SUBMISSION TO SB 254 NATURAL CATASTROPHE RESILIENCE STUDY

RE: Clean Energy Project Development Funding for Climate Resilience

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EXECUTIVE SUMMARY

California's transition to clean energy and climate resilience requires not only innovation but also the successful deployment of proven and emerging technologies that reduce wildfire risk, support grid resilience, and create sustainable energy infrastructure. However, a critical funding gap exists between venture-backed technology development and commercial-scale deployment—a capital gap that threatens to strand promising climate solutions before they can deliver meaningful benefits.

We urge the SB 254 study to recommend dedicating a portion of California's clean energy funding—particularly from Proposition 4's $850 million allocation and the California Infrastructure and Economic Development Bank (IBank) mechanisms—to support project development costs for first-of-a-kind (FOAK) and early deployment projects. This recommendation directly supports wildfire mitigation, community resilience, and California's clean energy goals.

THE PROJECT DEVELOPMENT CAPITAL GAP

Research by Prime Coalition identifies four critical funding gaps that prevent promising climate technologies from reaching commercial scale:

1. Late-stage demonstration projects that prove commercial viability
2. First-of-a-kind (FOAK) projects (the critical 1-to-n stage) that will assure bankability and 'de-risking' for future projects
3. Small but promising standalone projects that cannot yet achieve portfolio economies of scale
4. Pre-construction development costs during the "go/no-go" period

These gaps are particularly acute for capital-intensive infrastructure projects. While venture capital and grants can support early R&D, and traditional project finance supports proven technologies, neither adequately addresses the transition zone where technologies must demonstrate commercial viability at scale. [1]

The consequences are severe: technologies that could dramatically reduce emissions, decrease wildfire risk, produce clean energy and enhance community resilience fail to deploy, not because they don't work, but because they cannot secure financing for the critical demonstration and project development phases.

[1] https://www.primecoalition.org/research/barriers-to-timely-deployment-report

CASE STUDY: ALLOTROPE CELLULOSIC DEVELOPMENT COMPANY (ACDC)

ACDC's proposed $520 million cellulosic biofactory in Anderson, California exemplifies both the opportunity and the challenge:

Project Overview

- Location: Anderson, Shasta County, California
- Technology: Axens' proven Futurol(TM) cellulosic conversion process
- Feedstock: 330,000 bdt tons/year of forest residues and agricultural waste
- Products: Cellulosic ethanol, renewable natural gas, lignin for bioplastics, and biogenic CO2
- Climate Benefits: Reduces wildfire fuel loads, displaces fossil fuels, creates renewable energy

Wildfire Resilience Connection

- Provides a desperately needed facility to take forest residues that would otherwise become wildfire fuel, and would be a model for other facilities in California
- Creates economic value from forest thinning and fire prevention activities
- Strengthens rural economies in high fire-risk areas
- Supports California's forest management and fire prevention goals

Community Benefits

- 250+ construction jobs
- 75+ permanent high-wage manufacturing jobs in rural Northern California
- EDC calculate $177M of annual economic impact in Shasta County and beyond
- Agricultural waste management solution vs. current burning practices for regional farmers

The Challenge

Despite utilizing proven technology (Axens' Futurol process has been commercially operational for over 10 years at a pilot plant in France), the project faces the classic project development funding gap challenges:

- Extensive pre-development costs for permits, environmental review, engineering, and site preparation
- First-of-a-kind deployment risk
- Scale too large for venture capital, too novel for traditional project finance
- Project development timeline extending 18-24 months before construction financing can be secured

This is precisely the type of transformative climate infrastructure that California needs, yet it struggles to access capital during the critical development phase.

WHY PROJECT DEVELOPMENT FUNDING MATTERS FOR CALIFORNIA'S RESILIENCE

1. Wildfire Risk Reduction

Projects like ACDC create economic pathways for removing forest fuels, directly supporting California's wildfire prevention strategies. Without deployment of project development capital, these solutions remain theoretical despite their proven effectiveness.

2. Grid Resilience and Clean Energy

Cellulosic facilities produce renewable natural gas and, indirectly, clean electricity, contributing to California's 100% clean energy goals while providing reliable power that complements intermittent renewables.

