and Job Creation an event at the United Nations Conference on Sustainable Development (Rio+20).

vi. Expert meeting on Guidelines for Methodologies to Measure Renewable Energy Employment in both Developing and Developed countries.

vii. Regional workshop on Financial Flows and Mechanisms in Developing Countries.

      viii.   Expert meeting on Upscaling Renewables through New Sources of Funding.

      ix.   Regional workshop for Entrepreneurs on Business Models for Renewable Energy-based Access to Energy Schemes in Rural Areas.

      x.   Administration of the first project cycle of the ADFD and preparations for the second call.

      xi.   One meeting of the Capacity Building Advisory Panel to give recommendations for the strategy and future Work Programmes.

      xii.   Three workshops in the Pacific, West Africa and South America to agree on joint capacity building activities in the respective region.

      xiii.   Two training workshops on how to conduct capacity needs assessments for government officials and two in-Country Capacity Needs Assessments.

      xiv.   Lecture Programme on renewable energy developments and trends for IRENA scholars.

      xv.   Training sessions on energy planning and power sector modeling tools, on patent use to accelerate technology cooperation, statistics and reporting issues.

      xvi.   Design and initiation of a modular renewable energy training programme targeting: Pacific and Caribbean Islands; South America; West Africa; South-East Asia.

   c.   Administration of the first project cycle of the ADFD and preparations for the second call.

   d.   Scholarships: 20 scholarships and support to up to 40 scholars.

Table 12. Resource requirements: Policy Advisory Services and Services and Capacity Building

Category	Resources (in US$)		Posts	
	2011 Appropriation	2012 Estimate	2011	2012
Core Budget				
Post	955,300	1,666,000	9	9
Non-post	1,247,800	2,053,450	-	-
Subtotal	*2,203,100*	*3,719,450*	*9*	*9*
January to March 2011	306,445	-	-	-
Voluntary Contributions				
UAE Government Bid	2,000,000	1,500,000	-	-
Additional Earmarked contribution (Capacity Building) from UAE		500,000		
Additional Earmarked contribution (Capacity Building) Germany	-	500,000	-	-
Subtotal	*2,000,000*	*2,500,000*	*-*	*-*
Total	**4,509,545**	**6,219,450**	**9**	**9**

40. The amount of $3,719,450 would provide $1,666,000 for the continuation of 9 posts (1 D-1, 3 P-5, 1 P-4, 2 P-3, and 2 GS). $2,053,450 for non-post requirements would cover:

    a. Specialised expertise of consultants;

    b. Seconded personnel;

    c. Workshops and expert meetings on policy, macroeconomic aspects of renewable energy, assessment of financial flows and mechanisms, and capacity building;

    d. Travel of staff in support of envisaged activities;

    e. Specialised services related to information technology for the Renewable Energy Learning Portal;

    f. Rental and maintenance of data processing equipment;

    g. Books and technical publications.

41. The Voluntary Contribution resources of $1,500,000, to be funded from the UAE bid and an additional earmarked contribution of $1,000,000 from the UAE and German governments ($500,000 each), will be used to implement the outputs outlined in paragraphs above.

Sub-programme 3: Innovation and Technology

Resource requirements from the German voluntary contributions: $ 4,000,000

Table 13. Objectives, expected accomplishments and indicators of achievement

Objective: The objective of IITC is to provide governments the means for an accelerated technological change and the use of innovation to transition to renewable energy based systems.	
Expected accomplishments in 2012	**Indicators of achievement**
(a) Framework for technology policy support to governments for accelerated renewable energy development and deployment designed.	i. Scenario and strategy analysis results used as a basis for renewables action plans in Africa and Pacific region. ii. Innovation, road-mapping and technology assessment integrated toolbox deployed in member countries. iii. Stakeholders consider IRENA an important source of information for renewable energy technology advice and use IRENA tools and advice in their renewable energy technology and innovation strategies.
(b) Increased understanding of cost reduction potential and wider use of standards to accelerate renewable uptake.	iv. Widely accepted study laying the basis for analysis of current cost of technology. Use of analysis by countries for informed decision making. v. Existing renewable energy standards, needs and gaps assessed. Countries engaged in enhancing their renewable energy standards and labels.
(c) Strengthened partnerships and cooperation with relevant actors in RE fields.	vi. Active participation in national and regional discussions. Enhanced institutional embedding in various renewable energy networks.

External factors

42. The Sub-programme will achieve its objectives and expected accomplishments as long as voluntary funding is available. The readiness of international organisations, the private sector and the academic and scientific community to share information and partner with IRENA is of equal importance.

43. Building on the progress made in 2011, IITC will continue to pursue its stated goal of "providing the governments the means for an accelerated technological change and the use of innovation to transition to renewable energy based systems". This will be achieved through analysis of renewable energy technology policies; dissemination of information and increased awareness; technologies and equipment overview and assessment of success-failure factors; improved relevant knowledge and technology cooperation, and joint RD&D and provision of information on the development and deployment of national and international technical standards in relation to renewable energy. A major mechanism for dissemination and exchange of technical knowledge will be through the industry and expert networks established under the Knowledge Management and Technology Cooperation Sub-programme, complemented by the activities of the Policy Advice Services and Capacity Building Sub-programme.

