

INTERNATIONAL RENEWABLE ENERGY AGENCY

Second meeting of the Council

Abu Dhabi, 13 – 14 November 2011

Proposed Medium-term Strategy of IRENA

2012-2015

Report of the Director-General

The proposed Medium-term Strategy of IRENA has been prepared in accordance with Assembly decision A/1/DC/8.

I. Introduction

1. Two years after its founding conference and an initial preparatory period, before its first Assembly in April 2011, IRENA now stands at the forefront of an exciting global opportunity to promote a step change in renewable energy technology deployment. IRENA's founding statute sets out Agencies objectives as promoting the widespread and increased adoption and sustainable use of all forms of renewable energy, taking into account national priorities, and the contribution of renewable energy to environmental preservation. Following its arrival as a new international organization, IRENA in its first year can proudly claim to already have committed or executed 82% of its 2011 Work Program. Past significant accomplishments provide the foundation for future goals and this has served to put IRENA on the map and position it well among its large network of partners. Now, IRENA sits at the start of its next horizon.
2. Accelerating trends of environmental degradation and climate change associated with fossil energy as well as the economic and market conditions which continue to drive up food and energy prices are generating more attention about the importance of energy: its impact on growth, on distributional issues through access; its impact on macroeconomic stability as a result of price volatility and energy security concerns; and, of course, the link between energy mix and climate change. Energy issues increasingly are at the forefront of political discourse with a growing consensus that the decreasing costs of renewable energy technologies could help put the planet on a more sustainable footing, generate new economic opportunities and leapfrog conventional technologies to empower the "energy poor."
3. To focus IRENA's energies, especially because of its limited resources, and in pursuance of the mandate of the Assembly, the Director-General has prepared the attached proposed Medium-term Strategy for the consideration of the Council and the Assembly. The objective of the proposed Medium-term Strategy is to concisely describe what IRENA's vision, objectives, role and commitments will be as it continues to become a more results-driven and effective organization over the next four years. In addition to the proposed Medium-term Strategy, IRENA has identified a set of key improvement opportunities that will help to mitigate implementation risk to future work programs.
4. Five major categories of challenges currently inhibit the large-scale deployment of renewable energy technologies: a lack of coherent market information and intelligence, technology related issues and lack of enabling infrastructure, the need for increased public awareness and acceptance of renewable energy, complex regulatory issues and an incomplete definition of the business case for renewable energy (given its higher initial costs in many cases). Addressing these challenges will be critical to mobilizing private and public capital and IRENA's should seek to strengthen the enabling conditions for this investment, including through facilitating knowledge of and access to sources of financing.
5. To respond to these challenges, the changing needs of IRENA's stakeholders and the opportunity to have impact, IRENA's vision for its Medium-term Strategy is: to foster an

enabling environment, in both developed and developing countries, to promote the rapid deployment of renewable energy technologies and the renewable energy business case.

6. Founded on fundamental IRENA values, IRENA will focus its efforts on three strategic pillars which fulfill this vision and become a:
 - Global voice for renewable energy and technologies;
 - Renewable energy and technology advisory resource for developing countries;
 - Network hub of country, regional and global programs.

II. A Brief Review of Progress

7. IRENA formally became a full-fledged international organization in April 2011 and now stands at the forefront of an exciting global opportunity to promote a step change in renewable energy technology deployment. IRENA, as a unique and universal intergovernmental body, whose Statute has been ratified by countries around the world, is well-positioned and plans to forge a leadership role amongst the landscape of renewable energy agencies, institutions, programs and inter-governmental organizations.
8. Over the last year, we have made significant progress, already committing or delivering 82% of our 2011 Work Program. A brief overview of our achievements includes:
 - Confirming 149 signatories and 85 members. For an international organization such as IRENA, that is built on voluntary country membership and support, there can be no stronger reinforcement of our mission.
 - Our Knowledge Management and Technology Cooperation programme has begun work by establishing partnerships and beginning programmes. To assist in the creation of our knowledge management strategy, we reviewed the strategies of four international knowledge organisations: the United Nations Development Programme, World Bank, World Health Organisation; and the International Fund for Agricultural Development. We collaborated with REN21 as direct contributors, and members of the peer review team, for the Global Status Report 2010. Preparatory informal discussions and pilot studies for the Renewables Readiness Assessment are being carried out. A partnership with the Global Wind Energy Council has been established in readiness for a policy assessment on the nature of the environment required for successful promotion of wind energy. We are also working with Clean Energy Ministries to integrate information from 1,000 atlases into an interactive global atlas of renewable potential, with an initial focus on solar and wind energy.

