



Request for Services for a Resilience Business Incubator (RBI) Feasibility Study

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Instructions to the Offeror

1. **Inquiries.** Any questions related to this Request for Services shall be directed via e-mail to the person whose name appears above.
2. **Evaluation.** Award shall be made to the offeror whose proposal is determined to be the most advantageous to BLR. BLR will evaluate proposals based on an overall best value determination. Evaluation will be based on, but not limited to, the following:
 - a. Experience (preference given to firms with experience conducting business incubator or similar feasibility studies)
 - i. Number of feasibility studies conducted.
 - ii. Number of studies recommending a “go” decision.
 - b. Scope of Services/Method of Approach
 - c. Project Timeline
 - d. Budget
 - e. References
3. **Discussions with Offerors and Request for Revisions.** BLR reserves the right to conduct personal discussions/interviews with offeror(s) prior to selection. BLR will not be liable for any costs incurred by offeror associated with proposal preparation or with discussions/interviews. Discussions will be conducted for the purposes of clarification to assure full understanding of, and responsiveness to, the RFS requirements. Offerors shall be accorded fair and equal treatment with respect to any discussions and revisions of proposals, and such revisions may be permitted after submission and prior to award, for the purpose of obtaining best and final offers. In conducting discussions there will be no disclosure of information derived from proposal submitted by competing offerors. The purpose of discussions shall be too:
 - a. Determine in greater detail offeror’s qualifications.
 - b. Explore with the offeror the scope and nature of the project, the offeror’s proposed method of performance, and the relative utility of alternate approaches.
 - c. Determine that the offeror will make available the necessary personnel and facilities to perform within the required time.



4. **Award of Contract.** BLR expressly reserves the right, when determining whether to award a contract to an offeror, to:
 - a. Waive any immaterial defect or informality.
 - b. Reject any and all submittals, or portions thereof.
 - c. Reissue a Request for Services.
 - d. Make an award by line item, group of line items, or as a total, whichever is deemed most advantageous to BLR. If the offeror's offer is "all or nothing," it must be stated in the proposal.

Project Dates/Budget:

RFP Release: July 5, 2017

Notice of Intent to Respond: July 21, 2017 (send to above-noted contact)

Proposal Due Date: September 1, 2017

Proposal Award Date: September 29, 2017

Contracted Project Period (desired): October 13, 2017, to March 2, 2018.

Budget for Proposed Scope of Work not to exceed amount: \$80,000.

Introduction to this Request for Services (RFS)

The Blue Lake Rancheria (BLR) Tribe of Northern California is seeking qualified consultants to conduct a feasibility study for a tribally-operated resilience business incubator (RBI) focused on start-up businesses in the clean energy sector. Like most incubators, the RBI will provide the resources that startups need to grow: management guidance, technical assistance and consulting, flexible rental space, shared basic business services and equipment, virtual memberships, networking and mentoring opportunities, technology support services, and assistance in obtaining financing. The RBI is part of a broader Resilience Training and Innovation Center (RTIC) project at BLR.

BLR's overall resilience program (discussed later in this RFS) seeks to help the tribe and the broader North Coast region for change (whether the change be social, economic and/or environment, gradual or disruptive) in ways that allow for the ongoing ability to thrive amidst change, and for quick and safe returns to normalcy after disruptive events. A central goal for the tribe is to ensure that economic development, land use and infrastructure investments not only make the tribe and the region less vulnerable, but also enhance environmental performance, economic opportunity, and social cohesion. Through continued wise investment in infrastructure, smart building design, and progressive economic development, BLR hopes to protect and build on the value we have created, and to be more robust in the face of adverse events.

Key goals of the RBI feasibility study are to establish:



- the market demand for clean energy start-up companies at the RBI,
- the presence of necessary resources to administer the RBI,
- community support and public/private partnerships that can be developed for the facility,
- what resources and skills are needed to operate the RBI,
- the extent to which BLR has those resources and skills (and where they will need to gap fill), and
- a timeline and path toward reaching a positive cash flow (preferably less than three years).