44. ***Assist governments on request in energy planning for more efficient and effective renewable energy technology and innovation strategies.*** To assist governments gain a better understanding of how renewable energy technologies can help them meet their medium- and long-term energy policy goals, IITC will continue with its strategic and analytical work on renewable energy technology and innovation. Two activities are planned for 2012:

   - **Activity 1: Scenarios and Strategies to Support Renewables Readiness.** Building on the work to date, the development of scenarios and strategies will continue in the context of renewables readiness for African countries. The report on key renewable energy technology issues for Africa will be finalised to assist the countries in identifying technologies that are relevant to them. The power sector modelling tools developed in 2011 will be disseminated, and a combination of energy planning and modelling training will be undertaken, with the support of PACB. In cooperation with the University of Cape Town, a special session on renewables will be held at the international energy modelling workshop. The work on scenarios and strategies will be broadened beyond Africa to the Pacific countries and to Latin America and the Caribbean. This work will support the renewables readiness analysis of KMTC and the Africa results will feed into the annual thematic renewables report.

   - A follow-up workshop on the impact of the existing and emerging factors likely to influence energy scenarios for the period 2015-2050 and their possible implications for renewable energy outlooks and policy needs will also be organised in cooperation with IEA-RETD. As a result of these undertakings, Member Countries will gain a much better understanding not only of the role of technology in meeting their energy goals, but also of the investment needs and the time path for an energy transition. The regional scope with country detail will help identify possible areas for cooperation that would enhance the efficiency and effectiveness of national policies.

- **Activity 2. Strengthening Members' Technology & Innovation Strategies.**

    - *Patents and licensing.* In 2011, in cooperation with WIPO, a new portal concept for access to renewable energy patent information was developed. In 2012, the focus will be on making this resource accessible to Member Countries. This will include three workshops aimed at dissemination of information, identification of additional needs and possible gaps, and training on how to use this information for technology cooperation and development. This work will be carried out with PACB in order to benefit from its networks and expertise.

    - *Technology roadmapping.* In 2011, work began on a technology roadmap for using renewables in manufacturing industries. In 2012, the emphasis will be on dialogue with stakeholders to assess the viability of the proposed approaches and to develop an effective implementation strategy. In cooperation with ICLEI, a roadmap on the use of renewable energy resources in cities will also be developed. This roadmap will assess not only the use of renewable energy resources, but also the design of city energy systems in a way that is conducive to the use of renewable energy produced elsewhere.

    - Work will be begun on analysing electricity storage and smart grids to determine how electricity from different renewables can be fed into electricity systems; the goal of this work is to develop strategies for reliable and affordable systems solutions for electricity systems with different supply and demand characteristics. This work will be carried out in cooperation with system operators, utilities and research centres.

    - IRENA will work with the United Nations system and other stakeholders in elaborating and operationalising the target of 30% renewables for 2030 as a part of the year on Sustainable Energy for All, 2012. In this context, a roadmap would examine the elements necessary to operationalise this target, including a time path, financial planning, and both sectorial and country detail. IRENA will assist the UN High Level Group on Sustainable Energy for All in this endeavour, which will feed into the Rio+20 process, various UN initiatives and the work of different UN entities.

    - *Technology application.* In 2011, IITC analysed the potential for bioenergy technology application from Brazil to Africa, to facilitate broader sharing of technologies and related experience. In 2012 emphasis will be given to South-South technology cooperation as a means of accelerating application of Asian technologies in Africa and the Pacific, with the emphasis on solar water heaters, biogas installations, wind turbines and PV home systems. This work will be done jointly with KMTC.

    - A number of countries have sought assistance from IRENA to help translate their renewable energy potential and strategies into a framework for technology funding. To address this need, the agency can assist by

developing the tools that help in project development. These tools would include an assessment of existing project programming approaches, including those used by the Global Environmental Facility, the Program on Scaling-Up Renewable Energy in Low Income Countries (SREP) and the Climate Technology Fund. Following an analysis of the available information, key project documentation and project management practices would be outlined. This would include barrier analysis, quality and technology specifications, methodologies for financial evaluation of projects, monitoring, and reporting and verification frameworks. A technology-specific checklist and methodology would be developed that could be used for project development by governments or project developers in discussions with financing institutions. As the private sector plays a pivotal role in investment, it is also essential for the policy framework to allow for economically viable business operations by building a business case. Identification of common obstacles and possible solutions would therefore be provided. This activity will help countries to develop strategies to access investment for accelerated deployment of renewable energy and will also complement PACB activity on business models for rural renewable energy deployment.

- *Success criteria for innovation policies.* In 2011, work on the assessment of renewable energy innovation policy frameworks started. In 2012, the insights gained will be discussed with policymakers to ascertain their relevance for practical decision making in different regions and countries. A workshop will be held to assess needs and gaps, followed by the design of a strategy with respect to filling these.