- Our Policy and Advisory Service and Capacity Building programme has been building relationships with a number of countries around the globe. We have been creating a capacity building strategy which has involved meeting with experts on the margins at both the July IRENA-Africa High-Level Consultative Forum and the October Pacific Island countries meeting. These meetings have also facilitated the deeper understanding of these Member's domestic needs, priorities and experience with technical policy assistance. We have mapped over 40 different global institutions that provide advice on renewable energy support policies to governments and other related actors. Also IRENA has signed an MOU with the International Energy Agency (IEA) establishing the IEA/IRENA Global Renewable Energy Policies and Measures Database.
- On 7 October 2011, we officially opened our "Innovation and Technology Center" (IITC) in Bonn, Germany. It is responsible for providing governments with the means to achieve an accelerated renewable technology uptake. The Center has already embarked on an ambitious program comprising technology workshops in Member countries and the development of a renewable technology patent database as well as a one-source provider of technology cost datasets. All of these programs are just the beginning of establishing IRENA as the global source for renewable energy information.
- In October 2011, we announced our selections for the IRENA Renewable Scholarship Program. Supported by the United Arab Emirates and based on a rigorous selection process, we accepted our first 20 students, hailing from eleven countries. These students will attend a two-year Masters Program in renewable energy related fields at The Masdar Institute for Science and Technology in Abu Dhabi. In addition, the students will benefit from exposure to IRENA's exclusive high-profile lecture program.

III. Requirement for a Medium-term Strategy

9. IRENA must remain focused, especially with its limited resources in accordance with its Statute. In this regard, this proposed medium term strategic framework for 2012-15 has been prepared in pursuance of decision A/1/DC/8 of the Assembly that urged the Council and the Director-General to prepare a strategic framework that "clearly defines that strategic direction, vision, objectives and activities for the consideration of the second session of the Assembly.
10. The objective of the Medium-term Strategy is to concisely describe what IRENA's vision, objectives, role and commitments will be as it continues to become a more results-driven and effective organization over four years.
11. With external third-party support and extensive consultation of IRENA's stakeholders, the Secretariat has identified the major challenges which must be dealt with if the worldwide deployment of renewable energy technologies is to be accelerated. We have defined IRENA's future strategic focus in light of these challenges and outlined the programmatic framework against which IRENA's performance can be judged over the medium term.

12. Going forward, IRENA commits itself to this Medium-term Strategy to benefit its member countries and all other stakeholders by ensuring a:

- Focused, effective and efficient delivery of results in line with IRENA’s mission;
- Transparent monitoring, evaluating and reporting of performance and increased accountability.

IV. Lessons Learned during the Process

13. During 2011, the IRENA Secretariat began and continues an intense process of self-reflection and organizational learning on how to become a more effective, efficient and results-driven entity. Alongside this internal reflection, IRENA also consulted a third party advisory firm that conducted a brief external review and identified a set of key lessons including:

- The need for immediate action to ensure relevancy and impact as well as remain responsive to the changing needs of diverse stakeholders: IRENA’s stakeholders view the next year as critical to its success. IRENA must, as quickly as possible, define its core areas of competency alongside its “services,” ensure its focus and actively build its partnerships to ensure success in meeting its various objectives and commitments. This will allow IRENA to adapt to and fulfill the diverse needs of Member states.
- The need to focus efforts to ensure effectiveness: IRENA should select a subset of key areas to support its vision. It then must hone its focus on prioritizing resources in these areas. Stakeholders unanimously indicated that the worst thing IRENA could do was to spread itself too thin (“canvas the space”). This would put at risk IRENA’s current opportunity for impact.
- The need for country-specific activities alongside strategic partnerships to ensure IRENA does not try to do everything on its own: IRENA must ensure it develops country-level advisory and capability building services while also developing a set of strategic partnerships that allow it to deliver global impact. This will also allow IRENA to fulfill the diverse needs of its Member states while not spreading itself too thin.
- The need for stronger communication and role-modeling for Member and Non-Member states: the external review exposed a critical lack of communication between Member states, non-Member states and the Secretariat. This became apparent through a set of divergent views on progress among Stakeholders compared with actual significant accomplishments of the Secretariat over the past months. Going forward, the Secretariat should ensure better communication and “celebrations of success” with both Members and non-Members. Additionally, IRENA should “walk the talk” on renewable energy. IRENA should directly foster renewable technology uptake through its own activities,

including powering offices with 100% renewable energy, promoting the use of sustainable transportation and energy choices among its employees.

