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Advancing Free Trade
for Asia-Pacific Prosperity

Empowering Women as Managers of the Renewable Energy Sector

APEC Policy Partnership on Women and the Economy

APEC Energy Working Group

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APEC Project: **PPWE 03 2017A**

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1 Executive summary

Women join the energy sector in smaller numbers than their male counterparts, which is often due to unequal access to education and technical training opportunities. Once in the workplace, they may face discrimination or implicit gender bias, which discourages them from seeking opportunities to remain and advance their careers in this sector and from contributing to our societies' social, economic and environmental wellbeing. Addressing gender imbalances in the energy sector is a global challenge requiring a multi-pronged approach. The Asia-Pacific Economic Cooperation (APEC) is an excellent platform that could help inspire change in the Asia-Pacific region.

APEC economies, through APEC's Policy Partnership on Women and the Economy (PPWE) and the Energy Working Group (EWG) supported a project on "Empowering Women as Managers in the Renewable Energy Sector" (PPWE 03 2017A). This project, developed by the United States Department of Energy and elaborated and implemented by Renewables Academy AG (RENAC), Nedworc Foundation (NWF) and SD Strategies, was borne of the fact that the contribution of women to economic development in APEC, like in many other regions in the world, has still not reached its full potential. The project aimed to develop the skills and confidence of women to advance in their careers as leaders and entrepreneurs while also developing a viable energy product to help advance their economy's energy goals.

The training programme, implemented from 1 May through 30 November 2018, increased participants' knowledge of renewable energy technologies, markets and policy to enable them to develop sound, comprehensive and convincing business plans for a renewable energy project or business. The project also provided an opportunity to pitch their business ideas to external stakeholders to benefit from real-world expertise and feedback in order to strengthen their projects and pursue them in their home economies.

There were five main components of the programme: 1) participant selection, 2) online training, 3) business plan development, 4) in-person training, and 5) an alumni network. Participant were down selected through a multi-stage merit-based process. The project began with the admission of 50 women into the programme to initiate the online training. Those that advanced to subsequent phases developed business concept notes and worked with mentors who coached them in the development of full business plans. Ultimately, 14 finalists participated in the final stage of an in-person workshop held in Singapore. This included a three-day face-to-face training session with policy, gender and business experts. The final two days represented the culmination of the business plan development component with pitches before an evaluation panel. An alumni network was also established to include all of the initial 50 participants and provide further opportunity for peer-to-peer engagement.

The project reached its objective of professional development and career advancement, as demonstrated by one immediate success. One of the program participants has already formed a company of her own and secured investors for her business idea. Participants had very positive feedback on the project, and several participants committed to finding ways to establish mentoring networks in their own economies and ways to share their experiences and knowledge gained.

The enthusiasm and commitment shown by the participants in this initiative has demonstrated that APEC's support of women's advancement in the renewable energy sector is essential. There continues

to be a need to increase technical and soft skills to further support women's career development, which will empower women to more directly contribute to APEC's economic development.

2 Introduction

The United States Department of Energy, through its consultants from the Renewables Academy AG (RENAC), Nedworc Foundation (NWF) and SD Strategies, implemented trainings from 1st May to 30th November 2018, under the project *"Empowering Women as Managers in the Renewable Energy Sector"* (PPWE 03 2017A). This project was borne of the fact that the contribution of women to economic development in APEC economies, like in many other regions in the world, has still not reached its full potential. The energy sector is particularly affected by gender disparities, as demonstrated by low numbers of women who have completed an education in the energy field and who have started a career in the energy sector. Even those who have gained entrance into the energy sector often face significant obstacles to further advance their careers.

The International Renewable Energy Agency (IRENA) released a 2019 report, *Renewable Energy: A Gender Perspective,* addressing this gender disparity in the renewable energy sector. Using a global online survey complimented by literature findings, IRENA estimates that women constitute only 32% of the current full-time workforce in the renewable energy sector (with an even smaller share of 22% of the workforce in the global oil and gas industry.) Moreover, a large percentage of these women in the renewable sector are in administrative positions with a smaller number in science, technology, engineering and mathematics (STEM) jobs. The report notes that women face persistent barriers to entry and advancement in this sector due to multiple reasons, including a lack of awareness of opportunities, lack of a STEM background, unfavourable workplace policies, perception of gender roles and self-perception, and so forth.[1] Despite this discouraging trend, the report argues that the global energy transition towards a renewable, distributed, decarbonised energy system offers unprecedented opportunities to transform the energy sector, including creating opportunities for social and gender equality. IRENA projects potential job growth in the sector from 10.3 million in 2017 to nearly 29 million in 2050, offering diverse employment opportunities along the value chain requiring different skill sets. Greater engagement of women in the sector can help expand the talent pool available to provide diverse skills and perspectives that would significantly contribute to sustainable energy development.

Along these lines, APEC Leaders have committed to advance the position, role, and contribution of women in APEC economies through different methods such as improving women's access to finance, education, training, and technology, and promoting women's entrepreneurship and economic engagement. APEC economies have demonstrated their determination to empower women within the APEC region's renewable energy sector by supporting a capacity building programme aimed at providing women with instruments for skills development so as to become effective entrepreneurs, employees, decision makers, leaders and achieve full engagement of women in clean energy development. This effort was implemented through APEC's Policy Partnership on Women in the Economy (PPWE) in coordination with APEC's Energy Working Group (EWG).

2.1 Project context

It is within the above context that the United States Department of Energy set out to implement a project to develop the technical capacity and confidence of women from APEC economies in the

[1] *IRENA (2019), Renewable Energy: A Gender Perspective. IRENA, Abu Dhabi. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Jan/IRENA_Gender_perspective_2019.pdf*

renewable energy sector. Under this APEC-funded project (PPWE 03 2017A), a team of consultants developed a curriculum for APEC women to build their capacity in developing effective business plans for renewable energy projects and businesses while also giving them the opportunity to pitch their ideas to external stakeholders.

2.2 Objectives

Through an ambitious, comprehensive and targeted capacity-building and mentoring program, the project aimed to support the accelerated career advancement of women in APEC economies who work in the field of renewable energy. It intended to develop their full personal potential and increase their confidence and skills to become effective employees, decision makers, entrepreneurs and leaders in the public or private sector. Specifically, it sought to support women's career development by:

- Increasing their knowledge of renewable energy technologies, markets and policy;
- Enabling them to develop sound, comprehensive and convincing business plans; and
- Facilitating professional exchanges and peer-to-peer mentoring.

2.3 Time frame

The project plans and objectives were set to be achieved within six months from May to November 2018. Participants were down selected to proceed to each subsequent phase of the project.

Activity	Jun	Jul	Aug	Sep	Oct	Nov
Online trainings						
Development of individual business plans with mentoring from experts						
Face-to face-training						
Pitching of the business plans						
Alumni network						

3 Description of main task and results

There were five main tasks explicitly set out to achieve the project objectives: 1) participant selection, 2) designing an online training curriculum, 3) business plan development guidelines, 4) holding an in-person training, and 5) establishing an alumni network.

3.1 Participants selection

The project was exclusively for women who are citizens of any of the 21 APEC economies and residing in any of them. It sought to have mid-level career energy specialists between 6 and 12 years of experience working in the energy sector (ministries, public institutions grid operators, power generation companies, project developers, enterprises, the finance sector, and NGOs). Applications from women in travel eligible economies[2] was strongly encouraged.

[2] *Chile, China, Indonesia, Malaysia, Mexico, Papua New Guinea, Peru, Philippines, Russia, Thailand and Viet Nam.*

Through an information sheet, partner websites and mailings, information about the project was advertised in all economies calling on interested persons to apply to the programme by the 27th of May 2018. The project information was not just disseminated through PPWE and EWG contact points, but also through mailings to individuals in the data base of all three consultants. There was also the creation of a page dedicated to the project on the consultant's website with further dissemination through their individual newsletters and social media accounts. Eighty-two women from 14 of the 21 APEC economies and other non-APEC economies applied to this programme by the end of the deadline (Figure 1).

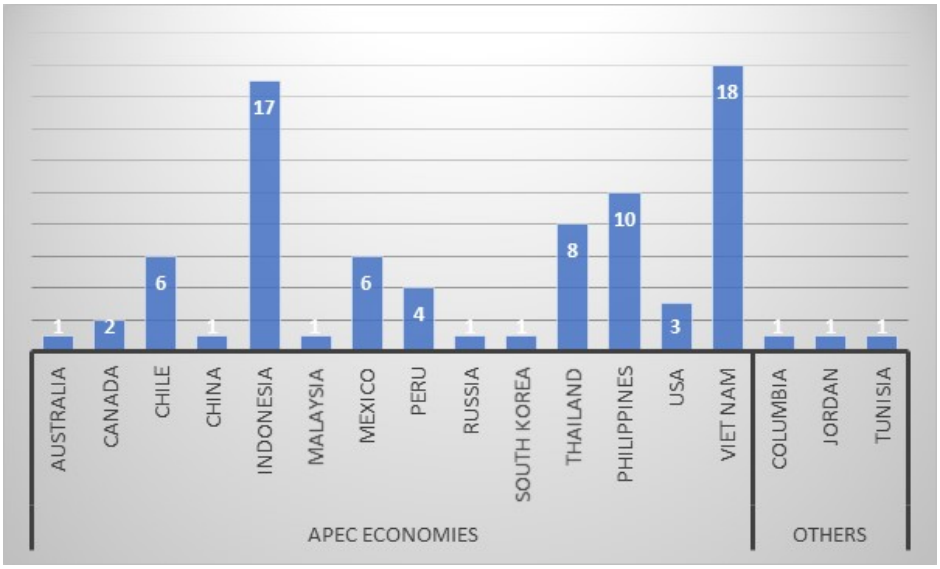


Figure 1: Applications received by the end of the deadline

The highest number of applicants came from Viet Nam (18) and Indonesia (17), followed by the Philippines (10) and Thailand (8). Among these 82 were three persons who still applied into the programme despite not being from any of the 21 APEC economies. In accordance with APEC's Non-member participation (NMP) rules, NMP approval was sought from PPWE for all participants that were not nominated by their economy's PPWE representative.

Each application form and CV submitted was thoroughly examined and evaluated by a committee of experts. Fifty persons were selected into the programme based on a well-defined and APEC-approved selection process (Annex 1).

