

Clean Energy Startup Support Programs Project

Public Project Knowledge Sharing Report

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Executive Summary

This Final Report documents the progress, outcomes and lessons learnt from EnergyLab's Clean Energy Startup Support Programs Project.

Project overview

The Project, completed with the support of ARENA's Advancing Renewables Program, involved delivering four startup support programs to accelerate entrepreneurs' progress in deploying renewable energy and complementary technologies. An overview of these programs is presented below:

Program	Objective	Number of startups	Delivery dates
Pre-Acceleration Program	Help entrepreneurs with an idea for an energy startup to test its commercial viability and secure launching support	16	22 July 2020 to 14 October 2020
Acceleration Program	Help the most promising energy startups launch a product into the market, secure their first customers and raise a seed round	6	17 February 2020 to 30 October 2020
Scaleup Program	Connect the best later-stage startups from around the world with potential partners, provide them with mentorship from successful energy entrepreneurs, and help them raise a series A round	13 (10 AUS-based, 1 NZ-based and 2 USA-based)	31 August 2020 to 19 February 2021
TOTAL STARTUPS PARTICIPATING		35	
Women in Clean Energy Fellowship	Equip women interested in energy entrepreneurship with the skills, knowledge and support they need to start a company	43 participants across two cohorts	First 2020 cohort: 11 March 2020 to 27 May 2020 Second 2020 cohort: 16 September 2020 to 2 December 2020

Table 1: Startup support programs overview

Events and achievements

EnergyLab's key events and achievements during the Project included:

- Public virtual events (Acceleration Program Showcase and Scaleup Program Launch and Showcase events)
- Delivering a program dedicated to scaling late-stage clean energy startups for the first time
- Building the pipeline of cleantech entrepreneurs in Australia through having founders complete sequential programs with us
- Successfully transitioning to 100% online program delivery during COVID-19.

The startups completing our programs also made a number of notable achievements during the Project including sales to (and partnerships with) early customers, successful capital raises and a collaboration with the Australian Energy Market Operator.

Program recruitment

To recruit startups for each of our programs, we used public and private communications/promotion channels including newsletters, social media and traditional media. We also leveraged our networks in the cleantech startup ecosystem to help 'spread the word' and conducted extensive market research to identify potential applicants.

Industry collaboration and impact

Industry collaboration activities undertaken during the Project included:

- Involving members of the clean energy and entrepreneurship sectors as mentors in the Acceleration, Scaleup and Women in Clean Energy Fellowship (WICEF) programs
- Forming partnerships with utility organisations for (and through) the Scaleup Program
- Inviting industry representatives to view and critique pitches by Scaleup Program participants
- Making our online program launch and showcase events available for partners and other industry representatives to attend.

Impact-wise, these collaboration opportunities enabled us to increase industry awareness about the 'state of play' for clean energy startups in Australia and overseas; facilitate connections between industry stakeholders; and accelerate the development, deployment and commercialisation of renewable energy technologies.

Project outcomes

As per the outcomes set for the Project, our delivery of the four startup support programs listed above has:

- Increased the level of expertise, skills and capacity in the renewable energy technology sector by supporting and mentoring startups
- Improved the technology readiness and commercial readiness of renewable energy technology by identifying pathways to commercialisation
- Increased the value delivered by renewable energy by bringing together multiple value streams to help develop technologies, businesses and markets to reduce cost and increase renewable energy uptake.

Lessons learnt

During this Project, we've learnt a number of lessons about supporting cleantech startups in relation to program design and delivery, founder engagement and partnership building. We've been pleased to learn, first of all, that participants derive substantial value from our programs (as evidenced by the high Net Promoter Scores received). The significance of networking opportunities in creating this value for founders has also become apparent, as has the positive impact of our 'matchmaking' approach to facilitating partnership conversations as part of the Scaleup Program.

The challenges encountered while delivering this Project have provided valuable learning opportunities also. Achieving and maintaining early- and late-stage founder engagement in our Pre-Acceleration and Scaleup Programs required a (somewhat unexpectedly) large amount of time and effort from the EnergyLab team, and our experience facilitating startup/utility partnership conversations for the first time brought to light the extended timeframes such discussions typically involve.