- *Environmental impact assessment of renewables.* Renewable energy solutions are not without environmental impacts, and an inventory of the work done in this context will be compiled. IRENA will continue its work with UNEP/CMS on the impacts of renewable energy projects on migratory species. Significant data collection has also been done for the purpose of environmental life cycle assessment of products and services for environmental labelling and regulation and the greening of industry, including renewable energy. Finally, material flow data will be collected to enable analysis of whether the massive deployment of renewables could lead to new bottlenecks in materials supply, and provide possible solutions to the problems identified. This work will feed into the KMTC mitigation dialogue platform to help countries better understand the environmental impacts of renewable energy projects and how to mitigate them.

45. ***Facilitate a better understanding of cost and the potential for cost reductions through technology development and market deployment to accelerate renewables uptake.*** Activities will provide governments with objective and current information on the status of, and prospects for, renewable energy technologies in terms of cost, availability and supporting infrastructure needs. Four activities are planned:

- **Activity 1: Cost status and outlook**. In 2011, IRENA began collecting country-specific cost data for renewable power generation. In 2012, the information collected will be validated against country-specific data. In addition, cost-specific data on transportation will be added to the set of technologies under consideration. A workshop will be held to assess needs and gaps and develop a strategy on how to address them. With this information, policy makers will be better able to assess the cost-effectiveness of options and calculate investment and financing needs and priorities.

- **Activity 2: RE sector standards, test procedures and best practices.** Smooth operating markets require transparency which can be facilitated, inter alia, by the introduction of equipment labels and quality standards. Application of standards in turn helps to lower transaction cost and project appraisal needs, as well as optimise the use of renewable energy. In 2012, the cooperation with international standardisation bodies such as the IEC and ISO will be further enhanced. This cooperation will be expanded to include regional and national standardisation bodies.

- **Activity 3: Provision of objective and up-to-date technology data.** In cooperation with the Energy Technology Systems Analysis Program of the International Energy Agency (IEA-ETSAP), IITC will continue to develop renewable technology factsheets on best-practice renewable energy technology use for different types of end use. Technology factsheets will provide concise, policy-relevant, objective information able to assist in the development of national renewable energy strategies and the evaluation of related project proposals. Ten factsheets are expected to be completed in 2012.

- **Activity 4: Assessment of early opportunities and niche markets.** In 2012, IITC will continue to contribute to the Agency wide efforts to assist island states in the uptake of renewable energy. In this context, IITC will development of a methodology for the assessment of RE power systems in islands. This work will include Pacific Island States, as well as the Mediterranean and the Caribbean. A conference will be held in Malta to discuss the development of renewable energy-based systems for islands. Members will benefit from a better understanding of early opportunities to achieve high shares of renewables in power generation. The insights gained in the islands-related work could also be used for other mini-grids.

- ***Strengthened partnerships and cooperation with relevant actors in renewable energy fields.*** Cooperation and partnerships with international organisations, the private sector and the academic and scientific community to share information and partner with IITC is of critical importance. IITC will continue to make formal and informal collaborative arrangements with a variety of partners. This will include the assessment of potential for working with technical centres, which will be undertaken in collaboration with KMTC. These arrangements will enable the Agency to have access to wide sources of information and assistance which, in turn, will strengthen its ability to assist countries in their efforts to accelerate the uptake of renewable energy.

Outputs

    a.   Parliamentary documentation, publications and technical materials:

        i)   Africa scenarios and strategies final report;

        ii)   Pacific scenarios and strategies working papers;

        iii)   Latin America data collection;

        iv)   Second IRENA-RETD workshop on renewables outlook;

        v)   IRENA report on renewables targets as input to UNSG High Level Group and RIO+20;

        vi)   IRENA report on technology dissemination from Asia to Africa;

        vii)   Toolbox to facilitate project development and design business models;

        viii)   Working paper on environmental impact assessment of renewables energies;

        ix)   Costing renewable power generation final report;

        x)   Costing renewables solutions for transportation report;

        xi)   Ten IRENA-ETSAP factsheets on different technologies.

    b.   Expert meetings and workshops:

        i)   Three workshops for patent information search and use;

        ii)   Two workshops on Industry roadmapping;

        iii)   Cities roadmapping segment at ICLEI conference and workshop;

        iv)   Workshop to discuss international innovation policies;

        v)   Workshop on gaps and needs analysis with respect to renewable energy sector standards;

        vi)   World Renewables Islands Summit, Malta.

Table 14. Resource requirements from the German voluntary contributions: Innovation and Technology

Category	Resources (in US$)		Posts	
	2011 Appropriation	2012 estimate	2011	2012
Voluntary Contributions				
German Government Contribution	3,100,000	4,000,000	10	10
Total	**3,100,000**	**4,000,000**	**10**	**10**

46. The German contribution of $4,000,000 would provide $1,586,000 for the continuation of 10 posts (1 D-1, 3 P-5, 1 P-4, 3 P-3 and 2 GS) and $2,414,000 for non-post requirements, including:

    a.   Specialised expertise not available in IRENA for the activities related to scenarios and strategies, innovation and technology activities, and markets;

    b.   Expert meetings; roadmapping of the use of renewable energy resources in cities; cost status and outlook; collection of country-specific cost data for renewable power generation, data review;

    c.   Travel of staff in conjunction with the expert meetings and other activities;

    d.   External printing and workshop documentation including technical publications and materials;

    e.   Office operating costs;

    f.   Rental and maintenance of data processing equipment.