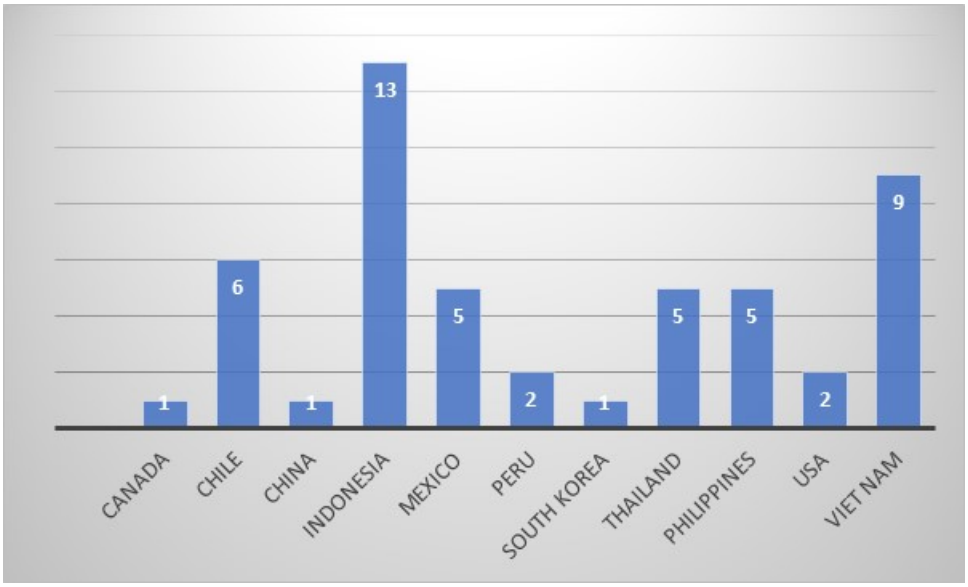


Figure 2: Number of women accepted into the programme from the respective economies

Of these 50 women, the highest number were accepted from Indonesia, followed by Viet Nam and then Chile (Figure 2). Participants were citizens of 11 APEC economies, working either in the public or private sector with an age range between 24 and 53. They all had different levels of professional experiences in the renewable energy sector but were willing to learn more and were ambitious to grow in it. While some already had their own business idea that they wanted to develop, others did not but were ready to develop one through this programme. All fifty were enrolled into the online line training, which was the first stage of the project.

3.2 Online training

The online training aimed to increase the skills and knowledge of the women on the value chain of renewable energy, which ran for three months (18 June to 7 September 2018). It offered a mixture of optional (Annex 2) and mandatory courses (Annex 3) and was designed to provide an overview of the renewable energy (RE) industry, the technology, its development and operation. The courses took them through the RE value chain, existing business models, key stakeholders, and shed more light on the social and gender dimensions of RE project. Participants were expected to spend at least 100 online learning hours, equivalent to approximately 300 classroom hours.

Using different teaching methods such as texts, videos, tests for self-evaluation and further reading material, online-forum as well as virtual classroom meetings, the online training covered nine topics—two optional and seven mandatories (Figure 3).

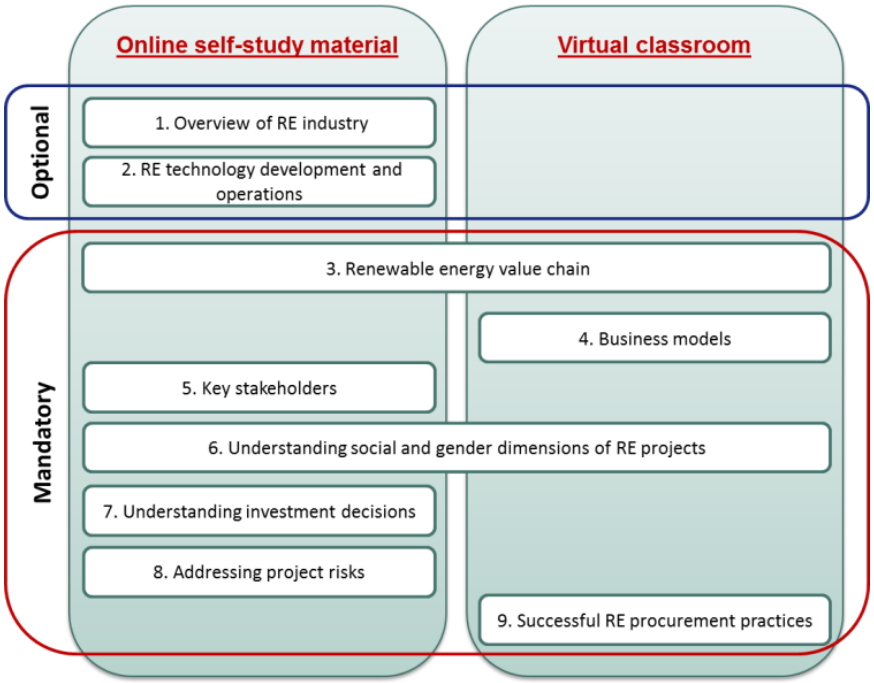


Figure 3: Online training courses

Of the 50 participants who were admitted to the online training, 15 persons went through all the courses. More than half of the participants (35 persons) went through at least 60% of the available material (Figure 4). Two persons never logged into the online programme.

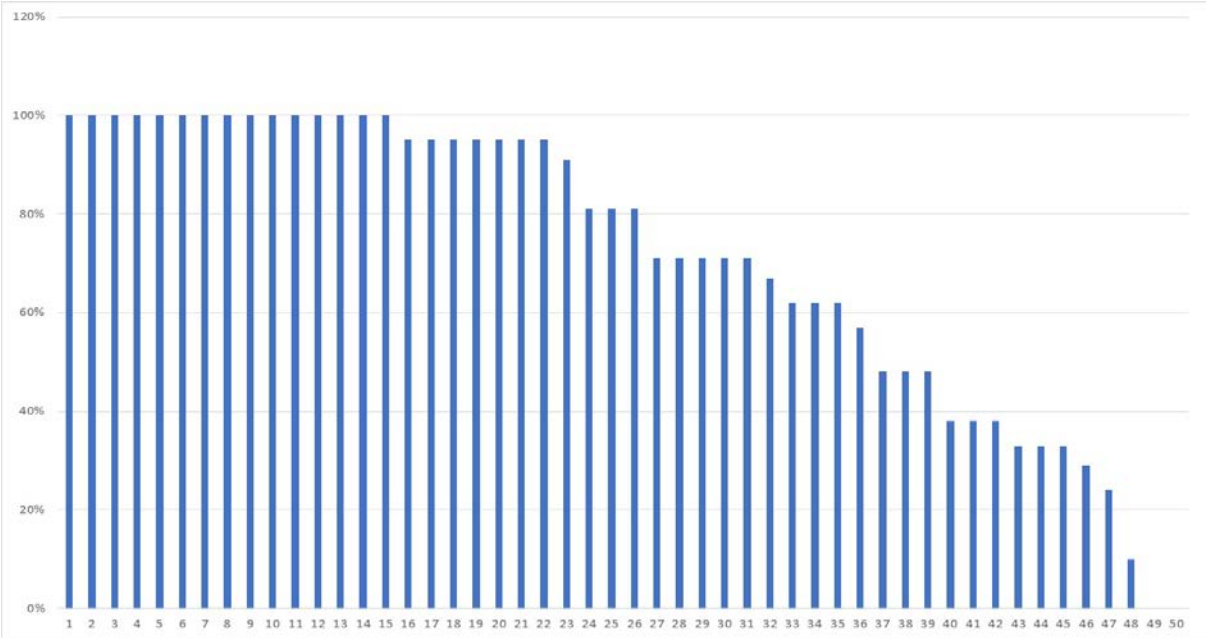


Figure 4: Percentage of the online courses covered by each of the 50 women admitted into the course

At the end of the mandatory courses, which ran for two and a half months (18 June-26 August 2018), the knowledge acquired and readiness to move on to the next stage of the project were assessed through a final exam. The exam took place on the 28th August 2018, and was available to the participants in the form of online multiple-choice questions.

The link to the examination was opened on the 28th August 2018 from 0:00 Central European Summer Time (CEST) right up to 12:00 CEST the following day, 29th August 2018 (Figure 5). This was to give all individuals spread across the different time zones in the region a suitable time to sit for the exam. Technical support was also made available in case of any technical difficulties from 09:00-16:00 CEST on the two days. Sixty minutes were allotted to complete the exam from its initiation.

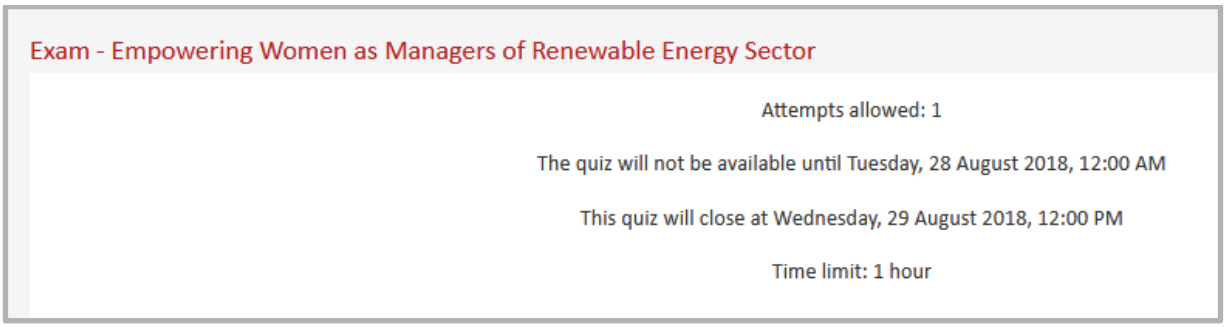


Figure 5: Screenshot of the online examination page

There were 36 questions, which were similar to the self-test questions contained in the courses. A minimum score of 70% was required to pass the exam. Of the forty (40) persons who took the examination, 33 persons passed and 7 failed. Among those who passed, the performance was excellent with average score of 82,81 %. These persons were awarded a RENAC certificate (digital PDF document) and could be considered for the next stage of the project.

Those who did not pass the first exam were offered a second date to re-sit the examination for which they could receive a certificate should they pass, but could not proceed to the next stage of the project. Six persons sat for the re-sit but just one passed with 70% and above. For those who completed half of their courses / assignments but did not take the exam or did not attain an overall passing grade, they received a certificate of attendance (PDF per e-mail).

Among the 33 participants who passed the exam, 20 to 25 of them were expected to be selected to advance their business ideas further, supported by mentors who are senior experts in the field.