Minimum Viable Product. Like most successful startups, the RBI will likely iterate over a period of early operation to find the “best fit” for its services. As such, a key goal of the feasibility study will be to identify a minimum viable product (MVP) for the RBI, with MVP defined generally as “sufficient features, focus, and resources to appeal to and attract startups, and to achieve financial independence after three years of operation.”

The feasibility study will also help BLR identify partners, including regional, state or federal governments, private businesses, foundations, and other entities. Partnerships and collaborations may be critical for the financial feasibility of the RBI, and so it will be critical to assess the possibilities for and nature of potential collaborative arrangements.

The overall goal of the RBI is to increase the deployment of clean energy technologies in the North Coast region by increasing successful startup activity in this market sector. The purpose of increasing business activity in this sector is to: 1) increase the resilience of the region by reducing energy use (through energy conservation and energy efficiency) and increasing the amount of energy produced from renewable, distributed energy sources, 2) increase the efficient control and management of energy systems through smart devices and controls, 3) reduce region-wide GHG emissions, 4) increase regional employment and social equity, and 5) retain dollars in the region that are currently being exported for energy expenditures.

Required Elements for Proposed Scope of Work

The purpose of this feasibility study is for the consultant, working with BLR staff, to (among other items proposed by the consultant) to develop and propose a Scope of Work that addresses, at a minimum, the following items:

1. Assess the preliminary RBI business model canvas (BMC) (provided below), and recommend modifications/additions where appropriate, noting the business models of similar, successful incubators in other regions (rural and urban).
2. In the context of #1, summarize other clean energy incubator business models, in particular, those that support the ability of incubatees to: 1) iterate or “pivot,” and to build valuation and revenue-generation potential, and create a durable competitive advantage, and 2) help companies go to market (market validation, market penetration strategies, competitive analysis,



- customer acquisition). Examples could include NYC’s Urban Futures Lab ACRE incubator (NYSEERDA), Innovacorp (Halifax Nova Scotia), Prospect Silicon Valley, and others.
3. Characterize the clean energy market sector in the North Coast region of California.
 4. Characterize the regional entrepreneurial ecosystem in which the RBI will be situated.
 5. Identify state-of-the-art energy technologies and circular economy business models in the clean energy space that may be appropriate for deployment in rural regions (see discussion later in this RFS).
 6. Assess the market potential for clean energy start-ups in the region served by the RBI, based on the success of such companies in other areas.
 7. Regarding investment, assess the ability of the regional market to support “deal flow” in the clean energy sector.
 8. Assess how the RBI can be integrated into existing regional economic development plans and programs.
 9. Identify potential sources of RBI tenants.
 10. Estimate the job creation potential for RBI clean energy startups, on a per-startup basis, based on extrapolation from other regions.
 11. Identify RBI client needs—including use of and satisfaction with services presently available for startups in the region and opportunities for the RBI to “gap fill.”
 12. Discuss the challenges presented by rural markets for clean energy technology deployment, compared to urban markets, and what key roles the RBI can play to address these challenges.
 13. Discuss the relative benefits of supporting the development of multiple smaller-scale clean energy start-ups versus developing a potentially transformative, larger-scale regional demonstration projects (for clarification on this, see discussion later in this RFS).
 14. Identify existing and emerging policies and financing mechanisms for clean energy technology deployment that the RBI can help startup companies with accessing. Include such entities as Green Investment Banks, the California CLEEN Center, CalSEED, CalCEF, and others.
 15. Identify potential RBI partners (corporate, public sector, others). Specifically explore the National Renewable Energy Lab’s I-Corp program, and the Incubatenergy network, in this discussion.
 16. Identify information that potential partners (public and private) may want when considering participating in the RBI initiative.
 17. Ascertain what resources and skills are needed to administer the RBI.
 18. Determine whether necessary resources exist, and, if they do not, suggest how BLR and partners might develop such resources.
 19. Assess and propose modifications to the preliminary RBI management plan (to be developed by BLR) in the context of the BMC and resources/skills discussions, including startup stage-gate timelines and desired RBI graduation rates.
 20. Explore key financial parameters for RBI operations. Based on the BMC: 1) what funds will be required? 2) where will they come from? 3) outline a scale of fees for client incubatees.
 21. Define metrics by which RBI success can be measured.



