A Community Benefits Framework for Lithium Valley

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for
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I. Executive Summary

Quantitatively evaluating and monitoring direct community benefits arising from the development of California's Lithium Valley requires a robust benefit framework. A capable framework holistically reflects the state of resident livelihoods and is accessible to all stakeholders, especially to local residents and Tribes. Furthermore, the same framework should be applicable across a portfolio of Lithium Valley projects to consistently determine community benefits, providing the statuses and trends directly attributed to a particular project.

Here, a Community Benefits Framework ("Framework") is proposed tailored for the use by the California Energy Commission (CEC) and other state agencies operating in Lithium Valley. The Framework draws from internationally recognized best practices to ensure its metrics are holistic, accessible, transferable, and attributable. To ensure its conclusions are holistic and transferable, the Framework balances the five capital assets of the Sustainable Livelihoods Framework (SLF): human, physical, natural, financial, and social. To ensure its results can be effectively communicated to all stakeholders, the Framework contains the straightforward themes of Industry Practices, Investment, Community, and Health/Ecosystem. Finally, to ensure its determined community benefits are directly attributable to a given project, the Framework evaluates metrics using Standards from the Global Report Initiative (GRI).

Recommendations

To ensure community benefits from the development of Lithium Valley are effectively monitored, evaluated, and communicated, the CEC should consider the following recommendations:

1. Adopt a Community Benefits Framework with themes and metrics as summarized below:
    a. *Industrial Practices*: community workforce development, equitable hiring and procurement, and equitable employee wages/salaries.
    b. *Investment:* infrastructure investment, non-infrastructure investment, community programming, and excise tax generated.
    c. *Community:* community network strength, social services accessibility, and access to credit.

d. *Health/Ecosystem:* project resource usage, air quality, ecosystem services, environmental impact, and physical services accessibility.

2. Develop an online Lithium Valley Dashboard using the Framework to provide a unified vehicle for CA state agencies to communicate community benefits arising from Lithium Valley development.
    a. The presentation of the Dashboard will be instrumental in how accessible the information is to community members. The Dashboard should utilize the visual motifs of the United Nations Sustainable Development Goals (UN SDGs) to provide digestible metric statuses and trends.
    b. To effectively establish a Lithium Valley Dashboard, the CEC should further
        i. Determine which of its internal divisions or other state agencies is best suited to collect and evaluate each metric;
        ii. Determine targets and target-dates for each metric with political, project, and community stakeholders; and
        iii. Provide sufficient infrastructure to continually update and maintain the Dashboard's website and datasets.

3. Incorporate the Framework into existing state and local programs.
    a. Community Benefits Agreements (CBAs) are often accompanied by mechanisms for monitoring and disclosing benefits. In addition to other community benefits agreed to between project developers and community-based organizations, the CEC should require projects of the Opt-in Certification Program to also disclose relevant metrics of the Framework in their CBAs. Likewise, Imperial County should incorporate the Framework into their Good Neighbor CBA Program.

4. Utilize the Framework in future applications for relevant federal funds.
    a. Their production of critical minerals is a key opportunity for Lithium Valley projects to receive federal funding. In applications for funding, the CEC should use the Framework to provide evidence of workforce and infrastructure development. Furthermore, the Framework should be incorporated into any Community Benefits Plans required by the Department of Energy to receive funding.

II. Introduction

Lithium Valley

Lithium Valley is located in the Salton Sea region of southern California so-called for its abundant stocks of lithium within geothermal brines. The region includes all of Imperial County and Eastern Coachella Valley in Riverside County. According to a recent Lawrence Berkeley National Laboratory study, tapping these lithium reserves could support over 375 million batteries for electric vehicles.[1] Currently, the US is not a leader in lithium production, thus importing nearly all of its needs. Lithium Valley is thus well-positioned to capitalize on the current lithium market where the growth in demand is fast outpacing the growth in supply.[2]

In contrast to obtaining lithium from large rock mines or expansive salt flats, processing the lithium-rich geothermal brines found in Lithium Valley is expected to benefit the local environment. Current proposals for direct lithium extraction (DLE) units at Lithium Valley attach recovery units to pre-existing geothermal power plants, greatly reducing the industrial footprint of producing the critical mineral compared to evaporating the brine on the earth's surface.[3] Furthermore, the DLE units will be powered by the renewable energy from these plants. Development of new geothermal power plants brought by the opportunity of simultaneously producing lithium is expected to introduce additional renewable energy to the grid. Furthermore, technologies utilized in DLE units require less water than traditional extraction methods.[4]

Developing Lithium Valley has also been highlighted as a keystone in federal economic development and critical mineral infrastructure development plans[5] for its potential to disrupt the international EV supply chain and promote US independence in critical mineral processing. California has taken multiple steps to support Lithium Valley development through legislature

[1] Calculated from field measurements and computer models of Lithium Valley. "Characterizing the Geothermal Lithium Resource at the Salton Sea." (2023) *UC Davis*. Report #: LBNL-2001557. doi: 10.2172/2222403

[2] "Report of the Blue Ribbon Commission on Lithium Extraction in California," Pursuant to AB 1657 (2022).

[3] "Environmental Justice In California's Lithium Valley." (2023). *Earthworks and Comite Civico del Valle.*

[4] "Potential Lithium Extraction in the United States: Environmental, Economic, and Policy Implications." (2022). *The Nature Conservancy*.

[5] Lithium Valley Clean Tech Strategy Development Consortium was awarded a federal 2023 Tech Hubs Strategy Development Grant. The Feb 22nd, 2022 White House "Fact Sheet: Securing a Made in America Supply Chain for Critical Minerals" emphasizes Lithium Valley's role in expanding the domestic mining of critical materials.

(AB 1657) and funding.[6] For residents of the Salton Sea region, the development of Lithium Valley is expected to create jobs, fund environmental restoration projects, and attract much-needed investment and infrastructure. However, local communities have recently voiced their doubt on whether such benefits would truly manifest.