3.3 Business plan development

The key objective and primary focus of the programme, the business plan development component, was intended to foster entrepreneurship, encourage women to create opportunities for themselves and advance to leadership positions in the renewable energy sector. To this end, the second core pillar of the training programme was focused on the development of RE business/project plans. As part of the application process, candidates were asked to submit a summary of a RE business/project idea. The ideas could focus on starting a company at any selected point of the value chain of RE technologies, realising a smaller RE project (grid-connected or off-grid; <$US 10 Million investment), or realising a large-scale RE project (>$US 10 Million investment).

Participants accepted to the programme were required to advance this idea alongside their online training by producing business concept notes of up to five pages. Pre-supposing that the candidates successfully finished the training and online exam, these concept notes served as the basis for selecting those who would proceed to the business plan development phase of the project. Following an evaluation of all submitted plans, 16 successful participants were invited to attend an in-person

training workshop in Singapore between 29 October – 2 November 2018, where the two final days were dedicated to business plan pitching to a panel of external stakeholders to receive real-world feedback. Figure 6 illustrates how the online training and the business development pillars of the programme were interlined and provides a detailed overview of the various stages of the business plan development component.

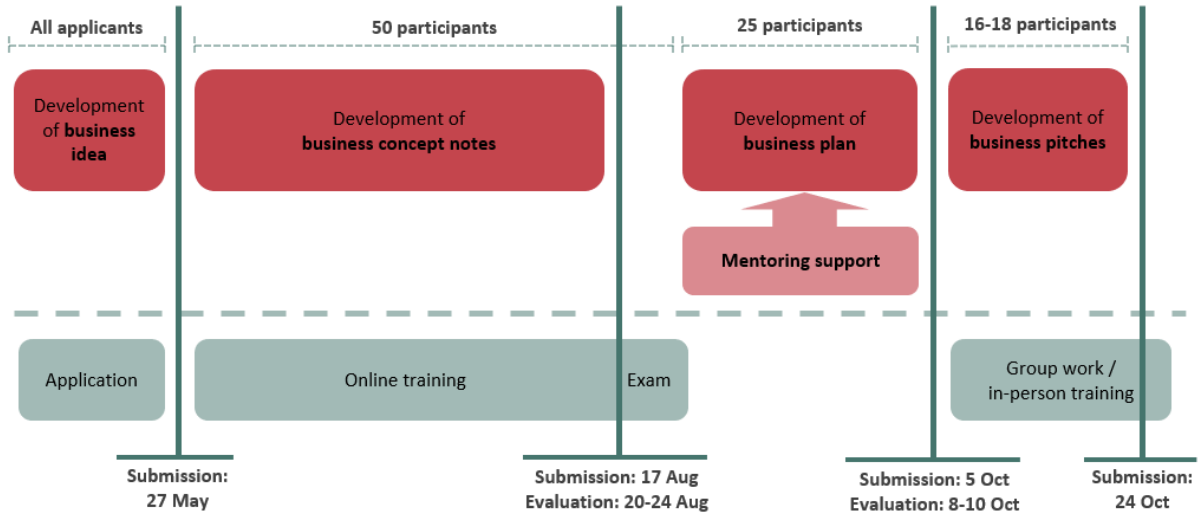


Figure 6: Overview of the main components of the curriculum and submission dates for major deliverables which served as qualifiers to proceed to the next stage

The participants received support and guidance for their business plan development through the following elements:

- Guidelines and outlines for all major deliverables, including the business concept notes, the business plans and the business pitches (including template PowerPoint presentation slides- Annex 8)
- Online sessions and email communications introducing the participants to the requirements of each phase of the process, the materials provided, and evaluation criteria.
- A mentoring programme with experts from the field of renewable energy.

The evaluation of the concept notes and subsequent business plans was based on the following set of criteria:

- General strength of business rationale (25%)
- Clarity of business model and strategy (25%)
- Business viability (profitability and financing potential) (25%)
- Design and quality of concept note/business plan (in line with the communicated guidelines and templates) (25%)

	Overview of the deliverable	Support (materials, training) provided	Number submitted	Number successful
Concept note	Up to 5 pages outlining the key tenets of the concept	Guidelines, Template Online session	27	24[3]

[3] *Two persons with successful concept notes did not pass the online examination. Therefore 22 persons moved on to the mentoring stage.*

Full business plan	12-15 page business plan outlining all key information	Guidelines, Template, Online session, Mentoring programme	17	15
Business plan pitch	A 10-15min in-person pitch of the business plan supported by a succinct ppt presentation	Guidelines, Suggested framework/, Template, Individual feedback (ex-ante, ad-hoc, & ex-post by the committee)	14	N/A

Figure 7: Overview of participant progress across the key benchmarks/deliverables of the business plan development component

3.3.1 The mentoring programme

An important part of the component was the mentoring programme, which supported the 22 selected participants throughout the business plan development phase from 1st September to 5th October. The mentoring aimed to support the women in advancing both the technical and financial sections of their business plans. The programme focused on strengthening key skills of the participants in organising ideas, developing comprehensive strategies, messaging towards different target audiences, relationship building, project planning, proposal writing and financial planning.

The mentors were a diverse group of senior experts selected based on their rich professional experience in the renewable energy sector. The group of mentors for the programme was built by tapping into the broad networks for the three project implementors[4]. All mentors had agreed to undertake the activity as a pro-bono contribution. Insofar as possible, mentors and mentees were matched based on their professional backgrounds and interests expressed through surveys conducted with both groups.

The mentors, standing in as facilitators, were asked to support the participants in fine tuning their business ideas and skills through a series of time-limited, confidential, one-on-one conversations and feedback sessions with their assigned mentees, so as to come up with a technically and financially viable business plan. An outline of the suggested workflow process throughout the mentoring phase was developed and shared with the mentors and the mentees to guide their interaction (see Figure 8). However, a degree of flexibility was accepted to support varying individual mentoring needs across specific learning goals, preferences, and learning styles, as well as to accommodate the busy professional schedules of the mentors.

[4] *Renewables Academy, SD Strategies and Nedworc foundation*

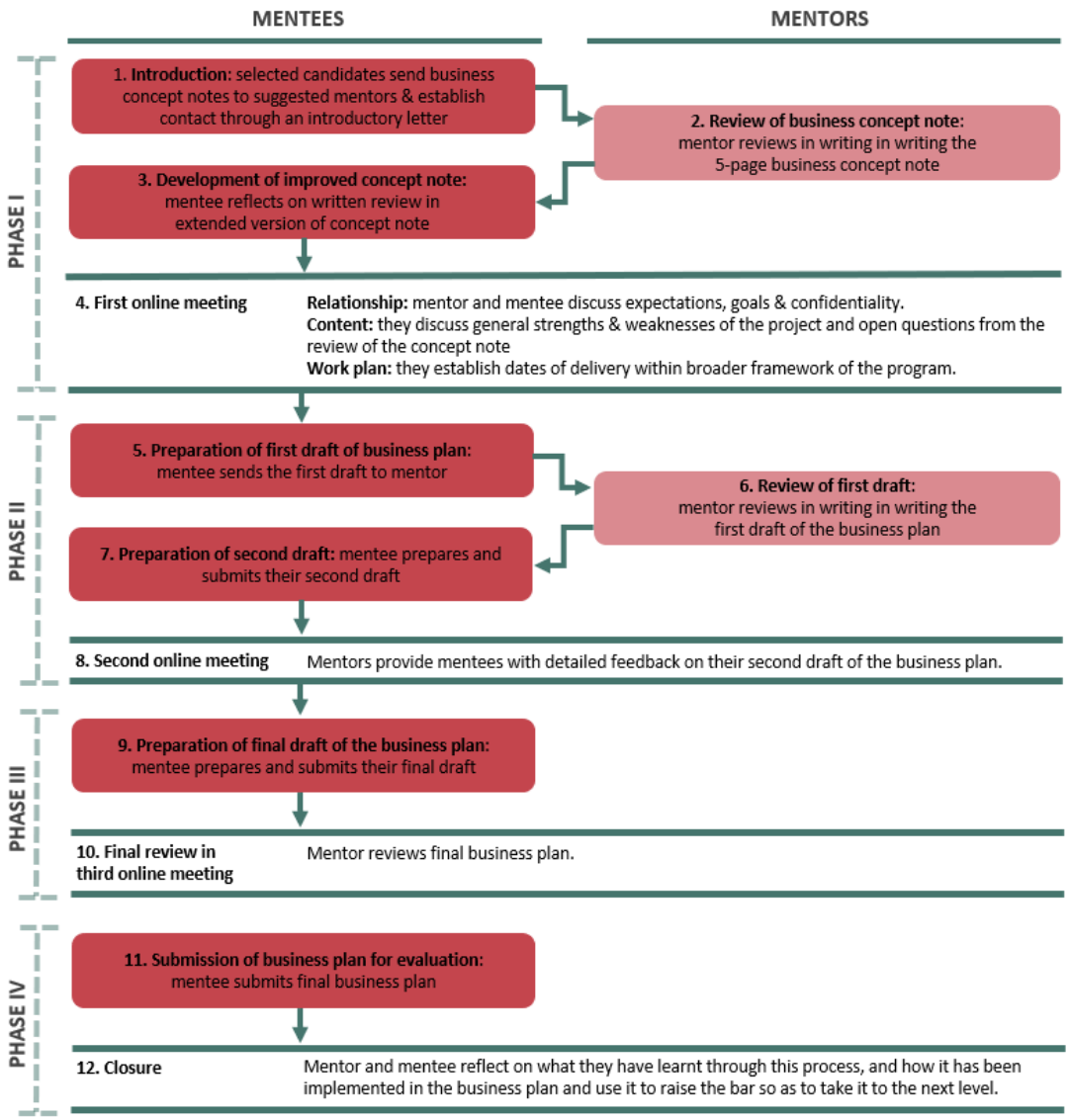


Figure 8: Suggested process in the mentoring programme

According to the informal feedback received from the programme participants, mentoring was a highly valued part of the programme. Participants greatly appreciated an opportunity to discuss their business/project plans with an expert on a one-to-one basis, allowing them to set the pace and agenda of the interactions according to their individual needs and receive continuous support throughout the business plan development process. As anticipated with mentors being high-level professionals, some of them were able to dedicate more of their time to the activity than others. This factor, which is very difficult to predict, is nevertheless important to consider during the process of pre-screening mentors to take part in such a programme as it can have an effect on the learning of the participants.

3.3.2 Business plan evaluation

The business plans submitted at the start of October 2018 were evaluated by a group of experts from the three implementing organisations[5]. Each business plan was graded along the key evaluation

[5] *Renewables Academy, SD Strategies and Nedworc foundation*

categories (see previous section), with individual written feedback and suggestions for improvement provided to each participant.