22. Identify potential synergies between RBI tenants and a potential retail resilience store.
23. Assess the RBI in the context of a broader hybrid RTIC model: part data center, part VC, part research, part consulting, part retail, part incubator, etc.
24. Estimate the timeline for RBI development and delineate a path toward reaching a positive cash flow in less than three years.

Successful proposals will prepare a workplan, timeline, and budget that effectively addresses the above issues on time (by March 2, 2018) and on budget (\leq \$80,000).

The following attachments provide additional information for RFS respondents.



Attachment 1. Potential Questions to Ask in Assessing Feasibility

(Note: not all of these questions need to be answered for the feasibility study. They are provided as a starting point and are to be worked out in the proposed scope of work and contract negotiations. Not all may apply to the RBI feasibility study.)

Organization and Management

- What do BLR and other stakeholders expect in terms of outcomes from RBI activities?
- How is feasibility (success) defined?
- Which organizational structure will best achieve the expected outcomes?
- Are those expectations aligned with the financial commitments being made?
- How will the management team be assembled, evaluated, and rewarded?
- What organizational and/or political barriers need to be surmounted to achieve success?
- What organizations/groups could be valuable contributors to a successful effort?

RBI Clients

- Are there prospective customers for the incubator in the region?
- Are there “clusters” of businesses in clean energy markets, smart technology, and resilience markets in the region?
- What do the supply chains of these businesses/clusters look like?
- Are there areas of interest or need for prospective entrepreneurs that could be developed in an incubation program? What services are needed by clean energy entrepreneurs? (Conduct focus groups?)
- What new entrepreneurial activity has occurred in the community?

Facilities

- What type of facility (physical, virtual) is needed, given the client needs and given the larger RTIC initiative? (See RTIC discussion in this RFS.)
- What is the demand for and supply of physical space for startups in the region?
- Under what terms and conditions are early-stage companies currently leasing space in the region?
- Is there a cost-effective strategy in which the project can be developed in construction phases? (e.g., a phased build-out of a modular campus)
- Are there any regional facilities now providing “shared space” and common services for early-stage companies?



- Are there any special build-out strategies that might be employed with the facilities tailored to these particular target markets? i.e., what kinds of space might BLR bring on-line first?

Services

- Should RBI services begin before the formal facility opens?
 - If so, which services should begin before the facility is constructed?
 - Which services should be included in rent and which should be fee-based?
 - Broader RTIC programming
 - Office support services
 - Clerical, switchboard, telephony, photocopier, notary, AV equipment, conference rooms, canteen/coffee service.
 - Management services
 - Capital formation, technical and commercial communications, bookkeeping/accounting services, legal referral, business plan preparation, marketing assistance, mentoring/coaching services.
- What specialized services and resources of BLR would distinguish the RBI from similar providers in the area?
- Outside of construction costs, what are the projected costs to develop, manage, and deliver these business and technical support services? (e.g., curriculum development)
- What business and technical support services will entrepreneurs pay for and how much will they pay?
- How can the services, resources, and RBI facility best be integrated into a comprehensive support program to achieve the expected business growth outcomes of the incubated firms?

Funding

- Should the RBI establish a nonprofit entity?
- What are potential sources of funds?
- What are acceptable rental/lease rates for RBI clients?
- What funds are required to cover the first 18-months of operations?
- What is reasonable to expect in terms of public subsidy versus self-sustaining operations? (Are there incubator business models with a viable self-sustaining structure?)