- The need for stronger internal delivery capacity with streamlined, transparent processes: IRENA's stakeholders were also clear that they require increased transparency to ensure that IRENA maintains momentum. The proposed Medium-term Strategy with its commitments should be followed by a target-setting activity to ensure transparency and accountability are ingrained within the system. This results driven approach should be coupled with the streamlining of administrative and business processes to ensure IRENA remains a lean organization. This is of utmost importance for talent attraction and recruitment over the next year, as IRENA quickly builds its internal skills to deliver on its vision, commitments and subsequent work programs.
- The need to continue to grow IRENA's capabilities and resources to fulfill the requirements of the Secretariat as well as deliver future work programs: IRENA must ensure recruitment and hiring occurs among the broadest possible set of diverse sources so that it secures cross-functional talent (e.g., industry, governmental and inter-governmental). It is these diverse backgrounds and subsequent internal debates that will ensure that IRENA remains relevant to all stakeholders. Furthermore, it will only assist in furthering IRENA's hopes of merging the needs of both private and public funding sources thereby ensuring a step change in renewable energy and technology deployment to more than 50% by 2050.

14. IRENA intends to continue to assess and determine how these lessons can inform the implementation requirements and institutional mechanisms proposed (e.g. targets, organizational design and capability gaps) to achieve the Medium-term Strategy, once approved, as well as associated subsequent work programs.

V. Risks and Prerequisites for Implementation Success

Risks associated with the deployment of IRENA's three strategic pillars

15. IRENA's strategic objectives are ambitious and it must remain aware of the factors and issues which may put the desired vision and associated commitments at risk. IRENA must understand the following major risks:

- IRENA is unable to build the diverse capabilities and skill sets required as quickly as needed due to a lack of global capabilities and / or an inhibited recruitment process.
- IRENA is unable to fulfill certain aspects of the vision and pillars due to issues beyond its control. For example, this could include aligning the communication goals of the major stakeholders to get behind a coherent drum-beat; gaining cooperation from Member countries to compile data; or finding certain entities or country-level programs adverse to reporting which brings visibility to their renewable value chain activities.

- Effective advisory services may require some deployment of IRENA resources at a regional or country-level, which may be difficult given the limited resources available to IRENA, or without additional funding assistance from other sources.
 - Administrative and business processes cannot evolve as quickly as required due to the requirement to conform to UN common system requirements. This may slow recruitment, hiring and business functions as well as distract valuable resource focus away from implementation towards process and / or reporting burdens.
 - Various countries, crucial to renewable expansion, may not have signed the IRENA Statute. This may mean having to develop a plan and approach for interaction and engagement with non-Member states which could have resource/time implications.
16. As part of the study to determine how to integrate the initial lessons learned into future work programs, IRENA intends to also identify opportunities to proactively mitigate these and other risks.

Prerequisites for Implementation Success

17. Upon exiting its initial period of uncertainty, IRENA has now completed 82% of its 2011 Work Program. Past significant accomplishments will provide the foundation for future goals and will serve to put IRENA on the map and position it well among its new founding partners. IRENA is now ready to start refining its strategy and scaling its operations.
18. As IRENA continues to grow into a mature organization, it must ensure that it remains nimble and adaptive to the constantly changing environment of renewable energy. IRENA must live by the values outlined in this proposed Medium-term Strategy and continuously adapt to and align with its Member states' needs. IRENA must focus on delivering its proposed Medium-term Strategy, without spreading its resources too thin.
19. To ensure delivering against its commitments, IRENA must honestly assess its delivery gaps as well as its current capability gaps. It must build and communicate transparent targets to ensure it is held accountable. Finally, IRENA must maximize its reach through both the building of partnerships and the development of its in-house capabilities.
20. The adoption of a medium term strategy by the Assembly at its second session will provide the essential focus the Agency requires to maximize its potential impact in a resource constrained environment and enable IRENA to benefit from a commonly agreed guiding framework over the next four years.
21. The Council and the Assembly may wish to provide its guidance on relative priorities and focus in this regard, including on areas in which the Agency does not have either the mandate or ability to undertake activities.