The technical focus of the submitted business/project plans was very diverse, ranging from RE development projects (solar, biomass, hybrid; both central grid-connected and mini-grids), to business plans focusing on the provision of operation and maintenance services for remote mini-grid installations, sale of cookstoves to rural communities and the development of a RE business incubator, among other.

The strength and level of advancement of the business plans varied greatly, as is reflected in the range of the final grades, with the lowest grade of 10 and the maximum grade of 37 (out of the total of 40 points). Some of the business plans could be considered to have reached the level of being technically and financially viable and ready to be presented to real-life investors. Others required further input. This can be explained by several factors, including: the different level of professional experience of the participants; different levels of time spent working on developing the plans; possibly different levels of mentorship support received; as well as the fact that some of the business/project ideas were related to the professional focus of the participants, while other participants opted for a field of focus completely new to them. There was consensus among the participants that they would have benefitted from a more generous timeline allocated to this part of the project.

The approach used by the evaluation committee aimed to encourage participants and considered the in-person training week (as well as the 2-week period in the run-up to it) as an additional opportunity for improvement. A few of the participants with lower grades were specifically requested to further improve and submit revised versions of their business plans ahead of the in-person workshop.

The theory of change of the programme was built around the idea of the two interlinked core pillars – the online training and the business plan development, with the former supporting the latter. The overall success of the approach is highlighted by the participants' notable use of the knowledge and materials acquired through the online training in the development of the business plans.

3.4 In-person training

The in-person workshop took place from the 29th of October 2018 to the 2nd of November 2018 in Singapore at the Park Avenue hotel. It piggy-backed on the Singapore International Energy Week (SIEW) which was taking place at the same time. Sixteen participants successfully reached this stage of the project (were invited to attend the in-person training week, following the evaluation of their submitted business plans), with 14 of them coming to Singapore. This phase consisted of a face-to-face training and the pitching of business plans to an evaluation committee as well as networking opportunities.

3.4.1 Face-to face training

The training took place on the first three days of the week 29th-31st of October 2018 and brought the women together with policy, gender and business experts. It was dedicated to further capacity development through presentations, exercises and experience sharing among the participants. Using a combination of theoretical information, exercises, group work and discussions, the participants did not only interact with one another, but also increased their ability to design and evaluate their business

plans for companies or projects and widened their scope to include social, gender and environmental co-benefits in RE projects. The three days covered different topics as can be seen in the sample schedule (Annex 4).

The approach used in the design of the programme was underlined by a directional shift from a macro to a micro level of focus. This enabled the participants to form a holistic understanding of the key themes and challenges on the global climate, energy transition, and the sustainable development agenda, before delving deeper into the analysis of the market risks and policy environment, and subsequently RE project development.

The first day of the programme was focused on discussing the co-benefits of renewable energies, as well as gender mainstreaming in RE projects/businesses. The sessions aimed to broaden the focus and strengthen participants' understanding and ability to assess the socio-economic dimensions of their projects/businesses, as well as how to ensure through a 'smart' design and implementation that these benefits are achieved and maximised.

The afternoon session of the first day was designed to delve into gender concepts and apply these to a project cycle assessment. The session began with a group dynamic, based on the idea of the production of sculptures, to allow participants to feel and experiment how social norms shape the manner in which we (women and men) interact in a given society.

The session included four independent but interlinked modules, where the first three covered the following topics: (i) review of gender concepts; (ii) gender considerations in individual projects, including: gender objectives, gender activities and indicators; (iii) institutionalization of gender considerations in a company, including: reasons for mainstreaming gender in the company, how communication can address gender equality and elements for setting an enabling environment. Each of these sub-sections was accompanied by a group work activity, where participants were encouraged to apply the newly revised concepts to their own project proposal and share their group findings with the other groups.

The last module of the session was designed to allow participants to reflect on their own assessments and findings, with the help of a template designed to identify moments and forms for integrating gender into their business plans and pitching presentations.

Participants were eager to explore and increase their knowledge on gender mainstreaming, commenting that–even if they had known or heard about the concepts before–this was the first time they had the opportunity to practice how to integrate gender and social considerations into projects. There was also quite some interest in learning more about how gender mainstreaming can take place at the level of the institutions they work in. Additional resources and time were devoted during the session to cater to this request.

Participants also commented on their interest to experience and learn how they themselves could be empowered–besides the increase in their skills development. In response, an additional session was developed and implemented in the morning of day three. The session was modelled after the "tree of life" exercise[6], which allows participants to reflect on their strengths, motivations, achievements and

[6] *This exercise can be found in full here: https://cleancookstoves.org/binary-data/RESOURCE/file/000/000/342-1.pdf*

future goals, graphically showing each of them how much effort has gone into shaping their lives and how valuable their experiences are.

It was this particular session of the gender component of the program that participants seemed to value the most. This was the one moment they had to evaluate themselves and reflect on how far they have come, with comments ranging from overcoming difficult economic or social backgrounds, to increases in language skills (mainly mastering English as a second language), to acknowledging how much technical wealth and knowledge they had on renewable energy technologies, to now feeling confident interacting with persons from different backgrounds and in a language that is not their mother-tongue.

The first half of the second training day looked at the role of the state in facilitating RE market development. Participants were encouraged to discuss how different risks manifest in their economies and what policy and regulatory approaches are/could be used to address them.

The last half of the second day and the third day, looked into project development and entrepreneurship. It combined the trainers' own experience as project developers as well as the experiences of the participants in the previous weeks developing their own project.

Pre-seminar and post-seminar surveys were conducted to see the impact of the training on the participants. Within the surveys, participants were asked to indicate whether they had no knowledge, limited knowledge, medium or high knowledge on the subjects of the seminar. These subjects were:

- co-benefits of renewable energy,
- RE investment risk and de-risking,
- policy and regulatory framework for RE market development and
- business plans for smaller investment in RE.

The results of the pre- and post-surveys within the different categories can be seen in Figure 9. Surveys were conducted anonymously, so pre- and post-surveys could not be matched directly. However, some trends became apparent to demonstrate knowledge gained.

From the pre-survey, 8 respondents had no or limited knowledge on "RE investment risk/de-risking" or "business plans for smaller RE investments." Three respondents reported limited knowledge in "co-benefits of RE" and 1 had limited knowledge in "policy and regulatory frameworks." In the post-surveys, all respondents reported having medium or high knowledge on all subjects after the symposium, demonstrating knowledge gained across the subjects.

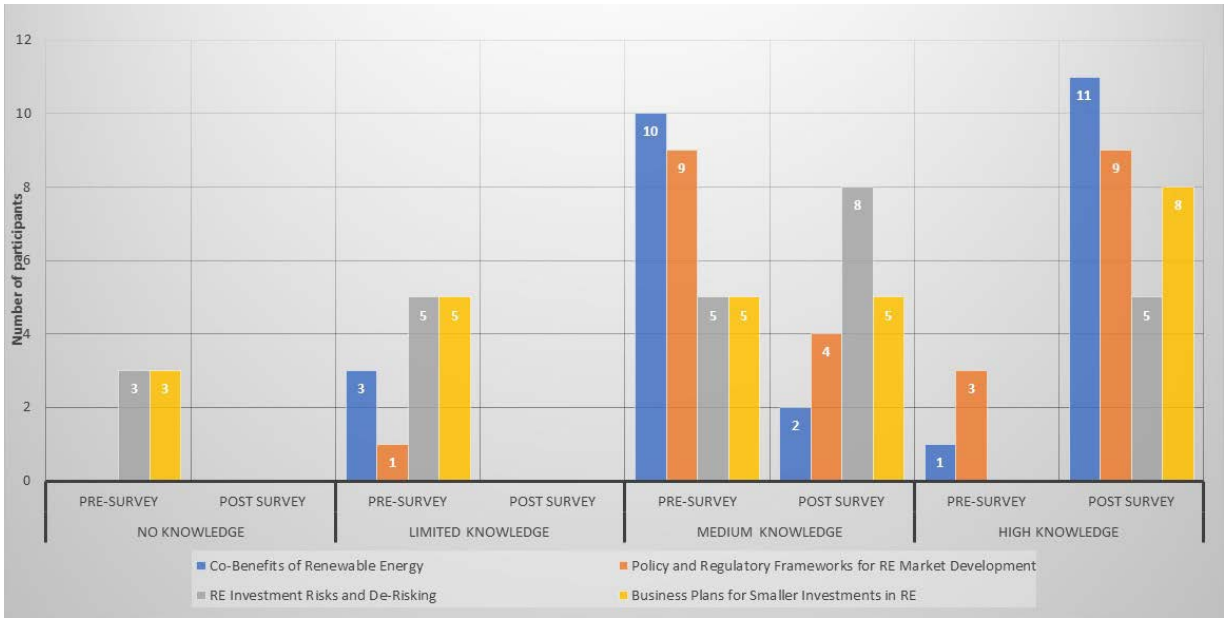


Figure 9: Results of the pre- and post-seminar surveys

3.4.2 Business plan pitching

The three initial days of trainings, lectures and exercises were followed by two full days of business plan presentations on 1st and 2nd November. The pitching, discussion and evaluation of all proposals was the culmination of the business plan development process for all participating women.

The pitching exercise mirrored a real-life pitching experience, providing the participants with an opportunity to develop their skills and confidence in presenting their project/business to an evaluation and support committee comprised of government and industry experts, as well as their fellow participants. It also offered additional feedback on, and advice for, further improvement of their business/project plans; and afforded the opportunity to create new personal connections and professional networks.

Each participant was allocated 15 mins for their pitch. Following each individual pitch, the committee had approximately 15mins to pose further questions and share their comments and advice, focusing on the content (i.e., soundness of the business idea, quality of the business plan) and the delivery of the presentation. While more time for feedback would have been beneficial, time was limited given the large number of pitches per day. To compensate for the limited time, each committee member was asked to write down their comments and suggestions on a specific evaluation sheet, which was shared with the participants at the end of the programme. Each pitching day ended with an informal roundtable discussion between the participants and the evaluation panel members, allowing for a broader discussion on general observations and lessons learned from the day, areas for improvement and tips on how to get there.

Overall, participants found the experience to be particularly useful for their professional development and appreciated the opportunity to learn from the experiences of the committee members. While some ad-hoc one-on-one advice on the preparation of business pitches was offered to the participants during the in-person training week, it was noted that a practice session among the participants (ahead of the pitching exercise) would have been useful. It is suggested that any future programmes in this

area consider including a stronger focus on the development of soft skills, with a particular focus on presentation and public speaking skills.