D. Administration and Management Services

Core Resource requirements: $ 3,701,850
Voluntary Contributions: $ 1,119,850

47. The Division for Administration and Management Services (AMS) will continue to provide IRENA with administration and management services in support of implementing its mandates. The core objectives and responsibilities of the Division are to ensure that the Agency has the necessary infrastructural, human and technical assets in place, and is well positioned to realise its strategic objectives in the short, medium and longer term.

48. In 2012, the Division will continue to develop administration strategies, policies and procedures, as well as to enhance their implementation. The Division will define standard levels and ensure that the quality of support services provided by outside contractors is of the highest possible level. It will ensure that there is general satisfaction from all stakeholders, take action on complaints, identify sources of dissatisfaction and take corrective actions.

49. The Division is composed of the following units: Finance and Budget; Human Resources; Information and Communications Technology; Procurement and General Services. Managerial and financial authority is exercised to the level delegated by the Director-General. Through its technical units, the Division will aim to ensure that all new or revised management policies, procedures and internal controls meet or exceed the expectations of Members, as reflected in the Statute, the decisions of the governing bodies, the relevant regulations and rules, and reviews by audit and oversight bodies.

50. The Division will also closely monitor oversight body recommendations, identify material weaknesses and ensure that remediation plans are developed. As the Division is also responsible for improving management practices throughout the Agency, it will promote accountability and management evaluation, with the aim of improving work processes and procedures. This will enable continuous management improvement, effective implementation of management policies and new initiatives to empower the staff, and enhance the ability of staff to carry out work more effectively.

51. The division also facilitates the coordination with the host country, for the management and operation of the existing physical facilities; the preservation and servicing of records with continuing value in support of the Organisation's operational, informational, legal and other needs. The Office is also responsible for the management of   mail operations.

52. The Division will also provide administrative and/or technical support to the governing, as well as audit and oversight bodies. The Division will provide coordinating and oversight function of the business process and needs analyses, and the preparations for the implementation of an enterprise resource planning system (ERP) to consolidate the management of all financial, human and physical resources under a single integrated system for the entire Agency. This function will

be exercised in a manner that minimises the burden on the Agency and its resources, and mitigates organisational and managerial risks.

53. The Division represents the Director-General, as requested, on administrative and management matters in relation to governing bodies and monitors emerging management issues throughout the Agency. Within its delegated authority, the Division is responsible for maintaining close liaison with host country authorities and Members on all substantive aspects of financial, budgetary, personnel and common support services matters. In this function and in close coordination with the host country, the Division will continue to manage the development plans for the Agency's new Headquarters complex in Masdar.

Human Resources

54. The Office of Human Resources plays a strategic role in ensuring human resources capacity to the Agency's overall management to meet its goals and enable it to deliver its mandates. The Office of Human Resources provides the framework to enable the Agency to attract, develop and retain a wide spectrum of talent, taking into account the necessity of securing the highest standards of efficiency, competence and integrity, with due regard to the importance of recruiting staff primarily from Member States and the adequate representation of developing countries with emphasis on gender balance. It participates in strategic workforce planning that aligns with organisational needs.

55. In accordance with the Staff Regulations and Staff Rules, the Office continues to develop human resources policies and systems that are in line with the UN common system and global human resources best practices. In addition, the Office of Human Resources provides expert advice to managers and staff on all aspects of human resources, staff administration; monitors performance; administers staff benefits and entitlements and coordinates with other Offices (i.e. Finance, Information & Communications Technology, Procurement and General Service) to ensure the implementation of related activities.

56. In 2012 as a part of ERP enterprise implementation, the deployment of a human resources information system will integrate all aspects of human resources and financial operations. This will ensure that Human Resources transitions from a transactional to a more strategic, dynamic office. The Office will also establish a cost-effective and administratively efficient social security scheme for all staff.

57. The Office of Human Resources will coordinate and monitor training and development activities across the Agency and ensure the availability of adequate resources for appropriate staff learning and development activities.