Proposed Medium-Term Strategy for IRENA

I. Introduction and Context

Purpose of the Medium-term Strategy 2012-2015

1. Since the concept of IRENA and its original mission were first conceived 20 years ago, there has been significant worldwide progress made in the development and deployment of renewable energy technologies. For example, wind and solar have become mainstream technologies joining hydro as major contributors to the energy mix. The share of ethanol and biodiesel in the transportation fuel mix continues to rise. Emerging economies such as South Africa, Brazil, India and China are already playing an increasingly significant role – both in installing new renewable energy capacity and in building their own technical competencies. Low-income communities in rural areas in developing countries can now take advantage of renewable energy systems, particularly solar systems that provide access to decentralized energy at an affordable price demonstrating the importance of renewable energy to energy access. In practice though, while the technology is available, its deployment is still massively constrained by barriers that include a lack of finance, business models and appropriate local regulatory systems. IRENA has a key role in assisting governments to design policies to overcome these barriers.
2. As of 2011, more than 100 countries have set ambitious targets for their own renewable energy future, many striving for a share of over 20% of renewables in the energy mix by 2020. There are many different approaches to reach these renewable energy targets (e.g., different regulatory frameworks, pathways with different ambitions) and the world has realized this. However, there are still a set of technical and non-technical barriers countering significant deployment (e.g., challenges with new technologies such as offshore wind, grid infrastructure or lack of public knowledge and support, etc.). Governments therefore require a current and detailed knowledge base and best practice examples on how to shift from a global share of 13% today to an energy mix dominated by renewables. The required societal and infrastructure changes are enormous and systemic: our entire global energy infrastructure requires updating; industry behaviors must shift radically alongside the establishment of new investment paradigms; and consumer mindsets and behaviors must begin to embrace the benefits attributed to renewable energy, not just the costs of deployment. All actors, private sector, civil society and government must work together in this coming transition.

Current State of Renewable Energy

3. In recent years, we have witnessed protracted economic crises accompanied by both market and price volatility. The economic and market conditions which continue to drive up food and energy prices are generating more attention towards the importance of energy: its impact

on growth; on distribution issues to access; its impact on macroeconomic stability as a result of price volatility and energy security concerns; and, of course, the link between energy mix and climate change. In this setting, the challenge of providing access to modern energy services to those millions suffering energy poverty is of particular significance. Against this growing sense of urgency, renewable energy has become an essential part of the solution.

Energy issues are at the forefront of political discourse in a growing number of countries

4. 2012 is the International Year of Sustainable Energy for All, and the Earth Summit Rio+20 will be a part of it and will provide an important opportunity for IRENA to position itself globally as a key promoter of renewable energy. As of 2011, more than 100 countries have set ambitious targets for their own renewable energy future, many striving for a share of over 20% of renewables in the energy mix by 2020. Additionally, dedicated “delivery agencies” are being set up with the specific purpose of pushing the introduction and use of renewable energy to the next level (e.g. the Green Investment Bank in the UK, the Moroccan Agency for Solar Energy, and the Japan Renewable Energy Foundation).

There is a growing consensus that renewable energy can help generate new economic opportunities, including job creation

5. Over 3.5 million people worldwide were employed in renewable energy industries in 2010¹. With renewable energy now having a larger share in the overall energy mix, impact on countries’ GDP and job creation is likely to increase further – and many activities related to renewable energy are going to have a higher share of local value creation (e.g., service and maintenance), thus increasing its economic significance.

Renewable energy has the potential to leapfrog conventional technologies and empower the “energy poor”

6. Today almost one-and-a-half billion people still lack access to electricity. In addition, more than three billion low-income consumers in developing countries continue to rely on traditional use of biomass and fossil fuels for heating and lighting – often with detrimental consequences on their health and the environment. Having said that, examples from developing countries are starting to illustrate how renewable energy solutions could provide the energy poor with access to clean energy at an affordable price.

Advances in renewable technologies are driving costs down

7. The point of grid parity has already been achieved for certain technologies and applications in certain countries and capacity growth triggered by increasing targets for renewable deployment will continue to drive costs down. In 2009, for the first time, almost 50% of the total additional installed power capacity was from renewable energy sources.