Marketing/Recruitment Plan

- What is known about the stage of development, technology intensity, or business support needs of targeted clean energy, smart technology and resilience firms?
- From which sources (e.g., college students and/or faculty, corporate spin-outs, industry associations, the entrepreneurial community (of all ages), etc.), will the bulk of incubator candidates be drawn?



- What is the timetable by which incubator space and services can be made available?
- What mix of on-going marketing activities and promotion will attract clients and tenants?
- What realistic graduation rates can be projected for the incubator?

Go/no go decision

- Does the RBI show potential to provide enough income from rents, programming, events, and other sources to break even?
- Is the RBI organized to feature its services as a market niche, and are those services worth paying for? (i.e., is there evidence from other areas that similar services are valued and paid for)

Key Questions

- What is the funding needed for operations, given the estimated optimal size for the RBI?
- What are the possible and likely sources of funding for program development and facility acquisition and build out?
- What are the projected cash flows?
- What are the possible and likely sources of funding for operations support? Are there short- and medium-term shortfalls that will occur before break-even?
- How is return-on-investment (ROI) defined for the RBI? (financial, non-financial)
- If applicable, what are the ROIs the stakeholders can expect?
- What tradeoffs between financial outcomes and other non-financial outcomes are acceptable and what ones are unacceptable?
- How and when will a fundraising campaign be orchestrated?

RBI Self-sufficiency

- Self-Sufficiency: The Holy RBI Grail?
 1. How do the stakeholders define self-sufficiency?
 2. Are there ongoing grants or periodic loans available?
 - Pros of self-sufficiency:
 - More autonomy
 - RBI run like a business
 - Flexibility for new endeavors
 - Cons of self-sufficiency:
 - May not be financially possible given market business dynamics
 - Doesn't take into account other benefits
 - May force an unwanted "bottom line" focus

Incubator Success Factors



- **Organization**
 - Are stakeholders' roles, responsibilities, and aspirations for the project clearly defined?
 - Are personnel responsibilities described adequately?
 - Is there a "champion" or core development team?
 - Is the RBI integrated into regional economic development activities?
 - Does the RBI reflect the state-of-the-art of similar projects on a national level?
- **Market**
 - Is the budget sufficient to support ongoing, systematic marketing campaign?
 - Are tenant companies' needs well understood?
 - Is the analysis of the local and regional market adequate?
- **Program**
 - Is the budget adequate to support programs and to deliver promised services?
 - Do business support personnel have entrepreneurial or start-up business experience?
- **Real Estate**
 - Are costs of RBI operation understood?
 - Is proposed building size sufficient to reach critical mass of tenants?
- **Finance**
 - Is there a diversified and ongoing approach defined to raising capital?
 - Are financial projections reality-based?
 - What financial contingencies can be reasonably foreseen?
 - Will start-up tenants have access to working capital?



Attachment 2. Beta RBI Business Model Canvas

The business model canvas provides a starting point to move the discussion forward. While not a definitive model for the RBI, the BMC is a fairly detailed way of exploring alternative arrangements given regional context, what has worked elsewhere, and the potential for applying successful business models (or components of successful models) in our region. Like most startups, we anticipate that the RBI will make some pivots before it hits its stride.

INFRASTRUCTURE

Activities

- *What are the key activities for executing the RBI value proposition?*
 - Identifying, organizing, and providing the nutrients that start-ups need to grow.
 - Nutrients: 1) business incubator services (rental space, shared services, etc.), 2) connections to people, dollars (public or private funding), and customers, 3) access to data, information, ideas, 4) advising both tenants and policymakers/financiers on existing and potential supportive policies and financial incentives)
- *What activities are most important in distribution channels, customer relationships, and revenue streams?*
 - Distribution channels: the distribution channels for the RBI are through its partner network (see below) and the RBI's various positions in different (but related) entrepreneur pipelines: 1) after school and any formal entrepreneurship education, 2) during employment (e.g., intrapreneurs), and 3) after previous employment or business ownership, and prior to new employment or getting a new startup off the ground.