Table 15 Objectives, expected accomplishments and indicators of achievement

Objective: The objective of Human Resources is effective human resources management	
Expected accomplishments	**Indicators of achievement**
(a) Continue the development and implementation of human resources policies and procedures in line with the UN common system and global human resources best practices.	i. Enhanced and updated human resources manual to reflect the evolving requirements of the Agency. ii. Assessment and implementation of approved business processes through a human resources information system.
(b) Standard HR practices and procedures implemented in line with Common System policies and approved business processes.	iii. Unified and consistent HR administration and operations.
(c) Help ensure that IRENA has competent and qualified staff.	iv. Selection process is competitive and transparent.
(d) IRENA maintains gender balance.	v. Gender ratio of staff at organisational and management levels.
(e) IRENA's staff are geographically diverse.	vi. Number and geographical distribution of nationalities represented in the Agency.
(f) Effective management of talent by ensuring retention and career development.	vii. A system of performance management that rewards personal and organisational performance and addresses and rectifies under performance.
(g) Accurate and timely day-to-day human resources administration across all offices.	viii. Staff benefits and entitlements are processed accurately and in a timely manner.

Outputs

58. During 2012, the following final outputs will be delivered:

   a. A complete and user-friendly Human Resources Policy & Process Manual and issuance of administrative directives as required to reflect the evolving needs of the Agency. Defined conditions for entitlements as established in the Staff Regulations and Rules; assessment and implementation of approved business processes to introduce simplified, more efficient and effective procedures, related forms, templates and standard operating procedures.

   b. Complete package and established process for induction of new staff.

   c. On-line e-recruitment system, including standardised vacancy notices and applicants' profile registration system to announce employment opportunities.

   d. Administration of contracts for different contractual arrangements to meet the short, medium or longer term requirements of the Agency, including fixed-term and temporary appointments; loans, general temporary assistance, consultancy and service contracts.

   e. Improved response time to staff members' queries.

   f. Provision of staff development opportunities by coordinating and monitoring training activities across all programmes to ensure integration and consistency of training and staff development activities (as above)..

   g. High quality and attractive internship programme.

   h. Formal performance appraisal system in support to managers in effectively managing performance of staff; appeals and administration of justice policies.

Procurement

59. The main objectives of the Procurement Office include: ensuring continued efficient, effective and high quality support in the areas of procurement, facilities management, archives, mail operations and records management.

60. In 2012, the Procurement Office will focus of institutionalising policies, systems and processes that would ensure compliance with the applicable regulations and rules, and the highest standards of efficiency, transparency and accountability.

Table 16. Objectives, expected accomplishments and indicators of achievement

Objective: The objective of Procurement is to ensure efficient, effective and high quality support in the areas of procurement and facilities management.	
Expected accomplishments	**Indicators of achievement**
(a) Transparent, effective, and efficient procurement of goods and services.	i. Full compliance with procurement requirements.
(b) Developing an accurate, systematic and timely reporting process and providing users with clear and transparent reporting on a consistent basis.	ii. A positive audit opinion of the Board of Auditors on procurement activities.

Outputs

61. During 2012, the following final outputs will be delivered:

    a.   New Procurement Policy and Processes manual;

    b.   Maintenance of vendor database;

    c.   Technical and substantive archives and records management;

    d.   Asset and inventory services: efficient and effective management of all non-expendable property and equipment;

    e.   Mail operations services: provision of means of transmitting official correspondence and material through the worldwide pouch and postal service and the messenger service within the Headquarters complex;

    f.   Liaising with host country on building custodial services;

    g.   Procurement services: posting of procurement plans and upcoming procurement opportunities; preparation and issuance of tenders.

Finance

62. The Finance Office is responsible for the administration and ensurance of compliance with the IRENA's Financial Regulations and Procedures as well as the relevant legislative mandates. The office will apply accounting policies and procedures will be in accordance with these standards in order to ensure sound financial management of all resources made available to the Agency. Appropriate measures and systems will be instituted for their effective and efficient use, proper and transparent accountability and regular reports to the appropriate authorities and stakeholders. The extensive review and re-engineering of the business processes to be completed in 2011 will prepares the necessary groundwork for the implementation of an Enterprise Resource Planning system and the gradual progression in the adoptation of the International Public Sector Accounting Standards (IPSAS); two core component in the successful to the achievement of these objectives.

63. The Office's activities will put emphasis on the efficient delivery of support to the client units and other stakeholders. This would particularly apply in the continuous improvement of process and systems for the processing of contributions, disbursements and obligations. A relevant and scalable financial information system will be established to provide both internal and external stakeholders a reliable basis of informed assessments of the allocation and utilisation of resources. This will be built upon a Chart of Account that is tailored to record the utilisation of organisational resource in a manner that could be used to provide measurement of achievements and objectives at the organisational and sub-programme levels.

64. The Finance Policy Manual will be reviewed and updated. The outcome will serve to provide the robust framework for the effective application of the financial procedures and processes as well as provide a service level that will facilitate the achievement of goals and objectives of IRENA and its sub-programmes.