¹ REN21 Global Status Report 2011

8. However, despite these trends, huge challenges remain that will require overcoming if a global transition towards a renewable energy based economy is to be successfully realized.

Challenges Facing Renewable Energy and other Pressing Needs

9. Five major categories of challenges currently inhibit the large-scale deployment of renewable energy technologies: a lack of coherent market information and intelligence, technology related issues and lack of enabling infrastructure, the need for increased public awareness and acceptance of renewable energy, regulatory issues, and a need for the renewable energy and deployment business case. The main actions required to mitigate these challenges are as follows:

- Improving market information and intelligence
 - Improving the availability of data and robustness of models for strategic purposes (e.g., to facilitate the trade-off discussions regarding the best energy mix in a given country);
 - Facilitating the collection, synthesis, and access to (operational) data required for smooth renewable energy power supply (e.g., resource potential, supply variability, demand patterns and operation and maintenance needs);
 - Building the capacities for resources mapping along-side the in-country capabilities required to construct resource maps for developing countries.
- Breaking through technology issues
 - Operational advancement of mainstream renewable energy technologies (e.g., lean operations of wind parks, extension of solar panels' economic lifetime or cost efficiencies in biomass production);
 - Innovation of existing technologies and further development of next-generation renewable energy technologies that can reduce cost and broaden the resource base (e.g., wave & tidal power, concentrated solar power);
 - Designing and developing complementary enabling technological solutions within the energy system, such as electricity storage, ("complementary technologies") to overcome general downsides of renewable energy such as variability issues (e.g., storage solutions, smart grids, demand side management solutions);
 - Establishing reliable up to date technology information, including quality standards and suppliers;
 - Objective comparisons of renewable energy options;
 - Strategies to overcome lock-in of existing technology solutions
- Increasing public awareness and acceptance
 - Boosting positive adoption: Both directly (e.g., by means of promotional campaigns such as solar roof initiatives or tax breaks) and indirectly (e.g., awareness creation about local and global environment, economic and social benefits, brand building).
 - Mitigating resistance from aggrieved parties (e.g., local residents affected by the visual or noise effect of wind turbines) and end consumers (not willing to pay more for "green" energy).

- Creating the enabling regulatory frameworks
 - Breaking through barriers (especially in developing countries) and building the enabling regulatory frameworks to facilitate the introduction and use of renewable energy (e.g., allowing renewable energy companies to sell to the grid, having incentives for investors, eliminating trade restrictions, streamlining the local planning processes, clarifying risks associated with legal issues and warranties, etc.);
 - Ensuring the economically optimal design of support mechanisms including subsidy systems (allowing for cost reduction and quick expansion of renewable energy technologies);
 - Creating scenarios for end state power systems which incentivize investments in and generation from renewable power sources (e.g., making changes to overall market design).

- Mainstreaming Renewable Energy: Building the renewable energy business case
 - Making the macro-economic and country-level business case for renewable energy and technology deployment (e.g., defining environmental, economic and social benefits to countries, highlighting the return on capital opportunity to investors while also focusing on the societal benefits of externality elimination);
 - Developing business cases for renewable energy and technology deployment at the micro-level (e.g. highlighting the profitability and cost reduction potential for investors, utilities and other users);
 - Ensuring efficient access to capital from a blend of both public and private institutions; reducing investment risks; building system synergies along the renewable energy value-chain; effectively reducing capital costs (e.g., standardization of contracts and other documents along the renewable energy value chain to bring transparency to investment).

10. Addressing all five challenges will be critical to mobilizing the private and public capital required for a step change in renewable energy technology deployment. Going forward, IRENA's should seek to strengthen the enabling conditions for this investment, and provide advice on financing solutions and sources of finance.

II. IRENA's Place in the Global Institutional Landscape

Emerging Needs and Priorities among IRENA's Stakeholders

11. Although there are diverse needs among IRENA's stakeholders, the same key questions continue to arise: How do we evaluate our country's resource potential? What targets are realistic? Which renewable technologies are the most promising in our circumstances? How do we then create our regulatory framework to facilitate investment? What do investors need to see to be attracted; how much capital? How quickly will our renewable deployment take place given the required capital hurdles? What are the true societal and environmental benefits? What and how can we build the required capabilities for renewable technology operations and on-going maintenance?