Key Resources

- *What key resources does your value proposition require?* (human, financial, physical, intellectual, programmatic). Remember, these are not the key resources needed by RBI tenants, but (primarily) focused on the key resources needed by the RBI to deliver on its value proposition to the tenants.
 - Human: management, partners, mentor network, complementary resident businesses
 - Financial: rental income, grant support; for tenants, access to capital
 - Physical: well-designed and outfitted facilities
 - Intellectual: know-how networks
 - Programmatic: clear incubation program with milestones, policies, and procedures
- *What resources are most important for distribution channels, customer relationships, revenue stream, etc.?*



- Distribution channels: consistent updated information about RBI functioning: e.g., newsletters, on-line metrics, tenant success stories, case studies, etc.
- Customer relationships: customers are derived in part from the relationships established with and through the distribution channels, and through face-to-face contact during networking events

Partners

- *Who are the RBI's key partners/suppliers?*
 - Content Partners: Entrepreneurial Learning Institute, the National Renewable Energy Lab (NREL), distribution partners
 - Financial Partners: corporations, foundations, government
 - Resource/Technology Partners: e.g., regional corporate sponsors
 - Networking Partners: community leaders, community organizations, merchant associations (Chambers of Commerce, Rotary, etc.)
 - Co-Branding/Collaboration Partners: organizations in addition to distribution partners that have similar community resilience foci
 - Human Resource Partners: BLR Casino HR, distribution partners, staffing agencies (?) (for events and or other staffing needs)
 - Resident Businesses: retail store, café, child care (?)
 - Other tribes and Indian organizations (regionally and nationally)
 - The broader business community
 - Distribution partners:
 - Education (HSU/CR, HCOE, K-12, etc.)
 - Economic Development organizations (Small Business Development Council, Redwood Coast Regional Economic Development Commission, Arcata Economic Development Corporation, etc.)
 - Governments
- *What are the motivations for the partnerships (expected outcomes)?*
 - Tribal communities: opportunities for tribal members, jobs and increased income, self-determination and -efficacy.
 - Business community: enhanced competitiveness (intrapreneurship)
 - Education (HSU/CR, HCOE, K-12, etc.): focus for education: synergies with STEAM and other disciplines, real-world application of learning, entrepreneurial leadership, further workforce training and development goals, increase employment opportunities for students upon graduation
 - Economic Development (SBDC, RREDC, AEDC, etc.): source of customers for themselves (mutually beneficial)
 - Governments: regional competitiveness and attractiveness, economic and community development, social development, decreased crime, reduced alcohol and drug abuse



OFFERING

Value Proposition

- *What core value does the RBI deliver to customers?*
 - RBI inspires, empowers, and enables startups through mentorship, skills development, a supportive network, and access to resources and work space.
 - Local business owners can enhance the capacity of their employees for intrapreneurship
 - A defined track toward a successful business launch
 - Vetted entrepreneurial educational programming and related trainings
 - Experienced mentors
 - Networks (to other startups/businesses, other incubators/accelerators, to information, to sources of capital)
 - Physical Resources (office/desk, shared services, meeting rooms, machine/prototype shop, etc.)
 - A Retail Outlet for selling products and marketing services
- *Which customer needs are you satisfying?*
 - Maybe the biggest need is being able to get comfortable with and manage (reduce) the risk associated with starting a venture.

CUSTOMERS

Customer Segment

- **Mass Market:** The RBI will be open to the public via an application process, but is not a “mass market” offering.
- **Niche:** The RBI is designed to serve the specialized needs and characteristics of startups in the clean energy space.
 - The RBI will focus in Phase 1 on clean energy companies, but not limit it to those businesses. A preliminary hierarchy (from highest to lowest priority):
 - Clean energy
 - Smart, “resilience”-focused tech
 - Appropriate, resilience-focused tech
 - All businesses developed under a circular economy model.
- **Segmentation and diversification:** within the niche, participants will “self-segment” based on their own value propositions, and there will be multiple segments with different needs and characteristics

Distribution Channels

- *Through which channels will the RBI reach customers?*
 - Distribution partners
 - Word-of-mouth/local evangelists



- Social media/website
- Hosted events
- Local and regional media (newsletters, press releases, TV and radio, etc.)