After the pitching session concluded, the full five-day seminar was evaluated by the participants, and their feedback was given anonymously through a questionnaire (Annex 7) both on the content as well as lecturers themselves. This was to ensure the quality of the training and improving other possible trainings in the future. The average to the weights given by the participants were as follows (1 being very good and 5 poor):

Course Organization RENAC	Communication with RENAC before the course	1.5
	Provision of information material	1.5
	Training location	1.6
Course content	Match between the actual course and your personal needs and expectations	2.1
	Balance between theory and practice	1.9
	Rating of your personal learning progress	1.7
	Time management for practical's / interaction / discussion	2.0

In addition to the weighted questions, some participants took time to provide additional comments, which can be found in Annex 9.

3.5 Alumni network

After the training, all initial 50 participants were invited to join the RENAC alumni network. There was also a special LinkedIn group created just for them and other persons who were involved in the project. Additionally, these participants were invited to other groups such as the PFAN mentoring page, LEDs Energy Working Group, the Women in Renewable Energy Asia (WIRA), among others to maximize access to other experts in the field.

4 Discussion of potential impacts

Starting the project with an online training gave the participants an opportunity not only to revise and learn more about each commercially viable RE technology but also take on courses related to RE business development. This ensured that participants move onto the next stage at the same level. The online trainings supported the participants in understanding investment decisions, project risk and successful RE procurement practices. With each course having its own individual outcome, this ensured that at the end the participants were able to identify which RE best suits their region, choose a suitable technology for which to draw up a business plan, appraise the risk involved with their investment, and confidently create and propose their business ideas for evaluation. The high percentage of those who took the exam and those who passed demonstrated the keen interest and commitment of these participants to the programme.

However, given the project time constraint, the concept note development took place alongside the online training. The project implementers assess this to be the primary reason that fewer business plans were submitted by the deadline.

Nevertheless, there was a great input of ideas in terms of the project ideas developed. The pairing up with mentors went smoothly except for the fact that there were fewer mentors than mentees. Some mentors had to be assigned two to three mentees, thus reducing the effectiveness of the work and sessions with each of the participants. This, however, did not deter these engaging women nor stop them from developing their concepts to full business ideas to the pitched.

The face-to face training was very helpful in that it offered the opportunity to practice with existing tools, and participants appreciated that the program was not only theory based. However, participants noted that they would have preferred having these face-to-face sessions before or alongside the development of their business plans, as some of the knowledge gained during these sessions was quite helpful. Some commented that the face-to-face training provided clearer information on some of the content, and they would have preferred to have more in-depth access to finance information and time and opportunity for one-on-one consultations while developing the business plans. Nevertheless, the knowledge gained from this final session was still very beneficial for the future.

The training left participants feeling more confident, as the course reinforced their knowledge on renewable energy technologies and how gender can have a concrete link with renewable energy. They had the good opportunity to share ideas and perceived the exercises as a fun learning process where they could expand their knowledge. Additionally, engaging with other participants and with the trainers in English was helpful in increasing their language skills and confidence speaking in public using a second language, therefore putting them in control of their ideas.

Unfortunately, the project time constraints limited time for coaching and working on individual plans prior to the workshop. Some mentors were reported to be more helpful with reviewing the logic for the plan than with understanding the basis for the financial calculations.

Overall, the feedback received from participants who attended the in-person workshop confirms the positive impact of the training programme. All participants agreed that at the end of the programme they were better equipped to advance in their careers – whether by climbing the professional ladder either with their current employers or by continuing on the path of initiating and developing their own businesses. The attendees appreciated the opportunities provided for experience and knowledge sharing among the participants. In particular, the understanding that other women share similar concerns and challenges in their professional careers created a sense of unity, support and empowerment. It is anticipated that the project participants will maintain close contact through the networks established by the project implementers, as well as join broader regional/global professional networks focusing on women's empowerment through mentoring and knowledge exchange.

The 14 participants who attended the workshop had the unique opportunity to experience, through different exercises, how gender norms shape their lives and how these also manifest themselves in their professional environments. The group dynamic was very strong, in terms of coming together and supporting one another, creating a sense of sorority that has continued after the face-to-face meeting.

Several of the participants have gone back to their economies with a clear intention to be an instrument–or agent–of change, for example, committing to finding ways to mentor and support other women within their own institutions. Some of the participants came from the same economy or institution, and are currently exploring concrete ways to share their experience, knowledge and develop their own support systems. For example, participants from Chile have already sought communication with representatives from their ministry to engage with the rolling-out of the gender

equality policy of the Ministry of Energy. Participants from Indonesia are exploring and seeking support for the creation of a women in renewable energy network in the economy to multiply their reach and support to others.

Participants were also seeking to find their own individual voices and support women in the sector. In this regard, a participant from the Philippines recently enlisted in a mentoring program in the economy and shared her experiences with women participants at an awards event. A participant from Chile, has been invited to speak before a group of high school girls to increase their interest in engineering and share her experience as a strong professional and independent woman.

In order to sustain and increase interest from those participants in the initiative who were unable to make it to the in-person meeting in Singapore, a closed LinkedIn Group has been created. Information on relevant topics, including gender in renewable energy, funding, career development, etc., will be shared in order to ensure increased access to knowledge and other resources. In addition, it is expected that regular information sharing, particularly when related to actions for supporting other women in the sector, may encourage other participants to either join existing networks of professional women, or develop their own strategies in this regard.

The majority of in-person workshop participants reported their intention to continue to further develop and pursue the implementation of their business/project ideas. One of the participants is already in talks with potential investors for her project and has also secured a business partnership with one of the pitch evaluation and support committee members. However, for the majority of projects/businesses developed as part the project, further continuous mentoring and project development support will be required to ensure the sustainability of project outcomes. It is anticipated that some of the projects could apply to join one of the PFAN business development programmes in the future.

5 Conclusion and recommendation

Despite the time pressure all planned activities were executed and with great success. As highlighted throughout the report, the *Empowering Women as Managers of Renewable Energy Sector* project provided a value for money approach to delivering on APEC's strategic goals of empowering women within the fast-growing renewable energy sector in the APEC Region.

The project reached its objective of professional development and career advancement, as demonstrated by one immediate success. One of the program participants has already formed a company of her own and secured an investor for her business idea. Participants had very positive feedback on the project, but noted that they would have benefitted even more from the diverse skillsets and knowledge base among them if they were able to work on their business plans as a group rather than on an individual basis.

The project provided an excellent platform for women of different APEC economies as well as experts from different parts of the world to exchange ideas and support one another beyond the borders of the project. It is therefore highly recommended to replicate the project so as to give other women this unique opportunity. In replicating it, it is strongly advised to increase the time for its execution to at least 12 months, recognizing constraints within APEC project timelines. Although the initiative was able to deliver all of the contracted deliverables within the project timeframe, the contracting period

to design and execute the training programme was short with respect to the desired outcomes. For example, the time allocated both for the on-line course and business development/mentoring component were too tight, which had an important impact in the number of participants capable of progressing to the next levels. More time allotted could expand the impact to more women in the region.

In addition, the contracting period comes to a close in parallel with the creation of the alumni network. Ideally, this event would have fallen within the contracting period to ensure that time and efforts allocated to animating the network would be financially supported by the initiative–as it stands now, coordination of the group will be done on a voluntary basis, which poses a challenge. However, given the positive experience of the programme, several participants committed to finding ways to establish mentoring networks in their own organizations and economies and ways to share their experiences and knowledge gained.

Through the sound evaluation process, online training and examination, there was a demonstrated increase in the skills, knowledge, and self-confidence of these mid-level career women working in the energy sector of APEC economies. It is advised that APEC continue to support such lean and affordable projects that have the ability to change lives.

The enthusiasm and commitment shown by the participants in this initiative has demonstrated that APEC's support of women's advancement in the renewable energy sector is critical and extremely valuable. There continues to be a need to increase both technical and soft skills that will further support women's career development and increase their contribution to APEC's economic development.

Below is a list of recommendations that could be taken on board for both replicating and extending the scope of this initiative:

- **Further increasing the gender curriculum:** Interactions with participants, and particularly, the questions posed during the face-to-face meeting in Singapore, revealed a desire to have more in-depth knowledge on gender mainstreaming, at least at two levels: project design and institutionalization.
  If this initiative was to be replicated, those aspects of the on-line training could be further strengthened. In addition, a longer session on empowerment and confidence building would be a useful addition to the in-person meeting, as indicated by the positive feedback received from the participants on this experience.
- **Restructuring the face-to-face training:** After running the training program, it was clear that participants would have benefited from both splitting and increasing the time allocated for the in-person training. Participants who are to engage in the development of the business plans would benefit from having a face-to-face week of training to run through the different tools, increase their understanding on the financial aspects of project development, practice pitching skills, reflect on empowerment and confidence building, and have at least a full-day session to undertake a gender analysis of their proposal.
  A second in-person session, where participants come together to present their final business plans to energy experts, could take place before or on the margins of a large energy event, allowing participants to experience not only a class room-controlled pitching but also interacting with potential investors in a real-life environment.

- **Monitoring progress and further strengthening mentoring skills:** Participants in the face-to-face training suggested having an opportunity to follow up as a group, to not only reinforce knowledge, but more importantly to reconnect and exchange challenges and achievements of going back to their day-to-day settings after a training of this calibre. Supporting an opportunity like this would also facilitate the development of a structured mentoring program, where participants could learn how best to become a mentor–now they are supporting each other on a peer-to-peer basis--and bring a potential mentee to the event, thereby increasing the impacts of the event.
  If a second training program is developed in the future, participants in that opportunity could also join or benefit from exchanges with the first generation of participants to this initiative.
- **Increasing the training period:** An initiative like this, designed to support women in their careers with different mentoring elements, would benefit from having at least a 12-month implementation period. Taking into account contracting procedures and timeframes–both during negotiation phases and for financial and technical reporting-it would be advisable to think of an allocation of 18 months for a similar initiative in the future. Recognizing structured APEC project timelines, some creative approach to extending the time to execute such a comprehensive programme could help maximize the potential benefit to women in the APEC region.

More broadly, replicating this type of technical training alongside analysis of gender implications and opportunities to develop soft skills and confidence to implement the technical knowledge gained, would be useful across all APEC technical areas—not just energy. All too often, project overseers have difficulty incorporating gender aspects into their technical projects. This type of model demonstrates one concrete method to do so.

The mentoring and networking components of this program could be easily replicated across the APEC working groups. Mentoring could be incorporated directly into a technical project, as was done in this case, or an APEC project could be focused specifically on mentoring women in a particular technical field. This could be done in collaboration with a number of international organizations that have similar mentoring programs or networks of experts in leadership positions who may be willing to volunteer their time and/or expertise to serve as mentors to women in the APEC region. Such international efforts could include the Clean Energy Education & Empowerment (C3E) under the Clean Energy Ministerial (CEM), IRENA's work on Women's Leadership and Renewable Energy, among others.