Community Impacts from Lithium Valley Development

A key focus of Assembly Bill 1657 (AB 1657, E. Garcia, Chapter 271, Statutes of 2020) is ensuring that benefits from the development of the lithium extraction industry in the Salton Sea region do not exclude the local residents. Exploitative tendencies of extractive industries such as mining are well-documented.[7] Modern best practices hence heavily emphasize sustainable development where long-term impacts on local communities are carefully considered. Pursuant to AB 1657, the California Energy Commission (CEC) engaged the community,[8] collecting the following feedback on Lithium Valley development:

- Both Imperial County residents and local Tribe members require information on Lithium Valley to be more accessible to provide meaningful feedback;
- Unemployment remains a great challenge for residents in the Salton Sea region, especially as the local agricultural industry dwindles and is disincentivized;[9]
- Investment for maintaining infrastructure and reducing environmental hazards (such as airborne particulate matter causing lung-related hospitalizations) are critically needed; and
- The community is overall distrusting of further development and wary that substantive benefits will actually be delivered.

[6] The 2022-23 CA State Budget introduced a volume-based tax on lithium extraction. The 2023-24 CA State Budget expanded New Employment Credit eligibility under the CHIPS Act to include lithium extraction companies.

[7] "Socio-environmental implications of the decarbonization of copper and lithium mining and mineral processing." (2024). *Resources Policy* 95, 105135. doi: 10.1016/j.resourpol.2024.105135.

[8] "Report of the Blue Ribbon Commission on Lithium Extraction in California," Pursuant to AB 1657 (2022).

[9] A fallowing program in the Imperial Irrigation District compensated farmers $300 per acre foot of water saved who opted not to farm during the 2024 summer season.

Thus, the CEC is particularly interested in a robust method of attributing community benefits directly to a Lithium Valley project that can be straightforwardly used by project, government, and community stakeholders.

Monitoring and Evaluating Community Benefits

Despite multiple state and local agencies promising to ensure community benefits from the development of Lithium Valley, a unifying framework for monitoring and evaluating impacts on local residents is lacking. Industry best practices have been codified through international standards such as those of the Initiative for Responsible Mining Assurance (IRMA). Of these, only the Global Reporting Initiative (GRI) provides specific metrics. However, the CEC seeks to minimize barriers of entry for incoming Lithium Valley projects, disqualifying a direct application of the GRI Standards and their lengthy disclosure processes.

In this report, a community benefits framework composed of fifteen metrics designed to clearly communicate the state of the livelihoods of Lithium Valley communities at any stage of a project is proposed. The metrics follow industry best practices and draw from international mining and sustainability standards. The framework should be particularly helpful for agencies such as the CEC to monitor and evaluate community benefits without creating additional burden for Community-based Organizations (CBOs) or residents. Additionally, the framework prioritizes data interpretability with the aim to provide community residents digestible and useful information to evaluate the impact of Lithium Valley projects on their communities. In addition to the community benefits framework itself, recommendations to the CEC on the implementation of the framework are also presented, including to effectively establish a Lithium Valley Dashboard.

III. Community Benefits Frameworks

Community benefits are the tangible and intangible assistance made to the local communities for hosting capital intensive projects such as lithium mining at Lithium Valley. The framework that Lithium Valley projects should aim to adopt is one that will be used to identify, prioritize, implement, and monitor if the residents of the communities do benefit from the projects. The framework guides the stakeholders in ensuring that the benefits are equitable, measurable, and sustainable to the Lithium Valley residents.[10] Community Benefits Agreements (CBAs) detail what benefits the project investors should deliver to the community. They are legally binding between the project developers and the community. They are contracts that are formed especially with capital-intensive infrastructure projects or energy projects. They address community needs such as affordable housing, clean and safe water supply, job creation, or financing community projects. They are formulated to ensure that benefits achieve equity and sustainability developments among the local communities. CBAs foster this by ensuring there is transparency, accountability, and inclusivity in the decision-making process.[11]

The implementation and enforcement of CBAs typically involve multiple actors:

- *Developers*; they negotiate and commit to the agreements.
- *Community-based organizations (CBOs) and local stakeholders*; they advocate for and help shape the agreements to reflect community priorities.
- *Local governments or independent third parties*; they oversee compliance and enforcement.

CBAs are introduced early in the planning stages of a project to ensure alignment with community needs. However, challenges such as power imbalances during negotiations, lack of transparency, and weak enforcement mechanisms can undermine their effectiveness.[12] Addressing these challenges requires robust legal frameworks, active community participation, and ongoing monitoring to ensure commitments are met.

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[10] " Legal Tools for Community Benefits Agreements." (2018). *California Environmental Justice Alliance.* Retrieved from https://caleja.org.

[11] "Improving Transparency and Accountability in Public-Private Partnerships." (2021). *OECD*. Retrieved from https://oecd.org.

[12] "Standards for Responsible Mining." *Initiative for Responsible Mining Assurance*. Retrieved from https://responsiblemining.net.

The development projects are expected to ensure the communities they work in benefit both directly and indirectly. The community benefit framework is a tool that ensures that these benefits are well specified, measurable, and can be evaluated. The framework ensures that there is transparency, accountability, and influence in the running of the projects with the aim of ensuring that communities benefit fully.[13]

A well-formulated community benefit leads to effective project social license to operate (SLO) in that communities feel that they are not neglected and thus remove any hindrance that could arise. This is possible in that SLO is earned by demonstrating a commitment to equitable and sustainable benefits.[14]

The Sustainable Livelihoods Framework (SLF) provides a foundation for understanding the multifaceted impacts of development by assessing community assets, vulnerabilities, and opportunities. It focuses on the five capital assets in which it highlights the diverse resources communities rely on and how these resources interact to support livelihoods.[15] The capital categories include the following:

a) *Human capital* includes the skills, knowledge, health, and abilities of individuals that enable them to participate in economic and social activities. They include access to education, job training programs, and healthcare services that improve residents' quality of life and employability.

b) *Natural capital* includes the environmental resources and ecosystem services that support livelihoods and community well-being. They include the use of geothermal resources, water management, and protection of biodiversity.

c) *Financial capital* represents monetary resources that enable investment and access to goods and services. Examples include income generated from jobs, equitable wages, local business development, and funding for community projects through royalties or taxes.