In response to the onset of COVID-19, we've also learned a great deal about operating in the virtual environment. All our programs were able to be transitioned online with minimal disruption (and in some cases, this transition ended up creating additional value through increased connectedness across geographic regions). Founders were also able to stay connected and engaged via our online communication platforms.

Overall, our experiences and learnings from this Project have led us to arrive at conclusions/recommendations including:

- Continued delivery of startup support programs for renewable energy entrepreneurs would be of significant benefit to the cleantech startup ecosystem
- Networking, mentoring and coaching opportunities are often the components of highest value for participants, making their inclusion (and, where possible, maximisation) critical for future programs
- 100% virtual program delivery is feasible, and worth complementing with face-to-face activities as COVID-19 restrictions allow.

Next steps

EnergyLab's focus following the completion of this Project will be on program delivery for 2021. Our Acceleration and Scaleup Programs will run again this year, as well as at least one more round of WICEF. We will also continue engaging with (and supporting) the cleantech startup ecosystem more broadly through our membership offerings and events.

Having completed one (or more) of the programs run during this Project, we anticipate that our program participants' focus will now be leveraging the knowledge, skills and connections gained as they continue to develop, deploy and commercialise their clean energy technologies.

Introduction

EnergyLab's Clean Energy Startup Support Programs Project (the Project) comprised the design, (re)launch and delivery of four startup support programs to accelerate entrepreneurs' progress in deploying renewable energy and complementary technologies:

1. Pre-Acceleration Program
2. Acceleration Program
3. Scaleup Program
4. Women in Clean Energy Fellowship (WICEF).

This report details the Project's progress, outcomes and lessons learnt from its commencement in December 2019 to completion in February 2021.

Project overview

An overview of the four programs delivered as part of the Project is presented below:

Program	Objective	No. startups	Duration
Pre-Acceleration Program	Help entrepreneurs with an idea for an energy startup to test its commercial viability and secure launching support	16	3 months
Acceleration Program	Help the most promising energy startups launch a product into the market, secure their first customers and raise a seed round	6	9 months
Scaleup Program	Connect the best later-stage startups from around the world with potential partners, provide them with mentorship from successful energy entrepreneurs, and help them raise a series A round	13 (10 AUS-based, 1 NZ-based and 2 USA-based)	6 months (extended from an initial duration of 3 months due to COVID-19)
TOTAL STARTUPS PARTICIPATING		35	
Women in Clean Energy Fellowship	Equip women interested in energy entrepreneurship with the skills, knowledge and support they need to start a company	43 participants in total during 2020 (31 in first cohort and 12 in second cohort)	3 months

Table 2: EnergyLab programs overview

Key events and achievements

Significant events and achievements during the Project are outlined below.

Inaugural Scaleup Program cohort

This Project enabled EnergyLab to deliver a program dedicated to scaling up late-stage startups for the first time, extending our reach (and impact) within the cleantech startup ecosystem. Being partnership-based, delivering the Scaleup Program also enabled us to extend and strengthen our connections and collaboration with significant members of the energy sector including utility companies in Australia and New Zealand.

Scaleup Program Launch and Showcase events

Delivering our first Scaleup Program was an opportunity to try a range of new program delivery approaches and components, including online events to launch the program and showcase the startups' progress upon their graduation. Both the launch and showcase events were 'two-pronged'; a private 'VIP preview' event for program partners and invited guests was held first, followed by a public event. Event dates are listed below:

Scaleup Program Launch Event - VIP preview: 2 September 2020

Scaleup Program Launch Event - Public event: 4 September 2020

Scaleup Program Showcase Event - VIP preview: 17 February 2021

Scaleup Program Showcase Event - Public event: 18 February 2021

Acceleration Program Showcase event

An online showcase event was also held to celebrate our Acceleration Program cohort's graduation on 30 October 2020.