12. Concretely, IRENA's stakeholders have asked IRENA to:

- Provide access to accurate data and industry experts (e.g., technology costs and performance metrics in different environments);
- Build in-country technical and institutional capabilities (e.g., in the field of resource mapping as well as renewable technology operations and maintenance skills);
- Share best-practices (e.g., in terms of institutional arrangements, target setting and regulatory management);
- Help build the country-specific business case for renewable energy and technology deployment (e.g., which technologies to promote in a country's given socio-economic, and geophysical environment).

Gap Analysis of Today's Renewable Energy Landscape and Value Adding Opportunities

13. A gap analysis of the current renewable energy agency and institutional landscape indicates that, as of today, the renewable energy agency landscape is populated by more than 15 international agencies². Each agency has its own particular agenda and associated strategic approach. When mapped against the aforementioned industry challenges, three major observations stand out:

- Responding to regulatory issues with policy recommendations appears to be fairly well-covered by the current set of agencies. To add additional value in this space, IRENA needs to better understand each agency's approach and then build constructive partnerships that will help develop an integrated regulatory enabling approach.
- Improving market information and intelligence as well as increasing public awareness have received mixed attention. The scattered coverage of these challenges reveals an opportunity for IRENA to have impact, especially if IRENA continues to build capabilities in developing and housing market information as well as communications.
- Building the business case³ for renewable energy is relatively neglected. This challenge emerges as a clear opportunity for impact and IRENA is well positioned to focus on this area, especially at a country level. This opportunity is especially relevant given the requirements to blend both public and private investment to foster renewable energy with technology deployment.

² Focused only on the larger international entities with activities are predominately focused on renewable energy

³ Defined as the need to quantify the larger societal benefits of renewable energy and technology deployment as well as to remove investment risks along the renewable energy value chain

14. The needs and priorities of IRENA stakeholders as well as the challenge and agency landscape assessment clearly converge on the challenges of building a business case for renewable energy and technology deployment.

III. Vision for IRENA

15. Based on the overall mission of IRENA as outlined in its statute⁴, IRENA's vision for its Proposed Medium-term Strategy is:

To foster an enabling environment, in both developed and developing countries, to promote the rapid deployment of renewable energy and the renewable energy business case.

16. In line with its mission, this vision and IRENA's work is guided by five fundamental values. This includes being:

- Supportive of developing and developed countries to further the adoption of renewable energy and ensuring energy access and security to all;
- Neutral/unbiased among all renewable technologies (bioenergy, geothermal, hydropower, ocean energy, solar and wind);
- Responsive, nimble, lean and action-oriented;
- Respectful of diversity;
- Grounded in integrity, accountability and transparency.

17. IRENA intends to reach out to and partner with governments, relevant international institutions, civil society, the private sector and other relevant partners to implement its proposed Medium-term Strategy.

IV. Strategic Direction and Objectives

18. From 2012-2015, IRENA will focus its efforts on delivering its mandate as outlined in its founding Statute through leadership along three key pillars. These pillars, each as important as the next, in no order of preference/priority, are:

- Global voice for renewable energy and technologies;

⁴ IRENA shall promote the widespread and increased adoption and the sustainable use of all forms of renewable energy,

- Renewable energy and technology advisory resource for developing countries;
- Network hub of country, regional and global programs.

19. They emerged from a review of the:

- Current world context and state of renewable energy and technology deployment;
- The challenges facing renewable energy and the most pressing current needs;
- Priorities emerging among our stakeholders;
- A gap assessment of the current renewable energy agency and institution landscape to understand where IRENA can make the most global impact for renewable energy.

20. IRENA understands that there are many interlinkages and positive synergies between the three pillars and it will seek to maximize the potential of these interlinkages. Achieving benefits from these synergies is crucial. For example, there are significant linkages between maintaining a data set of current technology cost truth and providing advisory services across the renewable energy value chain.

Global voice for renewable energy and technologies

21. IRENA's objective is to become the unifying global voice for renewable energy and technology, all the while providing a strong and consistent case for renewable energy as well as a comprehensive information base.

22. Today, there is an abundance of information sources concerning renewable energy and technologies. In many cases, this information is useful but not easily accessible. In other instances, it is conflicting and, in some cases, inaccurate. For governments, investors, the public and industry stakeholders, this information overflow makes it increasingly difficult to sort through the noise to find out what the reliable facts about renewable energy and technologies are, sometimes to the point of slowing down renewable development activities.