Customer Relationships

- Full Service: the RBI services deliver friendly, high-quality, customer service to make the clients feel a sense of support, ease, convenience, and VALUE.
- Self Service: Some services, such as shared services, computers, co-work desks, data depository, etc., are used at the will of the client and offer a sense of self-direction and autonomy while using the RBI facilities.
- Automated Services: An on-line system similar to self-service but more personalized as it has the ability to identify individual customers and his/her preferences. This may involve individual web-based portfolios.
- Co-creation: Feedback channels and co-creation sessions allow customers to provide input and ideas that influence the development and improvement of RBI programs and services, and allow for sharing among and within clients themselves, and the broader business community

FINANCES

Cost Structure

- Cost-driven (as opposed to value-driven)
- Fixed costs required for running the facility and administering the programming: utilities, wages/salaries, insurance, marketing
- Variable costs: service charges for expert workshops, food and beverage and other event costs
- Startup costs (for RBI): construction, furnishings/equipment

Revenue Stream

- Earned revenue: 1) office, desk and computer rental, 2) program fees (e.g., trainings), 3) event fees, 4) retail store revenues, 5) professional services fees (revenue sharing from professional service providers)
- Fundraising: grants: program-specific funds from governments and/or foundations; donations: fundraisers



Attachment 3. Additional Considerations/Information for Context

The RBI initiative is part of a broader initiative at BLR to develop a regional Resilience Training and Innovation Center (RTIC). The RTIC will include training and workforce development, a resilience business incubator (RBI; the focus of this RFS), resilience-related research activities, and a retail store. While the RBI feasibility study should be focused on the specific issues outlined in this RFS, it will be important also to keep the larger BLR-RTIC context in mind as the study is developed.

The RTIC is focused on clean energy, smart systems, and emergency preparedness and response. The facility will be more than a space for training and business incubation. When fully operational, BLR envisions the RTIC as a community building entity, focusing on developing a sense of inclusion and trust among community members, while driving circular economy projects that have the potential to recreate our rural region as a model of economic, social and environmental resilience.

As currently envisioned, the RBI supports the development of clean energy, smart technology and resilience-related innovation clusters based on existing regional competitive assets and strengths. RBI staff will engage regional stakeholders and work as part of the RTIC to support regional collaboration and trainings for existing and emerging industries. A key goal of the RBI will be to identify projects that use both public and private sector resources and complementary investments by other government/public entities and/or nonprofits.

Resilient Economic Development and National Security

Urban areas across the country are developing smart practices that use data and technology to foster rapid deployment of clean energy and smart technologies. Just as in such “smart cities,” BLR believes that technology solutions can transform rural landscapes into hyper-connected “smart regions.” Even so, marketing and deploying resilience-related products and services in rural regions will likely require different business models and platforms than used in urban areas. Startups at the RBI will need to be responsive to unique regional needs and existing assets (or lack thereof) in order to launch successfully.

The U.S. Department of Homeland Security (DHS) National Preparedness Goal states that “a secure and resilient Nation” requires capabilities “across the *whole community* to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.” The RBI is a response to this need for “whole community” capabilities, leveraging the power of *innovation and entrepreneurship* to foster greater regional resilience to a range of economic, social and environmental vulnerabilities and threats.