Pipeline development

We were particularly pleased to see evidence during this Project of our programs' effectiveness in helping to build Australia's pipeline of cleantech entrepreneurs. A number of participants from the first 2020 WICEF cohort went on to complete the Pre-Acceleration Program to develop their startup idea, and we've also had indications from our Acceleration Program cohort of their interest in applying for the Scaleup Program's next intake.

Transition to virtual delivery

The onset of COVID-19 during the Project led us to transition all programs online. For the Acceleration Program and Women in Clean Energy Fellowship (first 2020 cohort), this shift to

virtual delivery occurred partway through the program, while all other programs were delivered virtually from the start.

Despite encountering some challenges along the way (e.g. extra effort needed to maintain the 'cohort effect' online), we consider this transition to have been successful overall. Virtual delivery enabled all program outcomes to be achieved and, in some instances, added unforeseen value (e.g. enabling of startup/mentor relationships across geographic regions that were previously infeasible to connect in-person).

Startup successes

A selection of achievements made by the startups while participating in the programs delivered under this Project is outlined below:

Startup	Program	Achievement
Amperon	Scaleup Program	Collaboration with the Australian Energy Market Operator to examine the effect of bushfire smoke plumes on the electricity production of large scale solar photovoltaic farms in NSW, VIC, ACT and SA regions
Evergen	Scaleup Program	Successful capital raise with clean energy investment company Providence Asset Group
Everty	Scaleup Program	Installation of Schneider Electric EVlink chargers at Charter Hall's A-Grade properties in Sydney's King Street Wharf precinct with GSTEC (building intelligence and power solutions)
Good Car Co	Acceleration Program	First community bulk-buy of electric vehicles in Hobart, Tasmania
Gridcognition	Scaleup Program	Distributed energy pilot launched with New Zealand-based utility Counties Power Digital twin technology product launched Pre-seed investment round closed with a range of clean energy technology investors
Hiringa Energy	Scaleup Program	Supply agreement signed with Hyzon for 1,500 zero-emission hydrogen fuel cell-powered trucks Partnership established with Auckland Transport for hydrogen-powered bus service trials
Infravision	Scaleup	Collaborations with TransGrid to install transmission

	Program	lines and hardware using their drone technology
Renewable Energy Hub	Scaleup Program	First virtual storage hedge contract trade achieved between Hydro Tasmania and two buyers (Macquarie Group and ERM Power)
UPowr	Scaleup Program	Rooftop solar sales platform launched Australian Government Accelerating Commercialisation Grant secured
UtilityAPI	Scaleup Program	Flagship pilot secured with Silicon Valley Clean Energy to launch an energy data exchange platform demonstrating the potential of free, authorised access to standardised and automated energy usage data in accelerating the deployment of clean energy projects.

Table 3: Startup achievements

Program recruitment and the cleantech startup ecosystem

Recruitment activities for each program included:

- Promotion via public channels including the EnergyLab newsletter, social media, traditional media and via partner/associated organisations in the cleantech startup ecosystem
- Promotion via private networks including our EnergyLab internal newsletter and networks within the clean energy industry
- Targeted approaches to potential participants following periods of market research to identify potential candidates.

Overall, we consider these recruitment tactics to have been effective in attracting sufficient numbers of high-quality applicants for each program.

An overview of the startups selected to participate in each program is included overleaf.

Program	Startup	Startup description
Pre-Acceleration Program <i>Outcome: Entrepreneurs are supported to test the commercial viability of their energy startup idea and secure launching support</i>	Grids	Platform providing simple and easy access to energy market data
	Profergy	Cloud-based renewable energy asset operations management
	Oblong Energy	Air conditioning (cooling) as a service
	Huglo	Platform for managing distributed energy resource investments
	StarCluster	Data-driven green energy neo retailer
	Spark Australia	Service-based home energy platform
	Energy mates	New material for battery application with a high power density and extended lifetime
	GiveltAWhirl (Whirl)	Peer-to-peer platform to facilitate electric vehicle test drives
	Plate to Power	Plug-and-play food waste recovery digester
	Seed	Sustainable finance matching platform
	Enlivy	Crowd-sourced demand response
	Neptune Energy	On-shore wave energy generation
	Electric Future	Electric vehicle car sharing program within multi-residential premises
	Rinnovare	Solar panel recycling
	Ed Motorcycles	High-performance electric motorcycle manufacturing and reuse
ReSwitch	Online marketplace for solar panels and batteries	