Table 17. Objectives for the expected accomplishments, indicators of achievement and performance measures

Objective: The objective of Finance is effective, efficient and transparent financial management	
Expected accomplishments	**Indicators of achievement**
(a) The implementation of ERP system and other automation as is relevant to institute more efficient integration and controls.	i. Migration of majority of the processes into the ERP system
	ii. Absence of significant adverse audit observations relating to financial management and control as a result of use of an integrated system
	iii. Real-time access to reliable and relevant information for decision-making on allocation and utilisation of resources

(b) Developing an accurate, systematic and timely reporting process and providing stakeholders with clear and transparent reporting on a consistent basis.	ii. A positive audit opinion of the Board of Auditors that reflects satisfactory compliance with IRENA Financial rules and regulations as well as the relevant accounting standards such as IPSAS to a level that is appropriate for the organisation's stage of growth as an institution.
(c) Ensuring the prudent investment of funds and improving cash management actions.	iii. Maintenance of a record that reflects preservation of capital, availability of adequate liquidity to meet all operating requirements and adequate yields or returns on investments
(d) Delegation of authority on administrative actions with financial implications.	iv. A positive audit opinion of the Board of Auditors that reflects satisfactory compliance with IRENA Financial Regulations and Procedures and regulations, the approved Delegation as well as improvements in operational efficiency of the Finance Office.

Outputs

65. During 2012, the following final outputs will be delivered:

   a. Establishment and maintenance of an IPSAS-compliant chart of accounts that is appropriate for the organisation's stage of growth as an institution;

   b. Institution of a client oriented routine reporting schedule that serves the needs of stakeholders. This would be in addition to the mandated reports such as the annual financial statements. These reports would be based on performance indicators for the achievement of organisation's goals and objectives.

   c. Major review and update of business processes and the implementation of the ERP based on the resulting processes.

   d. Adaptation of the available staffing structure to facilitate the provision of essential support to the sub-programmes

Information and Communications Technology

66. The Information and Communications Technology (ICT) office provides a broad range of solutions and services to IRENA offices by enhancing technology to achieve the work programme targets. In 2012, ICT will strengthen service delivery operations aimed at enabling staff members, Members and other stakeholders to connect and share knowledge continuously and improve the high-end secure connectivity to IRENA's remote offices. ICT strives to improve work efficiency with the newest tools, technologies and applications to increase transparency and accountability in the Organisation.

67. Working closely with sub-programmes, technical solutions will be developed to set up frameworks collaboratively to meet the information technology needs, including suitable internet connectivity, managed and secured infrastructure supported by wireless network, printing, voice and audio-video technologies to enable personnel and programme partners to connect and share knowledge.

68. ICT manages one virtual office environment integrating information and communication of the two offices in Abu Dhabi and Bonn. Connectivity is established via a site-to-site, high-speed secured link in a cost-effective, scalable and secured manner for optimal information and knowledge exchange between the two offices.

69. ICT acts as a focal point for IRENA's basic and strategic information technology requirements, and takes an active role in building the IT design, specification, branding, installation, implementation and operationalisation. It implements infrastructure, software applications and security health checks, as well as latest anti-virus tools, patches and upgrades for efficient and secured system. The office also provides regular data backup to ensure all users and operational data are secured.

Table 18. Objectives, expected accomplishments and indicators of achievement

Objective: The objective of Information and Communications Technology is to provide a broad range of solutions and state-of-the-art services that enable personnel to connect and share knowledge effectively and continuously and to build applications frameworks and setups to facilitate software requirements in support of these functions	
Expected accomplishments	**Indicators of achievement**
(a) Automation of Human Resource, Finance and Procurement (ERP Application).	i. Deployment of ERP applications for Human Resource, Finance and Procurement. ii. Mapping and validation of approved business processes into ERP applications. iii. Training of staff members and implementation.
(b) Enhanced and improved website features and upgrade of delegates area.	iv. Provision of new features for general public to present RE information. v. Upgrade of delegates' area for efficient communication and collaboration among Member s.
(c) Improved office productivity, internal communication and automation of business processes.	vi. Provision of new features to intranet portal. vii. Integration of employee self-services for business processes available in ERP and introduction of workflows.
(d) Enhancement to hardware infrastructure and security.	viii. Improvement of hardware infrastructure and security to facilitate the remote offices.

Outputs

70. During 2012, the following final outputs will be delivered:

    a. Deployment and implementation of ERP application mapping the approved business policies and processes for Human Resources, Finance and Procurement;

    b. Provision of new features for general public for RE information and improved delegates' area for efficient communication and collaboration among Members;

    c. Integration of employee self-services for business processes and workflows to intranet portal;

d. Enhanced hardware infrastructure for high-end connectivity and security to and for remote offices.