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[13] "Standard for Responsible Mining." (2023). *Initiative for Responsible Mining Assurance*. Available at: https://www.responsiblemining.net.

[14] "Social license to operate." (2011) In P. Darling (Ed.), "SME Mining Engineering Handbook." *Society for Mining, Metallurgy, and Exploration.* 1779–1796.

[15] "Sustainable livelihoods guidance sheets." (1999). *Department for International Development*. Available at: https://www.livelihoods.org

d) *Physical capital* comprises infrastructure, tools, and facilities that improve living standards and productivity. Examples are improved roads, housing, renewable energy infrastructure, and access to clean water and sanitation.

e) *Social capital* encompasses the networks, relationships, and trust that enable collective action and social cohesion. Examples are fostering community participation, partnerships between residents and developers, and mechanisms like Community Benefit Agreements (CBAs) to ensure accountability and fairness.

These assets play a critical role in designing and evaluating community benefits, ensuring that the development of Lithium Valley fosters equitable and sustainable outcomes for its residents.

The metrics need to be diverse to factor all community benefits encompassing all human, natural, physical, social and financial capital assets. This will lead to the community having sustainable economic growth, conducive environment, and social equity. This means that people will be able to have jobs, good health, enhance their ability to invest, and exist in a self-sustaining ecosystem. The underserved communities' needs will be well-catered for if all the stakeholders are involved in the decision-making and proper consultation is made. The stakeholders are an important link to the people's needs reflecting the actual *status quo* of the community and thus prevent misrepresentation.

The metrics should have dynamic indicators where the short-term and long-term outcomes are factored. Evaluation of metrics should be frequent so as any changes are factored in and should include the stakeholders so as their needs are well-factored.

Previous Applications of Community Benefits Frameworks

Examples from previous projects indicate that there should be a link between the community benefits frameworks with local priorities and ensuring well-structured accountability. The Initiative for Responsible Mining Assurance (IRMA) shows how transparency and stakeholder participation can set industry standards, though a lack of clear metrics has limited its long-term impact. Renewable energy initiatives, such as Scotland's Highland Council Renewable Energy

Fund, showcase how revenues can support education and infrastructure, though equitable fund distribution remains a concern.

Community benefits frameworks face several challenges that can undermine their effectiveness. They may unintentionally place the burden of success on disadvantaged communities, perpetuating inequities instead of addressing them. Additionally, these frameworks often fail to account for systemic barriers, such as structural inequities, that limit access to benefits. Over-reliance on narrow data sources, like community surveys or isolated case studies, can further skew outcomes by overlooking broader trends and disparities.[16]

Challenges and Best Practices

Challenges

Community benefit frameworks often face significant obstacles that can hinder their effectiveness and perpetuate inequities. These include:

Structural Inequities That Limit Access to Benefits

The local communities that have limitations such as poverty, unequal access to education, and historical marginalizations may not benefit from the lithium mining project.[17] The jobs that require certain skills or resources that the locals don't possess cannot be given to the locals and thus training the locals will help them have equal opportunity in getting these jobs.[18] The local government in conjunction with the community-based organizations need to work in addressing these challenges.[19]

[16] "Legal Tools for Community Benefits Agreements." (2018). *California Environmental Justice Alliance.* Retrieved from https://caleja.org.

[17] "Community Engagement for Renewable Energy Projects: A Toolkit for Developers and Communities." *World Resources Institute*. Retrieved from https://wri.org.

[18] CEJA, 2018

[19] "Ensuring Equity in Energy Transitions: A Focus on Community Engagement." (2021). *The Just Transition Initiative*. Retrieved from https://iisd.org.

Over-Reliance on Narrow Data Sources

Data collection that is not progressive will not address the challenges that communities do face. The community faces challenges that are dynamic and thus data collection needs to be progressive in nature. A framework is effective if it allows the data collection to be progressive in nature. This will prevent skewness in the outcomes thus reducing inequality in benefit delivery to the communities.[20]

Power Imbalances in Negotiations

The community representatives that lack the technical expertise, negotiation skills, and lack resources to engage effectively with developers or policymakers will fail to fully represent the communities effectively. They end up making agreements that inadequately reflect community priorities or lack the power for enforcement commitments.[21]

Weak Enforcement Mechanisms

Agreements need adequate legal framework and good oversight to ensure developers comply with the agreements made. This helps in enhancing trust and realization of the benefits.[22]

Best Practices

To overcome these challenges, community benefit frameworks should incorporate the following strategies:

Diverse Stakeholder Engagement During Development

Engage a broad range of stakeholders, including residents, community-based organizations (CBOs), and advocacy groups, to ensure diverse perspectives and needs are represented. Use participatory approaches such as focus groups, public consultations, and workshops to co-develop priorities and solutions.[23]

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[20] IRMA, 2023 & The Just Transition Initiative, 2021.

[21] "Legal Tools for Community Benefits Agreements." (2018). *California Environmental Justice Alliance.* Retrieved from https://caleja.org.

[22] CEJA, 2018.

[23] "Case Study: Maximizing Community Benefits from Renewable Energy." (2019). *The Highland Council Renewable Energy Fund.* Retrieved from https://highland.gov.uk.