<p>Acceleration Program</p> <p><i>Outcome: Startups are supported to launch their products into market, secure their first customers and raise a seed round</i></p>	Exergenics	Software for increasing the efficiency of air conditioning in commercial buildings
	Renewable Energy Laboratory (PVMaster)	AI-based forecasting and business intelligence for solar asset management
	Snowater	Design, installation and maintenance of solar systems for landlords and tenants
	The Good Car Company (Good Car Co)	Second-hand electric vehicle procurement and sales
	EcoPower Market	Platform for evaluating, selecting and purchasing energy efficiency property upgrades
	Fasade	Platform for helping companies minimise emissions related to their data management and cloud storage
<p>Scaleup Program</p> <p><i>Outcome: Startups are connected with potential partners, provided with mentoring and supported to raise a Series A round</i></p>	Amperon	Combines machine learning with deep energy and meteorology expertise to provide energy suppliers with best in class electricity demand forecasts
	Aurtra	Aurtra HealthSense enables asset managers to assess, analyse and act to maximise transformer life
	Evergen	Optimises energy storage systems and orchestrates large fleets of batteries to enable Virtual Power Plants
	Everyty	Provides a cloud-based Software as a Service (SaaS) platform to companies installing Electric Vehicle (EV) charging infrastructure that enables them to monitor, manage and monetise their assets
	Gridcognition	Planning and optimisation of distributed energy systems

	Hiringa Energy	Develops commercial scale green hydrogen projects
	Infravision	Unmanned Aircraft Systems for power line construction
	MGA Thermal	Clean, economical and scalable thermal energy storage with a novel material, to convert retiring thermal power stations into grid scale renewable energy storage facilities
	Powerpal	Connects electricity meters to smartphones and wirelessly tracks (in real time) exactly how homes are using energy
	Renewable Energy Hub	A clean energy marketplace and analytics platform supporting transactions by generators, energy retailers and customers in order to scale the uptake of renewable energy
	UPowr	A digital platform redefining the solar and battery experience for households
	UtilityAPI	Provides easy, secure, functional access to energy data
	Zenogen	Bringing a complete hydrogen ecosystem from hydrogen production to mobility to communities and businesses
Women in Clean Energy Fellowship <i>Outcome: Participants are equipped with the skills, knowledge and support they need to start a cleantech company</i>	43 individual participants across both 2020 cohorts	N/A

Table 4: Program participants overview

In undertaking the recruitment described above, we made a number of observations about the general characteristics of the cleantech startup system in Australia:

- The ecosystem seems largely concentrated in major cities (and along the east coast) with startups and investors, in particular, typically based in Sydney, Melbourne or Brisbane.
- Common 'types' of cleantech startup pursuits include:
 - Commercialising highly specialised technology
 - Building software and business models to improve energy efficiency and/or the accessibility of renewable energy technology for different types of customers
 - Providing products/services to support the large-scale deployment of renewable energy technology by utilities
- The ecosystem is gaining momentum as clean energy markets expand and capital flows into the sector increase
- There seems to be a fair degree of crossover between the cleantech startup ecosystem and the tech startup ecosystem more broadly (particularly for those startups building software). In general, this is considered a positive thing for cleantech startups, as it effectively widens the range of opportunities for support (through accelerators etc.), investment and network development.

Project Progress

This Final Report confirms EnergyLab's completion of the four programs delivered under the Clean Energy Startup Support Programs Project as detailed below.

Pre-Acceleration Program

The Pre-Acceleration Program ran from 22 July to 14 October 2020 with an objective of supporting 16 startups to test the commercial viability of - and secure launching support for - their cleantech idea.

Acceleration Program

The Acceleration Program ran from 17 February to 30 October 2020 with an objective of supporting six startups to launch a product into the market, secure their first customers and raise a seed round.