Table 19. Resource requirements: Administration and Management Services
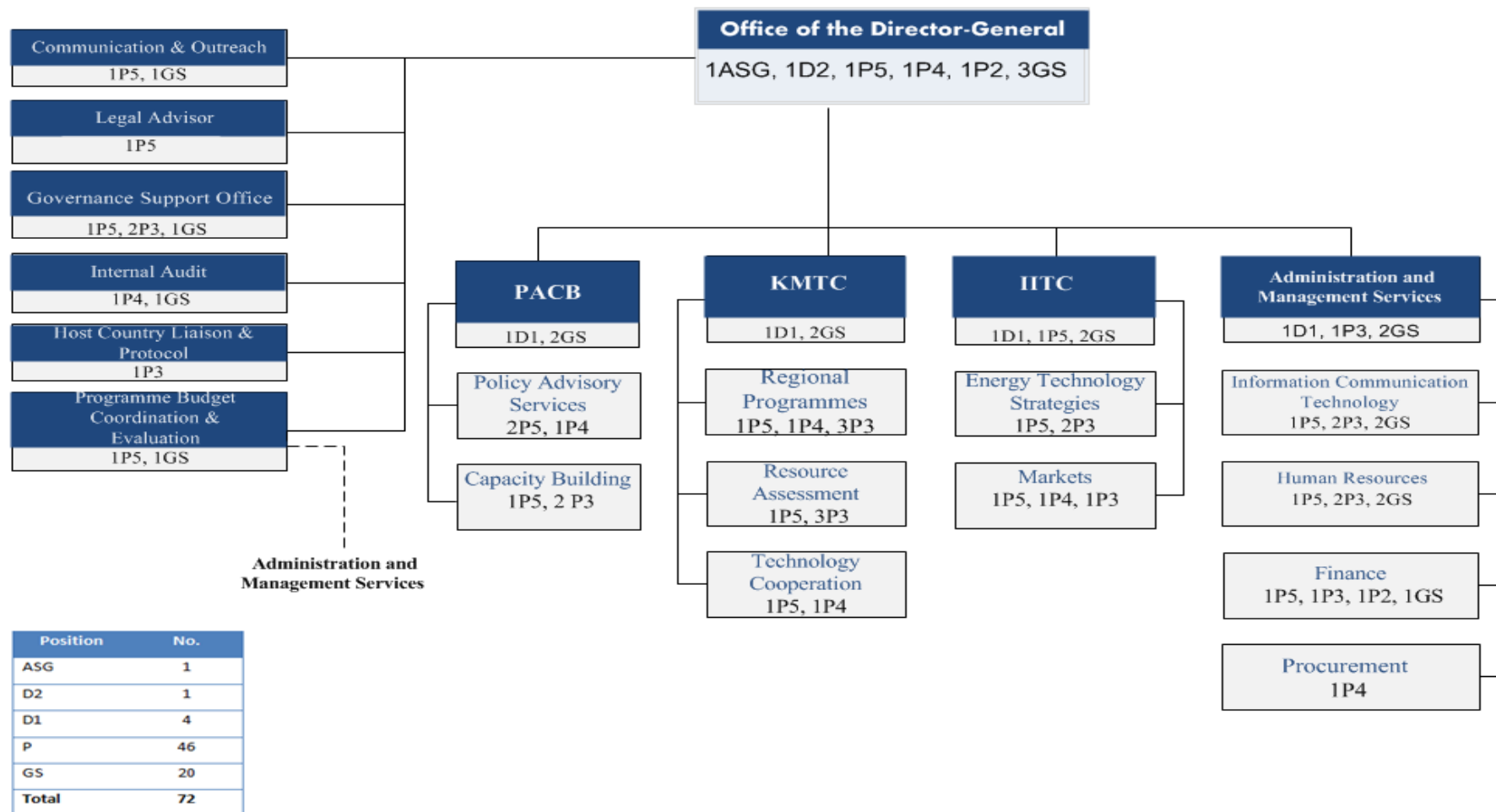
Category	Resources (in US$)		Posts	
	2011 Appropriation	2012 Estimate	2011	2012
Core Budget				
Post	1,877,600	2,641,000	19	19
Non-post	1,841,850	1,060,900	-	-
Subtotal	*3,719,450*	*3,701,900*	*19*	*19*
Voluntary Contributions				
UAE Government Bid	-	1,119,900	-	-
Subtotal	*3,719,450*	*1,119,900*	*-*	*-*
Total	**3,719,450**	**4,821,800**	**19**	**19**

71. The overall level of resources for Administration and Management Services under the core budget amounts to $3,701,900, providing $2,641,000 for the continuation of 19 posts (1 D-1, 3 P-5, 1 P-4, 6 P-3, 1 P-2 and 7 GS) including the reclassification of 1 P-2 to P-3 and $1,060,900 for non-post requirements including:

a. General temporary assistance;

b. Seconded personnel;

c. Specialised expertise not available in IRENA in the areas of finance, human resources and procurement;

d. Travel of staff to attend training programmes and to conduct an assessment of the information technology and financial systems requirements of the Bonn office;

e. Contractual services related to information technology requirements including proprietary software, email security, telecommunications services, equipment warranties and upgrade of hardware infrastructure;

f. Office supplies and materials.

72. Voluntary contributions of the UAE totalling 1,119,900 would provide resources, including in-kind contributions, to support the IRENA's information technology requirements including the annual cost of IT support and data center hosting and internet connectivity.