Robust Legal and Regulatory Support for Enforceability

Develop clear, legally binding agreements with specified timelines, deliverables, and penalties for noncompliance. Incorporate third-party oversight to monitor compliance and mediate disputes.[24]

Regular Evaluations and Adaptations to Address Changing Needs

Conduct periodic evaluations to assess whether the agreed-upon benefits are being realized and remain relevant to community needs.[25] The Initiative for Responsible Mining Assurance (IRMA) incorporates feedback loops to adjust standards based on stakeholder input and changing conditions.[26]

IV. Metrics for Evaluating Community Benefits

A framework is a structured approach which can be applied to a variety of situations to provide a consistent outcome, e.g., the determination of community benefits. Although a Lithium Valley Community Benefits Framework should be made modifiable, several traits should always be maintained:

- The framework should holistically reflect community livelihood assets (as described in the previous section) without furthering resident survey fatigue and placing additional burden on CBOs;
- The framework should be transferable to different lithium extraction projects within Lithium Valley, regardless of technology, scale, etc.;
- The framework and constituent metrics should be easily understandable for all stakeholders, especially local residents; and
- The framework should provide specific information on benefits that residents experience as a direct result of a particular project or policy. While residents could be impacted by

[24] CEJA, 2018

[25] World Resources Institute, n.d.

[26] IRMA, 2023.

indirect effects from a project—an influx of ecotourists, for example—decisions on a project should be made with a clear understanding of the direct impacts on the local community.

In this section, illustrative examples possessing one or more of the above traits are pulled from the international sustainable development and industry disclosure communities. While no community benefits frameworks meeting all of the above traits are available, individually useful aspects of the examples are highlighted and will be incorporated into the Lithium Valley framework proposed in the following section.

Previously Used Metrics and Best Practices

The UN Development Programme's 2017 Guidance Note[27] ("UNDP Guidance Note") illustrates the strength of the Sustainable Livelihoods Framework (SLF): holistically describing the communities' experience in a manner transferable to different projects. The UNDP Guidance Note collated best practices from ten projects which utilized the SLF. First, metrics were determined for each livelihood asset (e.g., "membership in local administration councils or town councils" for social capital). Then, a rubric sensitive to changes over time was proposed (i.e., a 0–20 scale categorized by " 0–4: unsustainable," "4–8: limited sustainability," "8–12: sustainable," "12–16: progressively sustainable," and "16–20: abundant"). Finally, each of the ten projects were evaluated using the same metrics and rubric. The scores for each project were graphically represented on a pentagon where each vertex corresponded to a different livelihood asset.[28] Thus, a community benefits framework utilizing the SLF in a similar manner to the UNDP Guidance Note will ensure that the first two desired framework traits are met.

[27] "Guidance Note, Application of the Sustainable Livelihoods Framework in Development Projects." (2017). *United Nations Development Programme.*

[28] See Page 18 of the UNDP Guidance Note for SLF pentagons using a three-point scale. For pentagons using the twenty-point scale, see Figs. 1 & 9 of "Contribution of the energy at development of isolated communities in not interconnected zones: a case of application of the systems dynamics and sustainable livelihoods in the Colombian southwest." (2008). *DYNA*, 75(154), 199. http://revistas.unal.edu.co/index.php/dyna/article/view/1728/11624.

The UN Statistics Division's Sustainable Development Goals[29] ("UN SDGs") provide a useful example of a set of quantitative indicators designed for a general audience. These indicators are grouped by goal, such as "access to mobile broadband" for "Goal 9. Industry, innovation and infrastructure." Contextualizing the metrics by Goal is more accessible to community members than directly utilizing a theory, as prior knowledge of the academic literature is not necessary. Furthermore, particular attention is paid to the presentation of the SDG data: the figures are concise, terminology-free, and visually appealing. Each Goal is also associated with a unique color. The figures accompanying each Goal prominently use this color to visually group different indicators. Thus, by grouping metrics into themes and utilizing color-coding to uniformly group metrics within each theme, the resulting community benefits framework will also meet the third desired framework trait.

Industry standards provide best practices for a particular sector and are often periodically updated with feedback from international industry leaders. The Standards for Responsible Mining and Mineral Processing by the Initiative for Responsible Mining Assurance[30] ("IRMA Standards") provide guidance for extractive industries to ensure sustainable development and to maintain a social license to operate throughout all stages of a project. Furthermore, the IRMA Standards outline processes to ensure communication and engagement with the local community. Particularly noteworthy guidance for the development of a community benefits framework in Lithium Valley is definitional:[31]

- Industry contributions should "benefit a broad spectrum of the community (e.g., women, men, children, youth, and vulnerable and traditionally marginalized groups) and are culturally appropriate."
- Contributions can also include "mechanisms that can be self-sustaining after closure of the operation."

[29] "The Sustainable Development Goals Report, Special edition." (2023). *United Nations*. https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf

[30] "DRAFT Standard for Responsible Mining and Mineral Processing 2.0." (2023). *Initiative for Responsible Mining Assurance.* Accessed Dec 11th, 2024. https://responsiblemining.net/wp-content/uploads/2023/10/IRMA-Standard-for-Responsible-Mining-and-Mineral-Processing-2.0-DRAFT-20231026.pdf

[31] 2.3.3. Planning and Delivering Community Benefits. Page 144 of IRMA Standards.

- Examples of benefits "include any projects or undertakings that support the community, such as infrastructure, training programs, social programs, scholarships, mentorships, grants, etc."

All four Principles of the IRMA Standards ("Business Integrity," "Planning and Managing for Positive Legacies," "Social Responsibility," and "Environmental Responsibility") emphasize that industries should pay close attention to the direct impacts their project may have on the community. However, the IRMA Standards only provide guidance on how to choose metrics or disclosures instead of providing specific metrics for evaluating community benefits. Thus, to meet the final desired framework trait, another set of industry standards is necessary.

GRI Standards

One well-regarded set of metrics is the Sustainability Reporting Standards of the Global Reporting Initiative ("GRI Standards"). Utilized by 77% of the G250 (the world's 250 largest companies by revenue) in 2024,[32] the GRI standards categorize specific metrics based on industry sector. For the recovery of lithium from geothermal brines, the most applicable sector is GRI 14: Mining.[33]

However, simply requiring Lithium Valley's project developers to comply with the appropriate GRI Standards may not benefit its residents. Due to existing economic and political factors, additional administrative burden may cool the demand for new developers or cause current partners to abandon their proposed projects. Thus, instead of facilitating and maximizing community benefit, mandating too many disclosures could instead result in irreparable damage to the long-term development of Lithium Valley.