Scaleup Program

The Scaleup Program ran from 31 August 2020 to 19 February 2021 with an objective of supporting 13 late-stage clean energy startups to unlock their next wave of growth through connecting them to potential partners, providing mentorship from successful energy entrepreneurs and helping them raise a Series A round.

Women in Clean Energy Fellowship

The Women in Clean Energy Fellowship program was delivered to two cohorts during 2020. The first ran from 11 March to 27 May 2020, and the second from 16 September to 2 December 2020. Together, these programs equipped 43 aspiring female entrepreneurs with the skills, knowledge and support they need to start a cleantech company.

Industry collaboration activities and impact

Industry collaboration

Throughout the Project, we've been fortunate to have had numerous opportunities to collaborate with stakeholders in industry sectors including renewable energy, entrepreneurship, finance and utilities. These collaborations are outlined and evaluated below.

Mentoring

The Acceleration, Scaleup and WICEF programs all had industry mentor involvement, either in a one-to-one or group setting. These mentors were typically drawn from EnergyLab's network of over 250 industry personnel who have volunteered their time and expertise to support startups in our community, and come from sectors including cleantech entrepreneurship (and entrepreneurship more broadly), energy utilities, government, finance/investment and consulting.

Collaborating with industry in this mentoring context has proved very effective, with mentors often forming lasting relationships with startups they meet through our program. Once formed, these relationships have the potential to offer significant ongoing support for startups as they continue to grow and achieve commercial success.

Program partnerships

For the Scaleup Program, EnergyLab established formal partnerships with organisations including Powerlink, Counties Power, Nectar, the International Microgrid Association and FRV. These collaborations, too, proved very effective. Our Scaleup partner organisations provided a mix of financial and in-kind support to the program, and were (and remain) key enablers of the renewable technology commercialisation and deployment partnerships that arose with startups during the program.

Pitch viewing and feedback

The Scaleup Program also involved industry representatives through an opportunity for investors to view (and provide feedback on) participants' pitches towards the end of the program.

Inviting industry representatives to be involved in these pitch sessions proved a worthwhile way for startups to meet prospective investors and benefit from hearing an investor's perspective on their pitch.

Launch and showcase events

All our partners, as well as other industry representatives and relevant stakeholders, were invited to attend the following online events:

- Acceleration Program showcase
- Scaleup Program launch
- Scaleup Program showcase.

Inviting industry members to attend these events enabled us to provide maximum exposure for our startups to interested stakeholders (and vice versa). In turn, this has increased industry knowledge about the renewable energy technologies under development by startups in our cohorts, and has helped the startups expand and consolidate their industry networks.

Industry impact

We consider this Project to have had three primary forms of substantive impact on industry as outlined below.

Exposure and expertise

Through the collaborations mentioned above, our startup support programs have exposed industry members to a large and varied range of cleantech startups that are currently active in the ecosystem. Engaging with these startups has not only afforded industry members opportunities to learn about the companies and entrepreneurs themselves, but also about the renewable energy technologies they are working to develop and deploy (in effect, increasing industry's knowledge and awareness about the 'state of play' for cutting-edge clean energy technology in Australia and, for the Scaleup Program, overseas).

Connections

Our focus on facilitating connections with (and among) industry stakeholders through events, mentoring and program participation opportunities has contributed to connectedness within the clean energy and entrepreneurship sectors overall. In the Scaleup Program's case, introducing utility organisations to relevant startups within the cohort has also unlocked new partnership opportunities, offering the chance for these organisations to adopt/deploy new technologies in line with their organisation's strategy and objectives (with respect to innovation, in particular).

Technological progress

Perhaps most tangibly, our delivery of the startup support programs involved in this Project has accelerated the development, deployment and commercialisation of clean energy technologies. These technologies will now be available to industry for adoption (and/or iteration and further development, as appropriate) earlier and at a more advanced stage than would have been the case in the absence of this Project.

As such, we consider the Project to have had a positive industry impact overall through supporting the advancement of clean energy technology, markets and (ultimately) uptake.

Project Outcomes Assessment

All Project Outcomes have been achieved as outlined below.