3. Rural Economic Resilience

These projects create high-wage manufacturing jobs in rural communities most affected by wildfire risk, strengthening the economic fabric of vulnerable regions.

4. Technology Deployment Speed

California cannot wait decades for climate solutions to scale naturally. Strategic project development funding can compress timelines from decades to years by de-risking the transition from demonstration to commercial deployment.

5. Leveraging Private Capital

Public funding for project development (typically 3-5% of total project cost) can unlock substantially larger private investment for construction and operations. This creates exceptional leverage for public dollars.

RECOMMENDATIONS FOR SB 254 IMPLEMENTATION

1. Allocate Project Development Capital

Dedicate 5-10% of Proposition 4's $850 million clean energy allocation ($43-85 million) specifically for project development activities, including:

- Environmental review and permitting
- Detailed Engineering and design (FEL2 or FEL3 level)
- Site preparation and early infrastructure
- Offtake agreement development
- Financial modeling and structuring

2. Establish IBank Project Development Facility

Create a dedicated facility within IBank's California Transmission Accelerator Revolving Fund structure to support clean energy project development with:

- Development loans convertible to construction financing
- Subordinated debt for pre-construction activities
- Grant funding for projects with high public benefit but elevated risk
- Technical assistance for navigating regulatory processes

SB254 explicitly covers "planning, design, engineering, permitting" expenses within the Accelerator Revolving Fund program, thus recognizing the need to address the lack of project development capital.

3. Define Eligible Projects

We recommend that the Fund program be expanded to include other projects and technologies that could dramatically reduce emissions and enhance community resilience, beyond just transmission projects, such as projects that:

- Support wildfire prevention and forest management
- Enhance grid resilience and reliability
- Deploy proven technologies at commercial scale in California
- Create high-wage jobs in climate-vulnerable communities
- Demonstrate clear pathways to economic sustainability

4. Create Fast-Track Provisions

Establish expedited review processes for projects that:

- Process forest residues and wildfire fuels
- Produce renewable natural gas for grid firming
- Generate both energy and environmental co-benefits
- Commit to California-based supply chains and workforces

5. Implement Performance-Based Structures

Design funding mechanisms that:

- Reward successful project completion
- Require matching funds and repayment from successful projects to revolve capital
- Accept higher risk during development in exchange for public benefit delivery

THE URGENCY OF ACTION

California faces converging crises: escalating wildfire risk, grid reliability challenges, and the imperative to dramatically reduce greenhouse gas emissions. We possess technologies that can address all three challenges simultaneously—but only if we can deploy them at scale.

The current financing environment leaves promising projects stranded in the "second valley of death." Venture capital has successfully moved many technologies through demonstration; now California needs complementary mechanisms to move them to deployment.

ACDC represents just one example among many. Across California, similar projects—in renewable hydrogen, advanced geothermal, energy storage, and sustainable materials—face similar challenges. Strategic investment in project development can catalyze billions in private capital deployment while delivering measurable progress on California's most pressing challenges.

CONCLUSION

The SB 254 study provides a critical opportunity to align California's clean energy financing with the realities of technology deployment. By dedicating resources specifically to project development—the proven gap in current financing structures—California can:

- Accelerate deployment of wildfire risk reduction infrastructure
- Create resilient rural economies in fire-prone regions
- Advance clean energy goals with dispatchable renewable resources
- Leverage public investment to mobilize substantially larger private capital
- Establish models that can be replicated across other climate technology sectors

We respectfully urge the study to recommend establishing dedicated project development funding mechanisms within both the Proposition 4 implementation framework (by, for instance, accelerating and expanding the Department of Conservation's Biofuels from Forest Biomass Program and focusing that funding on project development funding needs) and IBank's financing structures (by expanding the Accelerator Revolving Fund program to include other critical infrastructure beyond transmission projects). Such targeted interventions can unlock transformative climate infrastructure that strengthens California's resilience while advancing economic and environmental goals.

The technologies exist. The projects are ready to be developed. California needs to bridge the final capital gap between demonstration and deployment.

Respectfully submitted,

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