Furthermore, GRI Standards consist of only disclosures made by project developers; in terms of the SLF, most disclosures generally fall within financial capital and natural capital. While many of the SLF categories are represented throughout the provided metrics, further refinement of the

[32] "GRI global adoption by top companies continues to grow." (2024). *GRI News Center*. Accessed Dec 10th, 2024. https://www.globalreporting.org/news/news-center/gri-global-adoption-by-top-companies-continues-to-grow/

[33] "Consolidated Set of the GRI Standards." (2024). *Global Reporting Initiative.* 383.

GRI Standards is necessary for a succinct and effective Lithium Valley Community Benefits Framework.

Metrics for Lithium Valley Development – GRI Topic Standards and Beyond

The core of the GRI Standards are Topic Standards which provide specific metrics a project must disclose in relation to a given Topic. These Topics are chosen based on the sector (e.g., Mining) and the impacts a project is expected to have on its surroundings (e.g., waste management). Below, GRI Topic Standards corresponding to key aspects of SLF capital assets are listed. For important aspects of assets not captured by any GRI Standards, additional metrics are recommended. First, a brief description of the relevant desired community impacts[34] in Lithium Valley are provided. The Topic Standards or additional metrics corresponding to the impacts are then listed. Specific GRI Standards disclosures and other metric evaluation methods are left for the following section with the proposed Lithium Valley Community Benefits Framework.

Human capital

For Lithium Valley, reducing current unemployment rates, increasing training for non-agricultural jobs, and bolstering the local economy are particularly relevant. These outcomes correspond to GRI Topic Standards 204: Procurement Practices, 401: Employment, 404: Training and Education, 414: Supplier Social Assessment.

Natural capital

For Lithium Valley, minimizing fresh water usage, minimizing particulate matter emissions, and respecting the cultural/spiritual heritage of the surrounding lands are particularly relevant. These outcomes correspond to GRI Topic Standards 101: Biodiversity, 303: Water and Effluents, 305: Emissions, 306: Waste, 411: Rights of Indigenous Peoples.

[34] Collated from "Report of the Blue Ribbon Commission on Lithium Extraction in California," Pursuant to AB 1657 (2022) and "Salton Sea Community Needs and Recommended Actions, 2023." *Better World Group Advisors*. https://saltonsea.ca.gov/wp-content/uploads/2024/01/Salton-Sea-Community-Needs_BWG-Jan-24.pdf

Financial capital

For Lithium Valley, investments for infrastructure, health, and conservation are particularly relevant. Compensation to local residents through employment is also particularly relevant. These outcomes correspond to GRI Topic Standards 201: Economic Performance, 203: Indirect Economic Impacts, 405: Diversity and Equal Opportunity.

Additionally, previous state legislation[35] (SB 125) enacted an excise tax based on the lithium carbonate equivalent (LCE) extracted by a producer. 80% of the tax is distributed to lithium-producing counties while the remaining 20% is distributed to the California Natural Resources Agency (CNRA) for Salton Sea restoration projects. Of the amount distributed to the counties, at least 30% must be provided to communities impacted by lithium extraction activities. Thus, the disbursement to these communities should also be included.

Additionally, a key aspect of community financial capital missing from the GRI Standards is access to credit. Thus, distance from financial institutions measured linearly point-to-point or by average commute distance should also be included.

Physical capital

For Lithium Valley, maintenance and construction of critical infrastructure and physical services such as roads, hospitals, and schools are particularly relevant. These outcomes correspond to GRI Topic Standard 203: Indirect Economic Impacts.

Additionally, 5% of Imperial County's disbursement from the excise tax presented in SB 125 is further allocated to public safety services and quality of life projects. Among others, these projects include infrastructure and transportation services.[36] Thus, this portion of Imperial County's excise tax should be included.

Additionally, a key aspect of community physical capital missing from the GRI Standards is access to physical services. Thus, distance from roads, hospitals, and schools measured linearly point-to-point or by average commute distance should also be included.

[35] Senate Bill 125 (SB 125), Committee on Budget and Fiscal Review, Chapter 63, Statutes of 2022.

[36] Speculative estimates and plan for Imperial County's portion of the lithium excise tax, as no producers of commercial scale lithium currently exist. Lithium Excise Tax Funding Plan. (2024). *Imperial County*. https://lithiumvalley.imperialcounty.org/wp-content/uploads/2024/09/Lithium-Excise-Tax-Funding-Plan_20240910.pdf

Social capital

For Lithium Valley, community engagement in project decisions and compensation for their expertise and leadership in and around Salton Sea is particularly relevant. These outcomes correspond to GRI Topic Standard 201: Economic Performance.

Additionally, a key aspect of community social capital missing from the GRI Standards is community network and strength. The People's Participation Index[37] provides a simple method of determining households' level of participation and should thus also be included.

Additionally, a key aspect of social capital missing from the GRI Standards is access to social services. Thus, distance from health centers, schools, and social welfare offices measured linearly point-to-point or by average commute distance should also be included.

Modifying Metrics versus Methods in Community Benefits Frameworks

As mentioned in the previous subsection, community benefits frameworks should be designed to be modified. However, modifying the metrics of a framework should be treated much more carefully than changing the evaluation methods of the metrics. Metrics are key components of the Framework chosen to represent an SLF asset. However, the SLF is known to underemphasize the structural influences on resident livelihoods.[38] Thus, community members should be consulted if a metric on "community engagement" from project developers is more beneficial than a metric on their own "community network and strength." If metrics are deemed irrelevant or unproductive, alternatives should be determined. Regardless of which metrics are chosen, the community benefit framework traits provided at the beginning of this section should be maintained. On the other hand, methods of evaluating the metrics should be determined based on data availability to state agencies. Although the methods proposed in the next section are largely adapted from the GRI Standards, alternative methods can be utilized instead if other datasets or collection procedures are more convenient.