Outcome 1: Increasing the level of expertise, skills and capacity in the renewable energy technology sector by supporting and mentoring startups

The Pre-Acceleration, Acceleration and Scaleup Programs all contributed to an increase in the level of expertise, skills and capacity among founders of existing startups in the renewable energy technology sector by providing various forms of support, including:

- Access to experts in the renewable energy industry
- Networking opportunities
- Entrepreneurship knowledge and skills development workshops.

The Acceleration Program also provided clean energy startup founders with tailored business coaching and access to mentors via facilitated speed networking sessions.

In addition, the Women in Clean Energy Fellowship has helped to increase the future levels of expertise, skills and capacity in the renewable energy technology sector by supporting and developing aspiring startup founders.

Outcome 2: Improving the technology readiness and commercial readiness of renewable energy technology by identifying pathways to commercialisation

Over the course of the Acceleration Program, participating startups improved the technology readiness and commercial readiness of their renewable energy technologies by:

- Developing their Minimum Viable Products
- Refining their commercialisation and business models
- Building their pitching and sales capabilities.

In addition, the Scaleup Program has facilitated new pathways to commercialisation. For instance, a commercialisation partnership has been established between Gridcognition and Counties Power, and discussions about the formation of additional partnerships are underway.

Outcome 3: Increasing the value delivered by renewable energy by bringing together multiple value streams to help develop technologies, businesses and markets to reduce cost and increase renewable energy uptake

The Scaleup Program, in particular, has helped bring together multiple value streams within the renewable energy sector to develop technologies, businesses and markets through:

- Facilitating introductions and initiating commercialisation & deployment partnerships between clean energy startups and energy utilities
- Providing networking opportunities to connect startups, program partners, industry members and investors
- Exposing and promoting the technologies developed by participating startups to the market via public and private showcase events.

Lessons learnt

Lessons learnt during the Project have been documented in three Lessons Learnt Reports (LLRs). A selection of the key lessons documented in these reports is summarised below.

Highlights and breakthroughs

High program satisfaction and value for founders

We've been very pleased to receive positive Net Promoter Scores (NPSs) for our programs overall. These scores demonstrate that program participants are deriving significant value from our programs, and indicate that the programs are appropriately designed to help accelerate cleantech entrepreneurs' progress in deploying (or preparing to deploy) renewable energy and complementary technologies.

Successful partnership facilitation

EnergyLab's execution of our 'matchmaking' role in the Scaleup Program has been an effective and impactful way of initiating conversations with partnership-forming potential between startups and energy utilities. While facilitating - and following up on - these conversations has required significant time and effort, the overall process has enabled the formation of promising commercialisation and deployment partnerships such as Gridcognition's collaboration with Counties Power on a distributed energy pilot.

Expanded networks and new supportive working relationships

Networking opportunities with mentors, investors and/or other industry stakeholders were often among the highest-valued program components for startups in our programs (indeed, feedback often indicated that participants would value more time being dedicated to these opportunities). As well as providing entrepreneurs a chance to make connections in the industry, in some instances these networking opportunities led to founders establishing long-term supportive relationships with mentors, finding an initial customer or engaging with a prospective investor; all interactions with potential for significant positive impact on their company's growth and success.

Strong cohort effect

We observed the formation of strong collegiate bonds among each program's participants, leading to a distinct 'cohort effect'. This effect helped enhance the program experience for participants by keeping engagement levels high and, with the aid of online communication channels, endured through our transition to virtual program delivery during COVID-19.

The enthusiasm participants displayed for getting to know - and learning from - each other highlights the importance of maximising opportunities for intra-cohort networking and knowledge sharing; a lesson we will bear in mind for future iterations of all our programs.

Challenges encountered

Founder time/bandwidth constraints

At times, achieving and maintaining founder engagement with the programs (e.g. attendance at workshops and responsiveness to communications) proved challenging.

This seemed to be the case for programs supporting startups both at early and later stages of their development. At the early-stage end of the spectrum, founders in the Pre-Acceleration Program were often pursuing their startup idea as a 'side hustle'; an addition to other commitments including full-time jobs and family responsibilities. This limited the amount of time and bandwidth they had available for program activities, leading to some inconsistency in attendance and engagement levels.