The potential for new startups and job creation—in any market sector—is influenced by the levels of entrepreneurship, innovation, skills, and business support and training available. These factors tend to be undersupplied in rural areas, in part owing to lower population densities, and in part owing simply to



a lack of resources (expertise, funding, etc.). The RBI is designed to help address this undersupply by providing a place for early-stage, clean energy and resilience-focused enterprises with scalable products and services that promise more jobs and higher productivity. And while one goal of BLR's RTIC and RBI initiatives is to develop innovative projects that address region-specific needs, another goal is to uncover strategies that can be replicated and scaled elsewhere.

Increasing resilience has multiple benefits that include improving "lifeline sector" infrastructure (e.g., energy, water, transportation, communications), and fostering greater civic engagement. While the energy sector will be the focus of Phase 1 of the RBI, all lifeline sectors are ultimately priorities for achieving regional resilience. Products and services related to these sectors underpin the continued operation of nearly every business sector, community, and government agency in our (and any) region. But we also want to empower citizens, especially those from marginalized or poverty-stricken communities. One of the unique features of our region is a high Native American population, which has its own resilience gaps and needs owing to a lack of economic resources and more widely dispersed population. Responding effectively to the needs of the region's Native American communities is an important focus of the RTIC and RBI.

The RTIC and RBI will enhance regional economic vitality and connectivity, and create employment opportunities, in the following ways: 1) direct staffing needs, 2) support and workforce development for new resilience-related occupations (e.g., "Resilience Officer"), 3) addressing resilience gaps and plugging leaks through new value-added enterprises with "non-delocalizable" jobs, 4) retention of jobs post-disaster through business continuity planning, 5) increased high school and college graduation rates and workforce preparedness, 6) "21st Century" skill development, career preparedness and resilience-related workforce development/(re)training, 7) innovation and entrepreneurship, 8) feeder programs for business assistance/acceleration programs, and 9) support services and economic multiplier activity resulting from the RBI program and participant expenditures (e.g., visitors from outside the area attending a multi-day training).

Rural Resilience Technology Demonstration

While the RBI facility will be able to support a range of technology-based start-ups, it is unlikely to support basic research activities. Instead, the RBI will be most likely support the deployment of: 1) off-the-shelf innovations, 2) incremental and/or context-specific innovation of existing products and services, 3) innovations in product and service marketing and distribution, and 4) innovations in policies and financing in support of resilience-related economic activity. In fact, one question that could be addressed in terms of RBI feasibility is the extent to which the success of product and services innovations in rural markets relies on innovations in marketing/distribution (for both horizontal and vertical firms), and innovations in partnerships, policies, and financing mechanisms (new fund structures, financial instruments, or products_). Such smart innovations could include deployment



policies that provide niche market support to overcome market barriers to commercialization (such as regional revenue-raising policies that support clean energy innovation).

Although rural regions often lack the resources and infrastructure to support early stage R&D, they are nonetheless a largely untapped market, and are also able to support the testing and demonstration of next-generation technology innovations. Engaging low-population density rural regions as “test beds” for advanced energy technologies can both strengthen the clean technology innovation ecosystem and increase clean energy access in rural America. Under this framework, the North Coast could become a region-wide demonstration center for rural technology diffusion.

A Micro or Macro Approach?

The transition from product development to deployment is not always straightforward for clean energy innovations, creating the need for support during pilot demonstration and scale-up such as that (potentially) provided by the RBI. Depending on the structure and client-base of the RBI, fundraising may be critical, with a variety of different funding sources spanning government programs, corporate sponsors, foundations, angel investors, VCs, and other forms of project finance. For traditional sources of capital (e.g., VCs), the clean energy industry has presented obstacles, as scaling innovations and displacing existing technologies is often a time-consuming and expensive process with an unfavorable risk-reward profile.

This issue hints at a fundamental philosophical question for the RBI project team: should the RBI be designed to foster numerous diverse, small-scale clean energy ventures, or should it galvanize support for potentially transformative energy technologies, such as through financing for large-scale clean-energy demonstrations and smart deployment projects in rural regions? That is, might the RBI more effectively serve as a widespread regional demonstration and/or deployment center for a few—rather than many—innovative technologies (e.g., 50-200 kW distributed energy generation systems)?