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[37] "People's participation in soil and water conservation programme in Sardar." (2002). *Indian Journal of Soil Conservation*, 30(2), 179. ISSN (Electronic): 0976-1721.

[38] "A Sustainable Livelihoods Framework for the 21st century." (2022). *World Development.* 155. doi: 10.1016/j.worlddev.2022.105898.

V. A Community Benefits Framework for Lithium Valley

In this section, a framework for monitoring and evaluating community benefits which can be directly tied to a particular Lithium Valley project ("Framework") is proposed. Inspired by the presentation of the UN Sustainable Development Goals (SDGs), Fig. 1 illustrates the metrics grouped by the following themes: Industrial Practices, Investment, Community, and Health/Ecosystem. The themes provide straightforward overviews while the constituent metrics can be quantified and related to a Sustainable Livelihoods Framework (SLF) asset. The Framework can be used at any point of a project to evaluate the overall state of the community of Lithium Valley. By applying the Framework throughout a given period, stakeholders can directly attribute community impacts to a project's operations, practices, and/or investments.

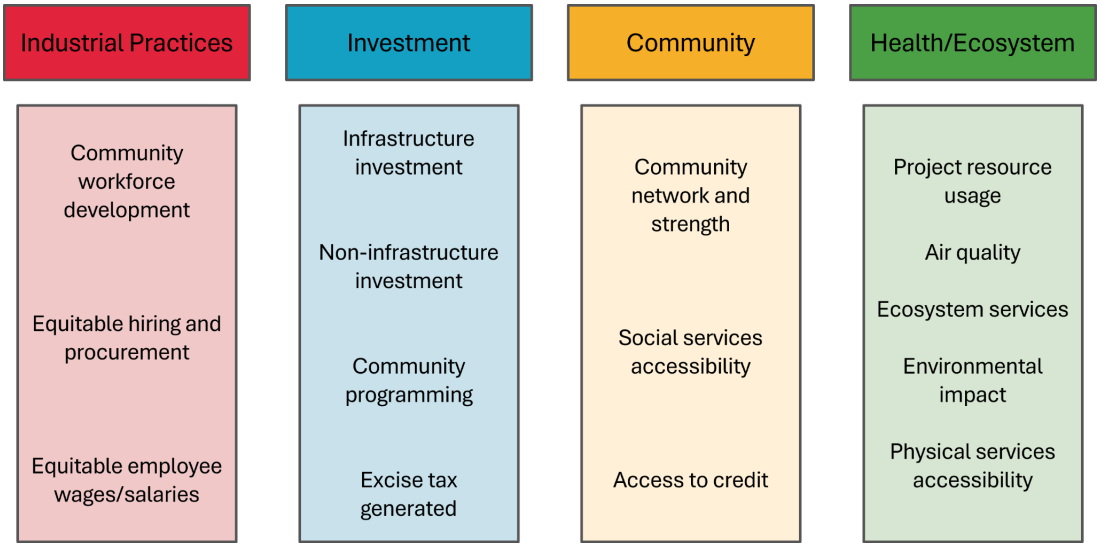

Fig. 1: A Community Benefits Framework for Lithium Valley.

Each of the fifteen metrics in the proposed Framework can correspond to more than one method of evaluation. In practice, only one number should be communicated to the general public for each metric. However, disclosure procedures may change with time or agencies may opt to collect different types of relevant data from stakeholders. Thus, multiple evaluation methods (i.e., multiple GRI Standards disclosures or analyses from literature) are provided in the next subsection. In Fig. 2, an example fact sheet is provided corresponding to the Industrial Practices theme of the proposed Framework. By focusing on one evaluation method per metric, the

audience can focus on the status and trends of multiple metrics within the same theme. Similar fact sheets can be produced for the other themes of the proposed Framework.

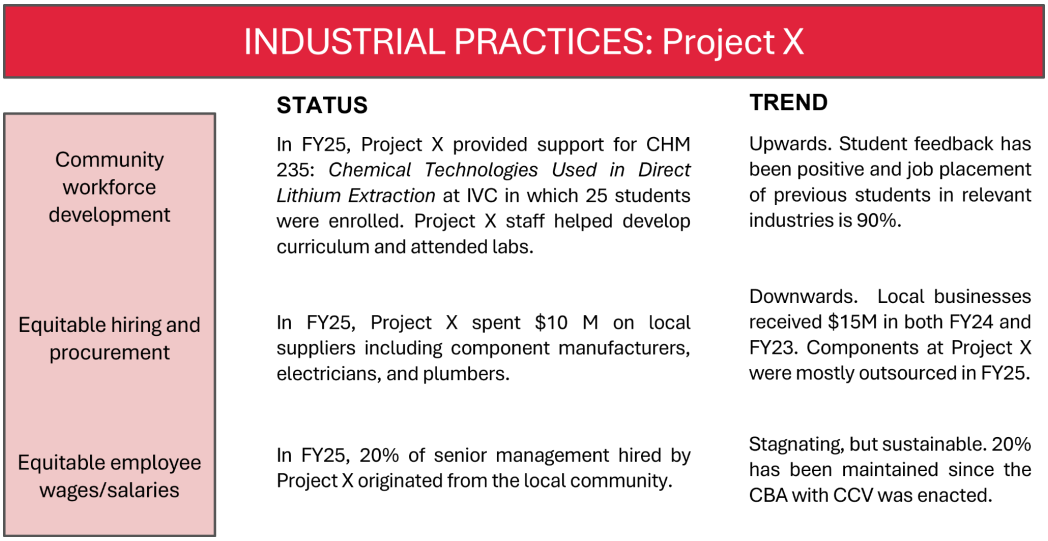

Fig. 2: Example fact sheet for Industrial Practices of the proposed Framework. Sample data of a "Project X" used for illustration purposes only.