At the later-stage end of the spectrum, founders in the Scaleup Program often faced time and bandwidth constraints associated with the demands of their company roles. From a program delivery perspective, this led to similar challenges with maintaining attendance and engagement levels throughout the program's six-month duration.

To optimise engagement levels in the context of these time/bandwidth constraints, we put significant effort into designing (and adapting, where necessary) program schedules and logistics to best match founders' availabilities. While we consider this to have been necessary and worthwhile, it proved a fairly time- and effort-intensive approach, indicating that additional time/resource provision may need to be made for scheduling and liaison activities when designing future programs.

Partnership conversation timeframes

The timeframes involved with organising, facilitating and following up on potential partnership conversations between utility organisations and startups participating in the Scaleup Program have proved somewhat longer than we initially anticipated. For instance, coordinating between the busy schedules of founders and utilities representatives often resulted in long lead-times for individual conversations (and required significant time and effort from EnergyLab team members to coordinate). We also learned that, to help maintain momentum towards potential partnerships being formed, ongoing follow-up with founders and utilities will likely be required beyond their official graduation from the program.

Similarly to the founder time/bandwidth challenge discussed above, this learning implies a need to provide for significant amounts of time and effort dedicated to facilitating startup/utility conversations in future programs aimed at supporting late-stage founders through a partnership-focussed approach.

COVID-19

The COVID-19 pandemic presented a number of challenges during the Project. From a logistics point of view, delivering our programs face-to-face as initially intended was no longer feasible, requiring us to transition all programs online with limited notice. The pandemic also had a range of challenging implications for program participants, from the increased isolation founders experienced working at home (in what is often already a fairly solitary occupation) to the economic downturn's impact on their ability to generate revenue.

As mentioned in the Project Overview section, we've (fortunately) been able to respond to these challenges in a way that allowed all project outcomes to still be achieved. The transition to virtual delivery proved a smooth one (in some cases, adding additional value), and our online communication & collaboration channels enabled founders to stay engaged with their cohort and the EnergyLab community more broadly.

Furthermore, while the pandemic has impacted some startups' ability to grow (to generate revenue, in particular), they have continued to make positive progress through each of our programs and, importantly, are likely to be more resilient as a result.

Conclusions and recommendations

Support programs are beneficial to the cleantech startup ecosystem

Our experience suggests that support programs like those delivered through this Project provide significant benefit to the cleantech startup ecosystem. Founders at each stage of their entrepreneurship journey (i.e. from early-stage to scale-up) are motivated to apply for accelerator-style programs to support their companies' growth and derive substantial value from participating.

In light of this, we would advocate for the continued delivery of support programs for cleantech startups in Australia, considering it an effective (and necessary) tactic for accelerating the progress of entrepreneurs developing and deploying renewable energy technologies.

Networking, mentoring and coaching are critical

With feedback on all four of our programs reflecting the high value founders place on making connections with investors, mentors, industry representatives and each other, it's clear that networking opportunities are a critical component of support programs for cleantech startups. A similar conclusion can be drawn in relation to mentoring and business coaching components, with participant feedback highlighting these components as particularly high-value also.

Given the demonstrated significance of networking, mentoring and coaching to founders, we would recommend that creators of future startup support programs incorporate (and, where possible, maximise) these opportunities in their program design (and will be bearing this in mind for EnergyLab's programs in 2021 and onwards).

Virtual program delivery is doable and can benefit from complementary face-to-face activities

The COVID-19 pandemic has provided an opportunity for us to build our virtual delivery capability and demonstrate that delivering startup support programs 100% online is feasible. At the same time, the interest - and engagement - from Scaleup Program participants in optional face-to-face activities as restrictions eased towards the end of the Project suggests that there is still a role for face-to-face activities (where possible); that they can provide additional value as a complement to sessions and content delivered online.

As such, going forward we would recommend that startup support program designers consider incorporating both online and in-person components into their programs as COVID-19 circumstances allow. At EnergyLab, we anticipate that our programs will remain predominantly online for the foreseeable future, and will consider options for complementary in-person components as opportunities arise.