Even after a mentoring program is established, it would be useful to reconvene those mentored to share their personal experiences and growth and perhaps become mentors to others. Mentees can also share how they worked to implement policy or programmatic changes within their own organizations to improve opportunities for women and promote their career advancement, or provide suggestions on the types of organizational changes needed. These insights could feed into an APEC workshop on best practices for recruitment, training and retention of women in technical fields. Any formal mentoring program established within APEC would likely have reverberations across the region as many would replicate mentoring or networking in their home economies. Finally, the APEC Secretariat could also help establish APEC networks given its direct access to policy and technical experts across the APEC working groups to capitalize on the expertise already engaged in APEC programmes.

6 Annexes

Annex 1: Participants selection criteria

Selection criteria

In order to seek balance in the representation of the APEC economies and focus on the 11 travel eligible APEC economies candidates will be evaluated according to the following criteria with scores being from 0 to 5 (*where 0 is low and 5 is high evidence or clarity of ideas). Maximum of 20 points is required to qualify for the programme.

Item	Topics for evaluation	Maximum points allocated	Weighting category	Scores for each category
1	**Economy of origin**	2	APEC economy	1
			APEC travel eligible economy	1
2	**Place of work**	2	Ministry, public institution, grid operator, power generation company, other private sector company, project developer, RE enterprise, finance institution or NGOs	2
			Freelancer	1
3	**Years of work (Experience)**	2	< 6	0
			6 to 12	2
			> 12	0
4	**Role at job**	1	Responsible for projects/ persons	1
			Supporting others	0
5	**Language skills**	1	Native speaker, Excellent, Good	1
			Little/ No knowledge	0
6	**Motivation to take part**	15	Quality and completeness of application*	5
			Clarity and enthusiasm to join*	5
			How well does the program link to planned future career*	5
7	**Possess a business idea**	10	Quality and promise of suggested project*	5
			Excitement and presentation of concept*	5
8	**No business idea but willing to develop one (names technology)**	2	Yes	1
			Technology	1
	Total	**35**		

Annex 2: Course overview of the optional topics

Overview of RE industry

Introduction to energy

Study time	10 hours
Content	Development of energy demand, physical basics, units and conversions
Learning Outcomes	Upon completion of this course, participants will be able to…… • describe the global situation of energy supply and demand • differentiate forms of energy as well as energy and power • name fundamental parameters, units and conversion factors related to energy topics

Introduction to electricity

Study time	10 hours
Content	Electric basics, electric energy and electric power
Learning Outcomes	Upon completion of this course, participants will be able to…… • describe the basic technological terms and principles governing the operation of electrical power systems • give reasons for keeping grid frequency stable • explain why power systems are typically built as three-phase AC systems • distinguish between electric energy and electric power

RE Technology development and operations

PV – application

Study time	20 hours
Content	PV system / Grid connected / Off-grid, Application, Components of a PV system Physical aspects, Energy yield and Performance Ratio
Learning Outcomes	Upon completion of this course, participants will be able to…… • categorize different PV system applications • select the correct system configuration and size the necessary components according to the chosen application • analyse the impact of different parameters on the PV system power output and • evaluate the economic aspects of PV systems including energy yield, metering options and costs

PV – technology

Study time	20 hours
Content	Physics of PV cells, Types of PV cells, PV Modules
Learning Outcomes	Upon completion of this course, participants will be able to…… • explain the principles of the photovoltaic effect • describe the characteristics of the different types of PV cells and modules • paraphrase the impact of efficiency and shading on PV modules and • select the appropriate PV array configuration for each purpose

Solar thermal

Study time	20 hours
Content	Introduction to solar thermal, How solar thermal works, Solar thermal collectors, System types, Solar thermal system components Basic system sizing, Installation, commissioning, operation and maintenance, Economics
Learning Outcomes	Upon completion of this course, participants will be able to…… • present the relevance of solar thermal in the energy mix and its basic economics • explain how solar thermal systems and their system components work • differentiate types of solar thermal systems and solar thermal collectors and • describe basics of system sizing, installation, commissioning, operation and maintenance

Biogas

Study time	20 hours
Content	Fundamentals, Classification, Components Feedstock, Energetical conversion of biogas, Utilization of digestate
Learning Outcomes	Upon completion of this course, participants will be able to…… • describe the potential of and define basic terms of bioenergy • classify the most frequent biogas system types, their components and purpose • paraphrase the basic functioning and biological processes of a biogas plant • explain the different outputs of a biogas plant and their use

Small hydropower

Study time	20 hours
Content:	Introduction to the unit 'Fundamentals of small hydropower', different types of hydro plant, resource assessment, civil engineering components, electro-mechanical, equipment, costs
Objective:	Upon completion of this course, participants will be able to…… • distinguish different types of hydropower plants and their main components, • calculate the power from a flow of water and describe different methods of measuring flow rate and head, • explain the civil and electro-mechanical engineering system design and • present specific costs as well as a cost breakdown of a sample scheme.

Wind power

Study time	20 hours
Content:	Physical basics, wind turbine elements, wind farm planning
Objective:	Upon completion of this course, participants will be able to…… • assess the potential and requirements for wind energy (e.g. resources, site selection) • decide which of the most widely used system types and components are to be used for which purpose • employ the basic parameters for system sizing and roughly calculate the energy yield • sketch the planning and implementation steps for a wind power plant

Geothermal

Study time	20 hours
Content:	Introduction, market potential of geothermal energy, applications, economic aspects of geothermal energy systems
Objective:	Upon completion of this course, participants will be able to…… • distinguish different applications of geothermal energy systems in connection with geological requirements, • name the current market development and the market potential for geothermal energy, • explain the phases of geothermal project development and • evaluate geothermal energy based on economic, environmental and social aspects.

Annex 3: Course overview of the mandatory topics

RE value chain

Introduction to renewable energy projects

Study time	10 hours
Content	Renewable energy projects, financial aspects of RE projects, non-financial aspects of RE projects
Learning Outcomes	Upon completion of this course, participants will be able to…… • illustrate the steps and tasks of a project life-cycle of RE projects • compare different public and private perspectives onto RE projects and • assess project attractiveness with standard methods

RE value chain

Study time	1,5 hours
Content	Definition of value chain, renewable energy value chain, the case of PV
Learning Outcomes	Upon completion of this course, participants will be able to…… • illustrate the steps and tasks of adding value along the RE project life-cycles • compare different public and private perspectives onto RE projects and • assess project attractiveness with standard methods

Business models

Introduction to business model

Study time	1.5 hour
Content	Main actors in PV-Markets, market participants in PV, “big picture”, i.e. upstream and downstream sector in PV, How to actively participate in the development of the PV market, Aspects to consider when entering the PV market
Learning Outcomes	Upon completion of this course, participants will be able to…… • be able to differentiate the photovoltaic market in emerging markets in its main actors • be able to understand and restate the value chain in PV business in general with its four main actors • be able to predict the main activities of these actors

Key stakeholders

Market overview of global RE and EE financing

Study time	10 hours
Content	Renewable energy finance market overview , energy efficiency finance market overview
Learning Outcomes	Upon completion of this course, participants will be able to…… • describe the global investment situation and major trends renewable energy and energy efficiency finance as well as the trends of the different technologies and regions • classify and define renewable energy and energy efficiency finance as well as asset classes • distinguish different types of investors and • explain current development in Asia-Pacific markets

Understanding social and gender dimensions of renewable energy projects

Social and gender aspects of energy projects

Study time	10 hours
Content	The gender and energy nexus, addressing gender considerations in the project cycle, Strategies for addressing gender considerations in the energy interventions
Learning Outcomes	Upon completion of this course, participants will be able to……

	• Differentiate between gender sensitive and gender responsive interventions and that women and men are different stakeholder groups • Visualize how to increase benefits for women and men in RE projects • Collecting women and men's voices in community consultations • Forced relocation, social and gender impacts projects • Enforce women's participation in the RE workforce and marketing

The International Context of Gender Equality and Renewable Energy Frameworks

Study time	1,5 hours
Content	energy policies and women, how the RE sector open to women's participation, financial opportunities for women
Learning Outcomes	Upon completion of this course, participants will be able to…… • Identify sources of finance and how to use them • Know how to penetrate the RE sectors • Employ strategies that address gender in proposal

Understanding investment decisions

Renewable energy project finance

Study time	40 hours
Content	Part I: Process perspective on RE project financing and bankability assessments, three different financing options, the financing process in four steps, part II: Business plan requirements from the banker's perspective
Learning Outcomes	Upon completion of this course, participants will be able to…… • demonstrate the different financing options of renewable energy projects in principle and the project finance option in more detail • perform a risk assessment for renewable energy projects • interpret a bank's view of the risks related to PV, wind, and biogas plants and • collect the data required for a bankability assessment of a renewable energy project

Addressing project risks

Methodology of project valuation

Study time	40 hours
Content	Setting the scene – Renewable Energy Projects (REPs) and their players, fundamentals of investment appraisal, non-financing aspects, REP financing options, REP risks and uncertainties, basic financial principles, financial performance indicators
Learning Outcomes	Upon completion of this course, participants will be able to…… • describe principles of corporate finance, project finance and project appraisal • demonstrate concepts of risk and uncertainty as well as risk assessment instruments • illustrate basic financial principles including the time value of money • perform calculations of important economic parameters to assess the viability of a renewable energy project

Successful RE procurement practices

Tendering and evaluation of renewable energy projects

Study time	3 hours
Content	Overview of typical terms of references (ToRs), objectives evaluation criteria and their ranking, distinguishing between prohibitive and essential tender conditions Systematic assessment and correct interpretation of technical information provided in proposals, Large-scale PV, wind and bioenergy technical/ financial 101
Learning Outcomes	Upon completion of this course, participants will be able to…… • analyse and optimise existing tender documents for renewable energy technology • better evaluate especially the technical information in proposals