Framework Themes and Metrics

Immediately below, each theme and their constituent metrics are described. Tables 1–4 then provide for each metric the associated SLF asset(s), corresponding evaluation methods (GRI Standards disclosures or otherwise), and data source. The recommended evaluation method that best describes each metric is underlined. Some GRI Standards were slightly modified to better reflect the needs of a Framework for Lithium Valley. The modified Standards are marked with asterisks in Tables 1–4 and the changes are explained below the corresponding tables. While the present section is focused on the description of the proposed framework, the next section will focus on recommended implementation of the framework.

Industrial Practices

Collected from individual project developers, the metrics in this theme aim to provide stakeholders with how a project's employees, employment practices, and internal processes are

directly benefiting the local community. The corresponding GRI Standards and methods of analyses can be found in Table 1.

- *Community workforce development*: training and skills development for community members that do not directly support the operation of the project. For example, power companies are already providing support and funding for courses and certificates on geothermal development at the Imperial Valley Community College.[39]

- *Equitable hiring and procurement*: investment into equitably managing personnel and suppliers, especially by employing local residents and utilizing local businesses and services.

- *Equitable employee wages/salaries*: compensation and management positions offered particularly to historically excluded groups such as women, Tribes, and members of the local community.

Investment

Collected from individual project developers and optionally county offices, the metrics in this theme aim to provide stakeholders with direct, disaggregated financial benefits to the local community. The corresponding GRI Standards and methods of analyses can be found in Table 2.

- *Infrastructure investment*: funding for the maintenance of existing and the construction of new critical infrastructure such as roads, electricity, and broadband that do not directly support the operation of the project.

- *Non-infrastructure investment*: funding directly to beneficiaries external to the project and excluding infrastructure, such as donations to local schools and local businesses.

- *Community programming*: support for events hosted by industry partners, community members, or CBOs with the primary purpose of enriching the well-being of residents.

[39] "Imperial Valley College Launches Training Program for Lithium Industry and Geothermal Energy." (2023). *Beyond Borders Gazette.* Accessed Dec 11th, 2024. https://beyondbordersnews.com/imperial-valley-college-launches-training-program-for-lithium-industry-and-geothermal-energy/

- *Excise tax generated*: funding generated from the volume-based tax presented in SB 125, with 30% of Imperial County's disbursement allocated to affect communities and 5% allocated to public safety services and quality of life projects.

Community

Collected from CBOs and publicly available data, the metrics in this theme aim to provide stakeholders with how the community's connectivity and social well-being directly benefit from a particular project. The corresponding GRI Standards and methods of analyses can be found in Table 3.

- *Community network and strength*: participation and engagement of local communities in governance and determination of project contributions.
- *Social services accessibility*: support provided to local residents to enhance their ability to obtain an education, access welfare, and healthcare services.
- *Access to credit*: support provided to local residents to enhance their ability to finance capital-intensive development projects such as establishing or expanding their businesses.

Health/Ecosystem

Collected from individual project developers, publicly available data, and optionally CBOs or the California Natural Resources Agency (CNRA), the metrics in this theme aim to provide stakeholders with how projects directly benefit communities through public safety and resource management. The corresponding GRI Standards and methods of analyses can be found in Table 4.

- *Project resource usage*: operational water needs and source, waste management, and energy procurement.
- *Air quality*: particulate matter indexes near project-impacted spaces such as roads and operating units.
- *Ecosystem services*: changes to project-adjacent biodiversity and respect to rights associated with cultural and spiritual heritage, especially those held by Tribes.

- *Environmental impact*: degree of land use change and ecosystem conversion and impact of project hazard management.
- *Physical services accessibility*: proximity of communities to existing critical infrastructure, including suitable housing and hospitals.

Table 1: Industrial Practices Metrics of the proposed Community Benefits Framework. *Recommended standalone methods are underlined.*

Metric	SLF Asset	Evaluation Method	Source
Community workforce development	Human	GRI 404-2*: Number, type, and scope of training programs and type of support provided. Programs cannot directly support the operation of the project.	Project disclosure
Equitable hiring and procurement	Human	GRI 204-1: Proportion of spending on local suppliers.	Project disclosure
		GRI 401-1: Number and rate of employees hired and employee turnover, by group.	Project disclosure
		GRI 414-1: Percentage of suppliers screened by social criteria.	Project disclosure
Equitable employee wages/salaries	Financial	GRI 202-2: Percentage of senior management hired from the local community.	Project disclosure
		GRI 405-2**: Ratios of basic salary and remuneration of different groups to that of men.	Project disclosure

* Adapted from original GRI Standard to specify non-operational training programs

** Adapted from original GRI Standard to include groups other than women, such as Tribes and other historically excluded groups

Table 2: Investment Metrics of the proposed Community Benefits Framework.

Recommended standalone methods are underlined.

Metric	SLF Asset	Evaluation Method	Source
Infrastructure investment	Financial, Physical	GRI 203-1*: Extent of development of significant infrastructure investments and services supported. Infrastructure cannot directly support the operation of the project.	Project disclosure
Non-infrastructure investment	Financial	GRI 201-1: Voluntary donations and investment of funds in the broader community.	Project disclosure
Community programming	Social, Human	GRI 201-1: Voluntarily incurred costs of social programs, including arts and educational events.	Project disclosure
Excise tax generated	Financial, Physical, Natural	Amount of tiered, volume-based tax paid (SB 125) by a project. Amount of a project's excise tax distributed to affected groups and Imperial County public safety and quality of life projects.	Project disclosure Imperial County disclosure

* Adapted from original GRI Standard to specify non-operational infrastructure

Table 3: Community Metrics of the proposed Community Benefits Framework.

Recommended standalone methods are underlined.