This Project has helped pave the way for future cleantech startup support programs

The positive Net Promoter Scores and feedback we've received on the programs run as part of this Project indicate that our fundamental approach to delivering startup support programs is sound and has the potential to be replicated with positive outcomes for the cleantech startup ecosystem in future. The learnings documented in this report and the attached LLRs will enable us to iterate on EnergyLab's program designs and optimise their delivery for future cohorts, and we would welcome their application by other accelerator-style organisations also for the benefit of the cleantech startup ecosystem overall.

Employment generated

A number of startups hired new staff while completing the Acceleration Program and Scaleup Program. This Project has also supported new startups to form and existing startups to grow (both now and in future), laying the foundation for further job creation in the months and years ahead.

Next steps

Following the completion of this Project, our focus will be on EnergyLab's program delivery for 2021. Building on the outcomes of (and feedback received on) the four programs run during 2020, we intend to deliver another round each of the Acceleration and Scaleup Programs, plus at least one more round of WICEF this year. Alongside delivering our individual startup support programs, we will also continue supporting the cleantech startup ecosystem more generally through our membership offerings and events.

For the startups that completed the programs delivered as part of this Project, their focus will be on leveraging the knowledge, skills and connections gained to continue developing their companies. An overview of their anticipated next steps is outlined below:

Program completed	Next steps
Pre-Acceleration Program	<ul style="list-style-type: none">● Finalise business model and company structure● Begin/progress Minimum Viable Product● Seek funding support (once an appropriate stage of development is reached)
Acceleration Program	<ul style="list-style-type: none">● Maintain existing customer base and generate new sales● Raise capital to support further growth● Recruit new team members where required
Scaleup Program	<ul style="list-style-type: none">● Progress and finalise partnerships with utility organisations● Execute on the commercialisation and deployment opportunities these partnerships present● Scale their business into new markets within Australia and abroad
Women in Clean Energy Fellowship	<ul style="list-style-type: none">● Continue engaging with the renewable energy sector and cleantech startup ecosystem with a view to founding a cleantech startup in future

Table 5: Next steps for program participants

Conclusion

This Clean Energy Startup Support Programs Project has enabled EnergyLab to support 35 startups and 43 aspiring entrepreneurs over the last 14 months, helping them to accelerate the development and deployment of clean energy technologies. Collectively, the Pre-Acceleration, Acceleration, Scaleup and Women in Clean Energy Fellowship programs delivered as part of this Project have:

- increased the level of expertise, skills and capacity in the renewable energy technology sector,
- improved the technology readiness and commercial readiness of renewable energy technology by identifying pathways to commercialisation, and
- increased the value delivered by renewable energy by bringing together multiple value streams to help develop technologies, businesses and markets to reduce cost and increase renewable energy uptake.

In addition to creating significant positive impact for the cleantech startup ecosystem and industry more broadly, this Project has provided a valuable suite of lessons learnt related to the design and delivery of support programs for cleantech startups.

Leveraging these learnings and building on the outcomes achieved during the Project will be key to supporting the continued development of Australia's cleantech startup sector. As the primary sponsor of this Project, ARENA is well-positioned to help drive this development through approaches/actions that may include:

- Continuing to provide support (financial and/or in-kind) for organisations to run clean energy startup support programs
- Sharing relevant Lessons Learnt Reports from this Project with organisations that receive funding to run clean energy startup support programs in future and/or facilitating introductions to EnergyLab to ensure knowledge transfer
- Promoting upcoming acceleration & other support programs to cleantech startups via the agency's internal & external communication channels
- Collating the knowledge gained about renewable technology commercialisation through ARENA's suite of programs/initiatives and making it available for integration into future cleantech startup support programs.

Given the strong demand experienced for all programs delivered as part of this Project, we are of the firm view that offering such programs will be of continued value to the cleantech startup ecosystem in future. We look forward to implementing the learnings from this Project as we deliver future iterations of our EnergyLab startup support programs in 2021 and beyond, and to continuing to support the accelerated development and deployment of clean energy technologies.