And similarly, might there be benefits to targeting RBI activity at energy system *flexibility* (e.g., energy storage and grid management technologies, such as those in operation at BLR) rather than focusing on intermittent energy conversion/generation technologies? Focusing policy and financial incentives on innovations in system flexibility can avoid problems associated with trying to “pick winners” from a range of energy startups of unknown potential. That is, improved grid management and energy storage would yield benefits irrespective of which intermittent clean energy technologies ultimately prove to be “winners” in the region, and could provide a logical focus given BLR’s experience with system flexibility technologies on-site.

These approaches—whether energy efficiency technologies, distributed energy generation (DEG) systems, or a system flexibility approach—would both likely require co-financing of RBI operations (from corporate and government sources) to help incubate new technology startups to the point where they



could graduate or go to capital markets for support; at least such co-financing would help to “de-risk” technologies through larger-scale field demonstrations. Along these lines, another tack the RBI could take would be as a demonstration-style incubator to illustrate the efficacy of *rural regional-scale policy incentives or resilience-financing schemes*, in concert with the selection of larger-scale technologies appropriate for diffusion. That is, financing mechanisms (e.g., like the Clean Technology Fund) could prioritize the support of transformational energy technologies with financing for large-scale demonstration and smart deployment projects.

For the transformation of rural energy markets, strong and sustained policy commitments and pricing signals may be essential to reduce the cost barriers to deployment. Clean energy startups must address the concomitant challenges of securing funding, finding customers, scaling production, and expanding markets, and often make modifications and enhancements to their products and services based on lessons learned and customer feedback. Working in collaboration with national labs, industry groups, and trade allies on a regional demonstration effort directed by the RBI could help entrepreneurs jointly address such challenges. Partners in such an effort could include the Electric Power Research Institute (EPRI), the Incubateenergy Network, Energy Exceleator, Los Angeles Cleantech Incubator (LACI), the California Energy Commission, NREL, Mission Innovation, the Breakthrough Energy Coalition, Siemens, Tesla, and so on.

For example, EPRI engages its members in cultivating applied innovation through: 1) scouting and exploration, 2) developing applications through lab validation and testing, and 3) accelerating commercialization through pilot testing and demonstration and coordinated early deployment. New initiatives developed as part of the Incubateenergy Network are producing more EPRI scouting and application studies, pilot projects, and larger programs designed to help startups advance “technology readiness” in partnership with utilities and other stakeholders.

RBI Phase 2—Planned Expansion

In addition to the Phase 1 Clean Energy startups, potential Phase 2 product and service areas that RBI startups might explore, based on overall RTIC activities, include:

- Critical Infrastructure Assessment and Protection
- Emergency Response
- Food Independence (e.g., vertical farming)
- Green Infrastructure Development
- Marketing/Communications
- Predictive Analytics
- Resilient Business Consulting (resilience assessments, business impact analysis, IT business continuity, disaster recovery plans and solutions, preparedness)
- Smart Devices



- Social Media Apps

To the extent they cross-over into the clean energy sector, these areas can be explored in the RBI feasibility study.

Smart technology solutions include (among others): 1) data management and security (e.g., blockchain technology), 2) infrastructure preparedness (e.g., hardening, security and monitoring systems), 3) emergency coordination and response, 4) smart systems (e.g., building energy and water management systems), 5) analytics and communication (e.g., resilience metrics and dashboards), and more.

In the emergency response sector, for example, apps could be developed that would allow citizens to communicate with public service providers to make emergency response more effective in times of emergency. Startups with expertise in geospatial and remote-sensing technologies can provide services that would enhance situational awareness for disaster management and protection of critical infrastructure, leading to improved incident management and post-event response. Effective solutions in these sectors could very easily be scalable, as most regions across the country benefit from risk mitigation through appropriate and smart technologies.