23. IRENA's role will be to sort through the existing information, focusing on resource-levels, technology costs, societal benefits, regulatory frameworks and implementation experiences. It will compile a coherent and comprehensive fact base for governments and all industry stakeholders and, where information is lacking, IRENA will build partnerships and/or seek to develop, where needed, the fact base itself (e.g. through its technical institutes).

24. In addition to compiling the analytical and policy advice as well as the fact base for renewable energy deployment, IRENA will use this position to organize and coordinate proactive communication around renewable energy and technologies.

25. IRENA commits itself:

- To developing and promoting effective methods and agreed upon standards for resource mapping which foster investment in and deployment of renewable technologies, ensuring cross-country/cross-regional comparability for resource information;
- To ensuring the development of a basic set of resource maps which can assist developing countries to build their detailed resource maps as required by investors;
- To developing targeted advice to governments on renewable energy roadmaps including research and development, energy infrastructure, target setting and indicators;
- To ensuring the compilation of, easy access to, and use of, a comparable technology dataset. For each recognized technology, this dataset will include the fact base of current and historical costs for capital investment, technology deployment and maintenance, focused on various environments and regions; reliable power and performance parameters at various resource levels; and realistic success measurements of deployment (e.g., actual output vs. designed output; actual vs. forecast costs);
- To studying (where required), quantifying and publicizing reliable facts on the positive economic and societal impact of renewable energy technology deployment (e.g., job creation, smog elimination, health improvements and reduction of societal externalities) and to ensure that the economic and societal benefits of renewable energy are well known globally;
- To developing a strategic communication plan for renewable energy and technology deployment. This could be based on an analysis from similar industries to understand best practice examples. It will include the dissemination of facts and figures which focus on societal, economic and environment benefits associated with the transition to renewable energy;
- To convening and aligning the major renewable energy entities and stakeholders around the communication plan as well as to undertaking a consultative process to develop the best form of communication and messaging tailored to specific stakeholders and targets

26. IRENA's Knowledge Management alongside IRENA's Innovation and Technology effort from the 2011 Work Program will provide the foundation for this strategic pillar and associated accomplishments.

Renewable energy and technology advisory resource for developing countries

27. IRENA's objective is to assist developing countries to build their technical and institutional capacity and their own business case for renewable energy and technology deployment by developing their own capabilities and mastering all the steps across the renewable energy value chain.
28. Practical experience indicates that countries, especially developing countries, are struggling to establish an enabling environment and to build their business case for renewable energy. This renewable energy business case would need to highlight the larger societal benefits of renewable energy technology deployment as well as the necessity of removing investment risks along the renewable energy value chain.

Highlight the larger societal benefits of renewable energy and technology deployment

29. A strategic case for renewable energy investment is required since, in the short-term, there is a perception that renewable technology deployment often "does not pay" relative to traditional energy sources. Hence, there is the need for a wider economic business case that identifies and quantifies the set of economic spillover and positive externalities associated with renewable energy technology deployment (relative to the baseline of traditional energy sources). This business case will quantify the benefits of renewable energy technology deployment, inclusive of the environmental, economic and social benefits to countries, communities and individuals while also highlighting the return on capital opportunities for investors.

Reduce investment risks along the renewable energy value chain to ensure access to capital

30. Along each step of the renewable energy value chain, there are significant potential barriers that can inhibit success and thereby block the deployment of renewable technologies. For example, a lack of resource mapping capabilities may prohibit a country from building the required resource maps, which form the basis of investment attraction. Alternatively, the subsidies structure, regulatory frameworks or regulatory clearance processes may be not be transparent or standardized, thus driving away investment. In some cases, the legislative requirements for electrical grid requirements may not align with the needs of renewable technology (e.g., grid access requirements). Finally, along-side renewable technology deployment, massive grid and infrastructure modifications will be required to deploy renewable energy technologies at intense rates and uncertainty around these improvements could create investment risk. IRENA will strive to systematically support countries to address all such barriers and investment risks.
31. IRENA recognizes that there is no "one size fits all" solution to the issues along each step of the renewable energy value chain. Additionally, it also recognizes that developing countries have the greatest need for assistance and support, given their potential shortage of resources.

32. IRENA's role will be to directly advise countries concerning the deployment of renewable energy technologies. Through partnerships and in-house capabilities and expertise, IRENA will provide advice and capability building services to developing countries across each step of the renewable energy value chain. However, given IRENA's limited resources, it will seek to deploy strategic support of external expertise and will house some relevant expertise available in areas where it identifies the need. Additionally, IRENA will seek to build partnerships that will allow it to bring in the expertise required to help individual countries with their unique value chain issues.