Annex 4: Training schedule

Schedule: Empowering Women as Managers of the Renewable Energy Sector

29.10.2018 until 02.11.2018

Park Avenue Rochester, Singapore

Time	29.10.2018	30.10.2018	31.10.2018	01.11.2018	02.11.2018
09.00 - 10.30	**Introduction of lecturers and participants**	**Policy and regulatory frameworks for RE market development**	**Business plans for smaller investments in RE**	**Business Plan Pitch 1 & 2**	**Business Plan Pitch 9 & 10**
	▪ Welcoming / introduction of participants ▪ Seminar goals and objectives ▪ Presentation of the project ▪ Expectations	▪ Comprehensive energy-sector planning. ▪ The assessment of technology, market, social & development potentials ▪ Key policy components ▪ Financing and the roles of the public and the private sector	▪ Project life cycle and cost analysis ▪ Financial indicators ▪ Determine CAPEX and OPEX ▪ Resource estimation Business case formulation ▪ Business case formulation	▪ Business plan 1 ▪ Feedback from a selected panel ▪ Business plan 2 ▪ Feedback from a selected panel	▪ Business plan 8 ▪ Feedback from a selected panel ▪ Business plan 9 ▪ Feedback from a selected panel
Lecturer	**Ms Emilienne Tingwey**	**Ms Ieva Indriunaite**	**Mr Bernd Wollwerth-Carl**	**Ms Ieva Indriunaite**	**Ms Ieva Indriunaite**
10.30 - 10.45	*coffee break*	*coffee break*	*coffee break*	*coffee break*	*coffee break*
10.45 - 12.15	**Co-benefits of RE**	**Investment risks and de-risking**	**Business plans for smaller investments in RE**	**Business Plan Pitch 3, 4 & 5**	**Business Plan Pitch 10, 11 & 12**
	▪ Environmental & climate protection ▪ Energy security ▪ Economic development ▪ Financial stability ▪ Employment and broader social goals	▪ Overview of investment barriers ▪ Dominant investment risks ▪ De-risking policies & measures ▪ Financial enablers ▪ Fiscal policies ▪ Contractual and legal measures	▪ Assessment of project value ▪ Financing sources ▪ Bankability assessment / due diligence ▪ Risk and risk management instruments ▪ Challenges and solutions	▪ Business plan 3 ▪ Feedback from a selected panel ▪ Business plan 4 ▪ Feedback from a selected panel ▪ Business plan 5 ▪ Feedback from a selected panel	▪ Business plan 10 ▪ Feedback from a selected panel ▪ Business plan 11 ▪ Feedback from a selected panel ▪ Business plan 12 ▪ Feedback from a selected panel
Lecturer	**Ms Ieva Indriunaite**	**Ms Ieva Indriunaite**	**Mr Bernd Wollwerth-Carl**	**Ms Ieva Indriunaite**	**Ms Ieva Indriunaite**
12.15 - 13.45	*lunch break*	*lunch break*	*lunch break*	*lunch break*	*lunch break*
13.45 - 15.15	**Gender aspects in the RE sector**	**Development of large scale RE Projects I**	**Bankable business plans for companies in the RE sector**	**Business Plan Pitch 6 & 7**	**Business Plan Pitch 13 & 14**
	▪ Review of gender concepts ▪ Identifying gender objectives ▪ Defining gender activities, budget and indicators ▪ Institutionalization process▪	▪ Site selection and feasibility study ▪ Definition and securing of project ▪ Detailed design and permits ▪ Risk evaluation and mitigation strategies	▪ What is the purpose of a bankable business plan (BP) ▪ Actors and companies along the RE value chain ▪ Key aspects of BPs ▪ First steps for creating a BP	▪ Business plan 6 ▪ Feedback from a selected panel ▪ Business plan 7 ▪ Feedback from a selected panel	▪ Business plan 13 ▪ Feedback from a selected panel ▪ Business plan 14 ▪ Feedback from a selected panel
Lecturer	**Ms Ana Rojas**	**Mr Bernd Wollwerth-Carl**	**Mr Bernd Wollwerth-Carl**	**Ms Ieva Indriunaite**	**Ms Ieva Indriunaite**
15.15 - 15.30	*coffee break*	*coffee break*	*coffee break*	*coffee break*	*coffee break*
15.30 - 17.00	**Gender aspects in the RE sector**	**Development of large scale RE Projects II**	**Entrepreneurship business plan example**	**Evaluation session**	**Evaluation session**
	▪ Exercise: assessment of own project ▪ Plenary: presentation of projects and feedback	▪ Setting up a Special Purpose Vehicle (SPV) ▪ Required project contracts ▪ Project Finance & Implementation ▪ Operation and Maintenance	▪ Main tasks to consider for starting project development business ▪ Discussion of BP example ▪ Sensitivity analysis ▪ Exercise (role play "banker" vs. "entrepreneur")	▪ General discussion ▪ Evaluation of results	▪ General discussion ▪ Evaluation of results ▪ Feed back from participants ▪ Certificates
Lecturer	**Ms Ana Rojas**	**Mr Bernd Wollwerth-Carl**	**Mr Bernd Wollwerth-Carl**	**Ms Ieva Indriunaite**	**All lecturers**

Colour:	Lectures	Business pitches	Practicals

Annex 5: Pre-seminar survey

Empowering Women as Managers of the Renewable Energy Sector APEC Project

PPWE 03 2017A

29-31 October 2018
Singapore

What is Your Level of Knowledge Coming into the Training?

Introduction: We kindly ask you to fill out surveys at the beginning and end of the training to assess your level of knowledge gained. The information you provide below is strictly confidential and no individual data will be shared with external entities. Thank you for taking the time to fill out this form.
PLEASE FILL OUT THIS QUESTIONNAIRE AND RETURN IT TO THE WORKSHOP ORGANIZERS NO LATER THAN DURING THE FIRST COFFEE BREAK.

Personal data

Name	
Economy	

Please rate your knowledge of the topics that will be covered by the training (how well you know the subject) using the following scale:

- **0** : No Knowledge (I have never learned about this subject matter before)
- **1** : Limited (I have heard about this subject matter or received limited training before but not in-depth)
- **2** : Medium (I have received training on or studied this subject matter and understand the topic but might have difficulty applying it effectively)
- **3** : High (I have received substantial training on or extensively studied this subject matter and would be able to apply it effectively)

	AFTER the event… Please rate your knowledge on …	0	1	2	3
1	**Co-Benefits of Renewable Energy**	○	○	○	○
2	**Policy and Regulatory Frameworks for RE Market Development**	○	○	○	○
3	**RE Investment Risks and De-Risking**	○	○	○	○
4	**Business Plans for Smaller Investments in RE**	○	○	○	○

Annex 6: Post seminar survey

Empowering Women as Managers of the Renewable Energy Sector APEC Project

PPWE 03 2017A

29-31 October 2018
Singapore

What is Your Level of Knowledge Coming out of the Training?

Introduction: We kindly ask you to fill out surveys at the beginning and end of the training to assess your level of knowledge gained. The information you provide below is strictly confidential and no individual data will be shared with external entities. Thank you for taking the time to fill out this form.
PLEASE FILL OUT THIS QUESTIONNAIRE AND RETURN IT TO THE WORKSHOP ORGANIZERS NO LATER THAN DURING THE FIRST COFFEE BREAK.

Personal data

Name	
Economy	

Please rate your knowledge of the topics that will be covered by the training (how well you know the subject) using the following scale:

0 : No Knowledge (I have never learned about this subject matter before)
1 : Limited (I have heard about this subject matter or received limited training before but not in-depth)
2 : Medium (I have received training on or studied this subject matter and understand the topic but might have difficulty applying it effectively)
3 : High (I have received substantial training on or extensively studied this subject matter and would be able to apply it effectively)

	AFTER the event… Please rate your knowledge on …	0	1	2	3
1	**Co-Benefits of Renewable Energy**	○	○	○	○
2	**Policy and Regulatory Frameworks for RE Market Development**	○	○	○	○
3	**RE Investment Risks and De-Risking**	○	○	○	○
4	**Business Plans for Smaller Investments in RE**	○	○	○	○

Annex 7: Evaluation questionnaire

nedworc foundation organisation for independent consultants — SD STRATEGIES — renac renewables academy

Empowering Women as Managers of the Renewable Energy Sector

29th October – 2nd November 2018 in Singapore

Dear participant,

In order to prepare and conduct our training courses to the full satisfaction of our participants, we would like to ask you to answer some questions regarding the quality of the attended course.

Thank you very much!

I. Course organization

	Very good	Good	Average	Poor	Very poor
Communication with the organizers before the course	☐	☐	☐	☐	☐
Provision of information/training material	☐	☐	☐	☐	☐
Training location	☐	☐	☐	☐	☐

Comments: _____

_____

II. Course content

	Very good	Good	Average	Poor	Very poor
Match between the actual course and your personal needs and expectations	☐	☐	☐	☐	☐
Balance between theory and practice	☐	☐	☐	☐	☐
Rating of your personal learning progress	☐	☐	☐	☐	☐
Available time for group work/ practicals/ discussion	☐	☐	☐	☐	☐

Comments: _____

_____

What was the highlight of the course? What did you like best?

_____

_____

What could be improved in future courses? Were any topics missing?

_____

_____

Do you have any additional training needs, which were not topic of this course? Please specify.

_____

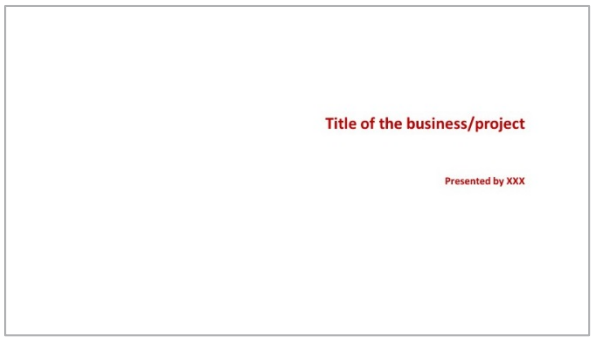
_____

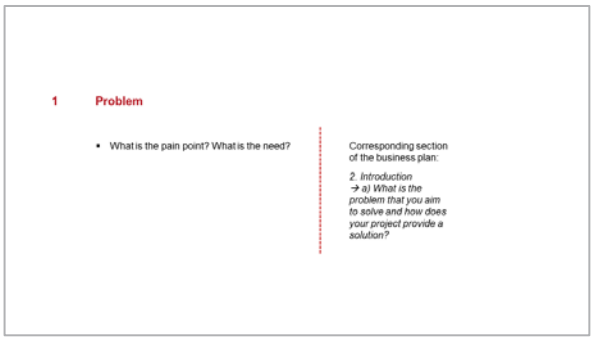
How useful was the online course before the classroom course?