ANNEX I: IRENA Organisational Structure and Post Distribution for 2012

Position	No.
ASG	1
D2	1
D1	4
P	46
GS	20
Total	72

ANNEX II: IRENA Scale of Contributions for 2012

Scale of Assessment[6]

Members	UN Factor	Adjusted Contribution	Assessed Contribution to IRENA 2012 (US$)
Albania	0.010	0.014%	2,278
Antigua and Barbuda	0.002	0.003%	456
Armenia	0.005	0.007%	1,139
Australia	1.933	2.752%	440,280
Bangladesh	0.010	0.010%	1,600
Belarus	0.042	0.060%	9,566
Bosnia and Herzegovina	0.014	0.020%	3,189
Brunei Darussalam	0.028	0.040%	6,378
Bulgaria	0.038	0.054%	8,655
Cameroon	0.011	0.016%	2,505
Cape Verde	0.001	0.001%	228
Croatia	0.097	0.138%	22,094
Cyprus	0.046	0.065%	10,477
Czech Republic	0.349	0.497%	79,492
Denmark	0.736	1.048%	167,639
Djibouti	0.001	0.001%	228
Dominican Republic	0.042	0.060%	9,566
Ecuador	0.040	0.057%	9,111
Eritrea	0.001	0.001%	228
European Union[7]	-	-	-
Fiji	0.004	0.006%	911
Finland	0.566	0.806%	128,918
France	6.123	8.716%	1,394,637
Gambia	0.001	0.001%	228
Georgia	0.006	0.009%	1,367
Germany	8.018	11.414%	1,826,262
Grenada	0.001	0.001%	228
Iceland	0.042	0.060%	9,566
India	0.534	0.760%	121,629
Israel	0.384	0.547%	87,464
Japan	12.530	17.837%	2,853,962
Kenya	0.012	0.017%	2,733
Latvia	0.038	0.054%	8,655

[6] Pursuant to Article XII/A (1) of the IRENA Statute, this scale includes Members only.
[7] Pursuant to the decision 2010/385/EU of the Council of the European Union of 24 June 2010, the European Union as a Member of IRENA shall pay an annual contribution to the Agency. The EU has contributed US$ 686,680.97 in 2011.

Members	UN Factor	Adjusted Contribution	Assessed Contribution to IRENA 2012 (US$)
Lesotho	0.001	0.001%	228
Liechtenstein	0.009	0.013%	2,050
Lithuania	0.065	0.093%	14,805
Luxembourg	0.090	0.128%	20,499
Malaysia	0.253	0.360%	57,626
Maldives	0.001	0.001%	228
Mali	0.003	0.004%	683
Malta	0.017	0.024%	3,872
Marshall Islands	0.001	0.001%	228
Mauritius	0.011	0.016%	2,505
Mexico	2.356	3.354%	536,627
Monaco	0.003	0.004%	683
Mongolia	0.002	0.003%	456
Montenegro	0.004	0.006%	911
Mozambique	0.003	0.004%	683
Nauru	0.001	0.001%	228
Netherlands	1.855	2.641%	422,514
New Zealand	0.273	0.389%	62,181
Nicaragua	0.003	0.004%	683
Niger	0.002	0.003%	456
Nigeria	0.078	0.111%	17,766
Norway	0.871	1.240%	198,388
Oman	0.086	0.122%	19,588
Palau	0.001	0.001%	228
Philippines	0.090	0.128%	20,499
Poland	0.828	1.179%	188,594
Portugal	0.511	0.727%	116,391
Qatar	0.135	0.192%	30,749
Republic of Korea	2.260	3.217%	514,761
Republic of Moldova	0.002	0.003%	456
Romania	0.177	0.252%	40,315
Samoa	0.001	0.001%	228
Senegal	0.006	0.009%	1,367
Serbia	0.037	0.053%	8,428
Seychelles	0.002	0.003%	456
Sierra Leone	0.001	0.001%	228
Slovakia	0.142	0.202%	32,343
Slovenia	0.103	0.147%	23,460
South Africa	0.385	0.548%	87,692
Spain	3.177	4.523%	723,626
Sri Lanka	0.019	0.027%	4,328

Members	UN Factor	Adjusted Contribution	Assessed Contribution to IRENA 2012 (US$)
Sudan	0.010	0.010%	1,600
Swaziland	0.003	0.004%	683
Sweden	1.064	1.515%	242,348
Switzerland	1.130	1.609%	257,380
The former Yugoslav Republic of Macedonia	0.007	0.010%	1,594
Togo	0.001	0.001%	228
Tonga	0.001	0.001%	228
Tunisia	0.030	0.043%	6,833
United Arab Emirates	0.391	0.557%	89,058
United Kingdom of Great Britain and Northern Ireland[8]	6.604	9.401%	1,504,195
United States of America	22.000	22.000%	3,520,000
Uruguay	0.027	0.038%	6,150
Total IRENA Budget		**100.000%**	**16,000,000**

This calculation is based on the United Nations General Assembly Resolution 64/248 on "Scale of assessments for the apportionment of expenses" of 24 December 2009[9]. It has been adjusted to reflect States Members of IRENA.

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[8] The United Kingdom of Great Britain and Northern Ireland has officially requested to be included in the scale of assessment for 2012 as a Member while affirming that it will have completed the ratification process prior to the second session of the Assembly.

[9] In force for the period 2010-2012.