33. IRENA commits itself:

- To operationalize its strategic plan to develop and deploy expertise against each step of its work programme, either conducting, where required, recruitment to build in-house capabilities and expertise, or forming the required partnerships that allow IRENA to bring expertise to developing countries.
- To forming two pilot programs by:
 - Selecting pilot countries with whom IRENA will work side by side to actively facilitate their renewable energy deployment process, collaborating to build their business case for renewable energy across the entire renewable energy value chain;
 - Creating high-level roadmaps (steps-required) for a second set of pilot countries, focusing on the steps required to remove investment risk in that specific country, but supporting these pilot countries run their process at a distance.
- To compiling and creating, when required, a set of generic summary materials, which assist countries that are not part of the two pilot programs, to build their in-country business cases for renewable energy and technology deployment. These materials will focus on each step of the value chain and the specific steps and actions requiring country consideration, including both "best in class" and worst case examples.
- To building the standardized set of contract terms alongside a set of generic, "recommended" templates and easy to use tools which countries and investors can use, with limited modifications, to create projects, contracts, terms and the investment case for renewable energy.
- To assisting individual countries when requested in making technology choices through IRENA's technology centers (e.g. in Bonn)

34. IRENA's Policy Advisory and Capacity Building program alongside IRENA's Innovation and Technology effort from the 2011 Work Program will provide the foundation for this strategic focus area.

Network hub of country, regional and global programs

35. IRENA's objective is to support and benchmark developing and developed, Member and non-Member, agencies, programs and institutions responsible for deployment of renewable energy and technology.
36. It has become widely accepted that renewable energy and technology deployment will only be able to go to scale with the assistance of a public-private partnership model. This is especially true of developing countries since much of the funding needs to be sourced from multi-lateral development finance institutions – to increase the level of additional private finance. Even in developed economies, there are now a range of public subsidies and risk mitigating instruments being utilized to foster appropriate levels of private finance. Examples of these programs include The Green Investment Bank in the UK, the Moroccan Agency for Solar Energy and the Japan Renewable Energy Foundation. So far, no single entity or program is a recognized leader, but there is a clear need for more comprehensive renewable development mechanisms.
37. IRENA's role is to become the broker and accelerator in the middle of these newly forming country-level, regional and global entities and programs. IRENA will seek to understand the range of different programs and approaches; to accelerate the transfer of best-practices by understanding the performance of individual programs and approaches against the varied policy goals as well as associated levels of risk; and to assess the relative cost effectiveness of the different approaches. This latter point is critical to the achievement of significant renewable energy technology deployment at the lowest possible cost. Creating transparency around the real costs, including who bears what subsidy, is a critical step in dispelling the myth that all renewable energy technologies are un-economic in the foreseeable future.
38. IRENA commits itself:
 - To profiling, benchmarking and seeking to understand the range of programs and approaches, providing visibility on individual country practices and associated risks, as well as best practices across regional and global programs, thereby accelerating transfer of best-practices;
 - To creating visibility on the cost-effectiveness of country-level outcomes (e.g. level of renewable energy technology deployment) based on the different country approaches;
 - To developing targeted advice at a country-level, including for the rational allocation of public funding for renewable energy and technology deployment;
 - To convening the different country entities, program and approach leaders together, alongside public and private sector actors, on a regular basis, fostering capability building through targeted learning and knowledge sharing from experience. This will occur both in and across regions.

39. IRENA's third strategic pillar may require building additional capabilities and new focus areas and should be addressed in future work programs.

V. Monitoring and Evaluation Review of the Medium-term Strategy

40. The proposed Medium-term Strategy prepared by the Secretariat attempts to overcome limitations against achieving measurable impact over the next two or three-year period. The proposed strategy attempts to chart the unifying course of future work programs and provide consistent guidance to ensure the likelihood of achieving long-term impact. During the duration of this strategy, IRENA will continuously monitor progress against its stated objectives and commitments. The Secretariat will take the necessary corrective actions required to remedy any identified problems with implementation and will report progress on a regular basis to the Council and the Assembly. Lessons learned will be incorporated into the next programming cycle and the Mid-Term Strategy itself will be revisited and refined in 2016.