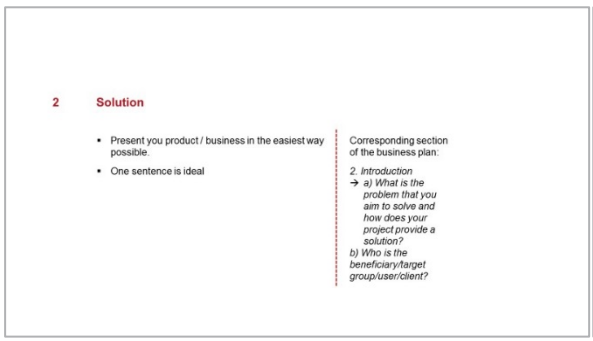
_____

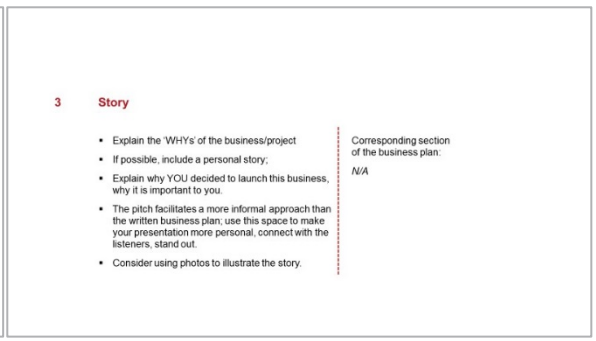
_____

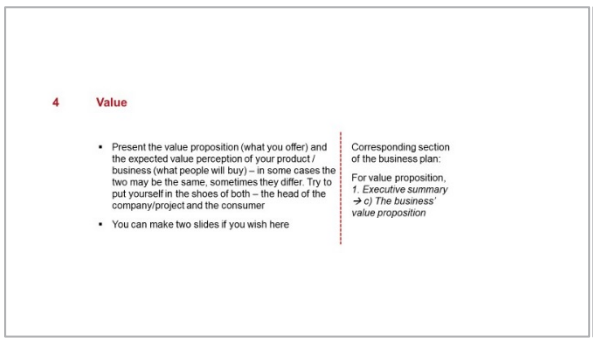
Annex 8: Pitching presentation guideline

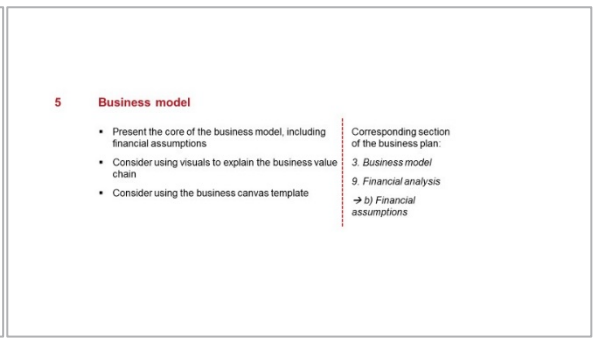


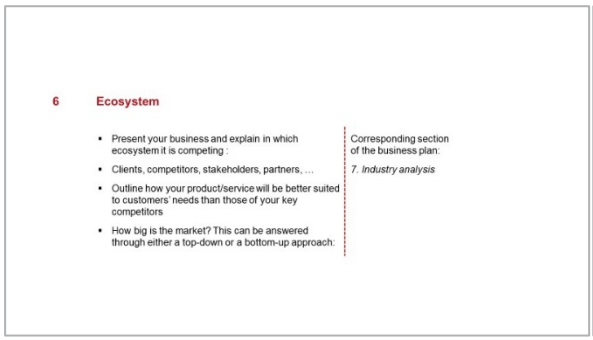


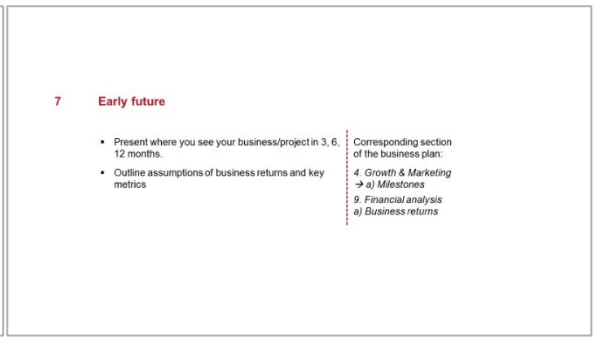


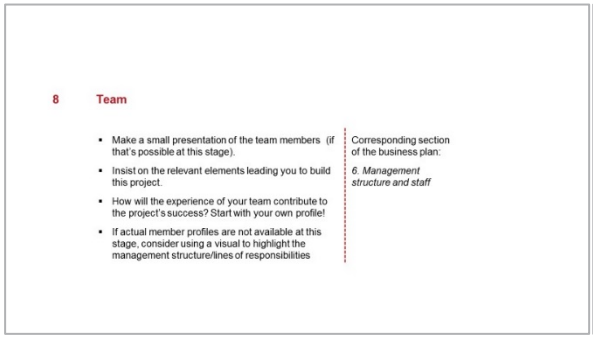












Annex 9: After seminar evaluation comments

- **Course organization**
  - Make it more time-efficient for the classroom sessions.
  - Singapore amazing. Great to learn about the business culture. Great location (hotel).
  - The course is well organised.
  - The schedule is quite tight and compact training location is ideal to be in the same place as our hotel.
  - Although the location's installations are good and comfortable, they were far from Singapore Energy week location.
- **Course content**
  - Love how interactive the sessions were. More practical sessions would be better.
  - More time needed to do one on one's pitching and improve our skills.
  - Looking for a long mentoring program & face-to-face mentoring process. More knowledge on financial analysis.
  - Personally, I feel shortcoming on the mentoring phase to assess my business plan before the pitching and polish my financial analysis.
  - Starting from the online course until face to face training, everything is perfected (as expected), except the mentoring session. Have less time for discussion with mentor.
  - We need more key tips from experts.
- **Course highlights and recommendations**
  - The fact that we are expected to develop a business plan, however, we the selected participants, we ourselves are being developed/moulded into a better and capacitated woman in renewable energy field.
  - Gender, business pitching.
  - I really liked the team, meet other women who share my concerns.
  - The pitching with the experts. Of course, the online training all made me ready for it.
  - Meeting this beautiful group of great multicultural women including trainer and organizers.
  - Empowering women to participate actively. What I like the best is the face to face course and engagement between participants and lecturers!
  - Business pitching presentation.
  - The implementation or integration concept of gender equality in workplace/ energy sector/ highly favour man over woman culture.
  - Practical training on financing + women personal empowerment.
  - Enlace between theory & practice
  - Business planning and pitching is the highlight in my view. This made me practice a lot on business development skills and combine my technical knowledge. I like the contents of online courses and workshops.
  - Gender mainstream and how to include it in a project, daily life!
  - Gender "bias".
- **Missing topics and improvements**
  - One-on-one mentoring session before the pitching (face to face).
  - I was interested in deepening my knowledge in financing.
  - Spend more time in financial evaluation. Spend less time in sustainable goals. Time for one on one pitching advice.
  - Elaboration in financial analysis. Having more inputs during the mentorship

  - The mentoring program before the submission of business plan or maybe further mentoring after business plan is selected. Empowering our self/ women in energy -> more examples, discussions, and study cases.
  - The political application of theories on countries level, rather than high level that we rarely touch.
  - Entrepreneur topic. Site visit to the successful woman entrepreneur.
  - I would like to learn more about financial analysis. Maybe, both online course and face to face training should include this thing.
  - Financial part: Need more detail (like go through each business plan; thus, not really theoretical, and it should happen before F to F meeting. Mentoring: Not practical for me, my mentor has limited time for me (only one slope and he has different expectation on the mentoring session)
  - Service-oriented financial evaluation
- **Additional training needs**
  - Renewable energy, energy efficiency, finance, accounting
  - More sessions on investment and financing. Time allocated
  - Detailed financial assessment for projects
  - Financial analysis for various technology of RE
  - In depth financial analysis/creating financial model of RE project. Discussing the requirement / strategic to obtain funding from development bank/ private bank.
  - More financial analysis tools before the development of the business plan.
  - Entrepreneurship
  - As mentioned above, I would like to learn on financial analysis.
  - Yes!! RE policy, financial analysis (investment banking)
- **Best/least learning effect**
  - Very useful. It provides good guidelines how to process and develop a comprehensive business plan.
  - Helpful and quite comprehensive, but probably better to use “lighter” language/sentences in the module.
  - Great!
  - I thought the online course was very good, well structured. The self-tests were very useful.
  - Useful enough for creating business concept or proposal.
  - Very useful!
  - Very useful, except related to gender issue (for gender issue really need discussion/ face to face forum)
  - It was great for building foundational knowledge.
  - It was quite useful
  - It was useful providing a fundamental and technical knowledge for business planning and workshop.
  - It’s useful, but more theoretical -> probably need some practical session in additional to business plan
  - RENAC material was very good. Webinar sessions could be improved. They were topics to cover online.
- **Personal Statements**

- Thank you. I'm so grateful that there is such training for women in the RE sector. I feel so privileged to be able to attend such a structured program, empowering women – technically, financially. And as individual this also provide me a very string network with so beautiful, competent and inspiring women.
- Thanks for arranging this. It personally impacts and sort of is motivating a lot in encouraging myself to work on the idea particularly and believing in my ability and potential.
- It was a great experience, thanks for the opportunity it motivates me to be able to transmit this to other women who work with me.
- So happy to be part of it!
- I am grateful for having the opportunity to participate in this training. I gain self confidence in many aspects and will come back to my country full of ideas and opportunities. We need this kind of training for other women, so we can build a community and help each other to progress. Thank you!
- Thank you, APEC, RENAC and all partners involved for the opportunities. Hope to get further capacity building in regard to build business plan feasible and viable.
- Lucky me to be here! Thank you!
- I feel honoured to be the final participants in this program. If given more time I want to polish more my business plan and explore more or incorporate more women empowerment in corporate level in my business plan. I also want to maintain the network that I gain from this training.
- We would be happy if our mentor is also coming to the training so we can have an intensive mentorship
- Thanks APEC, RENAC, SD Strategies and other partners on implementing this training program. It is very useful, can improve my skills and help me to achieve in my career path.
- I really love the training, the whole process, starting from the online course until the pitching session!! I learned a lot, especially the gender factor and how the investors see an investment!! The only missing part is the mentoring program. It seems that between mentor and me, we have different expectation about the mentoring program. I mostly did all the business plan/financial model my own, did not get any feedback. Thus, I don't know if I calculated in a right way.
- I really enjoyed the training. Although more cohesion between the partners. RENAC material was very good, but not related to SD Strategies. Gender should be a subject only of the practical part. I understand you wanted to give that idea to the initial 50 but it has to be exercised in person. Maybe also with more time.