Metric	SLF Asset	Evaluation Method	Source
Community network and strength	Social	People's Participation Index (Bagdi 2002) in meetings where the project is discussed. Attendance by community meetings in which the project is discussed.	Survey as presented in literature Project, County, or CBO disclosure
Social services accessibility	Social	Average proximity to social welfare offices, health centers, schools, etc.	Survey or mapping linear distance or avg. commute time
Access to credit	Financial	Percentage of residents with access to credit services. Number of local businesses accessing credit for growth or operations.	Survey or bank disclosure Survey or bank disclosure

Table 4: Health/Ecosystem Metrics of the proposed Community Benefits Framework.

Recommended standalone methods are underlined.

Metric	SLF Asset	Evaluation Method	Source
Project resource usage	Natural	GRI 303-3 and 303-4: Total water withdrawal and discharge.	Project disclosure
		GRI 306-3: Total weight of waste and breakdown by composition.	Project disclosure
Air quality	Natural	GRI 305-7*: NOx, SOx, POP, VOC, HAP, PM levels near project roads and facilities.	Project disclosure
Ecosystem services	Natural	GRI 411-1: Number of violations involving the rights of Tribes.	Project disclosure
		GRI 101-7: Changes to the state of biodiversity	Project disclosure or CNRA
Environmental impact	Natural	GRI 101-6: Size of natural ecosystem converted	Project disclosure
		GRI 306-3: Total number and volume of recorded spills.	Project disclosure
Physical services accessibility	Physical	Average proximity to roads, health centers, hospitals, schools; road density, water/sanitation, etc.	Survey or mapping linear distance or avg. commute time

* Adapted from original GRI Standard to specify project-impacted areas (roads and facilities)

VI. Recommended Implementation of a Lithium Valley Community Benefits Framework

In the following subsections, applications of the Framework proposed in the previous section are recommended. Since the present project was proposed by and executed in collaboration with the CEC, the Commission is assumed to be the main acting agency in the recommendations.

Development of a Lithium Valley Dashboard

An online Dashboard in which metrics can be compared across projects and time should be established to communicate direct benefits to the community. The Dashboard should utilize the proposed Framework's metrics and themes, pulling information from pertinent agencies such as the CA Energy Commission (CEC) and CA Natural Resources Agency (CNRA). While the CEC has already demonstrated interest in developing a Lithium Valley Dashboard, additional coordination with other state agencies is likely necessary for its implementation.

Design of a Lithium Valley Dashboard

The design of the Dashboard should take inspiration from the UN's Sustainable Development Report, particularly its country profiles.[40] Each country profile contains tabs corresponding to an overview, indicators, and a fact sheet. The overview tab shows all seventeen Sustainable Development Goals (SDGs) represented with color-coded current statuses (i.e., green if achieved, orange if challenges remain, or red if major challenges remain) and with symbolized trends (i.e., upwards arrow if on track or maintaining achievement, sideways arrow if stagnating, or downwards arrow if decreasing). The same visual motifs are used for the indicators and fact sheet tabs. The indicators tab illustrates the current status and trend of every constituent indicator within the SDGs. Finally, the fact sheet tab provides comparative statistics (e.g., SDG Index Rank among all UN countries) and highlights one indicator from each SDG and its current status and trend. Any indicator on the site can be clicked to yield its description, current value, year data was last reported, long-term objective, and 20-year trendline.

[40] Country Profiles, Sustainable Development Report. Accessed Dec 11th, 2024. https://dashboards.sdgindex.org/profiles

A Lithium Valley Dashboard should utilize the same elements: instead of comparing countries, the Dashboard should compare projects; instead of SDGs, themes of the Framework; instead of constituent indicators, constituent metrics. Similar visual motifs should also be used to indicate status (successful, intermediate, work in progress) and trend (upwards, stagnating, downwards). Initially, the site should provide the audience with high-level information that can be processed quickly. However, the site should also have the capability to provide in-depth information and metric trendlines. Finally, the site should provide fact sheets for each project to be further disseminated to all stakeholders. Fact sheets and other printable one-pagers are particularly important for the implementation of a Dashboard in Lithium Valley due to the presently low access to broadband in the community.[41]

Coordination Necessary to Establish a Lithium Valley Dashboard

In addition to adopting the proposed Framework and the same design motifs used by the UN SDGs, further coordination is likely necessary to establish an effective Lithium Valley Dashboard. While the trendline of each metric could use the Lithium Valley Baseline Report[42] as a reference, determining the status of a metric requires a target to be agreed upon by political, agency, project, and community stakeholders. Furthermore, the CEC should determine which of its divisions or other state agencies is best suited to evaluate each metric and determine if additional resources are necessary to collect the relevant data. If the resources necessary are prohibitive, alternative evaluation methods should be considered and then alternative metrics, if necessary. Community engagement should be present throughout. Finally, the CEC should establish sufficient infrastructure (e.g., funding and data reporting procedures) for long-term maintenance and support for the website and databases.

[41] Over 20% of households in Imperial County are without high-speed broadband access compared to the state average of 2.7%. "Salton Sea Community Needs and Recommended Actions, 2023." *Better World Group Advisors*. https://saltonsea.ca.gov/wp-content/uploads/2024/01/Salton-Sea-Community-Needs_BWG-Jan-24.pdf

[42] "Lithium Valley Final Baseline Report." (2024). *Imperial County Planning & Development Services*. Accessed Dec 11th, 2024. https://www.icpds.com/assets/planning/LithiumValley_Final-Baseline-Report_2.15.24_wAppendices-1.pdf

Incorporation into Existing State and Local Programs

The CEC has jurisdiction over California's Opt-in Certification Program[43] which allows project developers a consolidated state permitting option instead of procedures set by local land use authorities. In return for the CEC's 360-day permitting timeline, projects are required to enter into a Community Benefits Agreement (CBA) or other similar legally binding agreement with community-based organizations (among other requirements). Similarly, Imperial County encourages local businesses to opt into its Good Neighbor CBA Program.[44] In addition to any other monitoring procedures agreed upon, the metrics within the Framework should be included to ensure community benefits from projects in Lithium Valley are uniformly presented.

Application for Federal Funds

While the forthcoming political landscape is expected to roll back federal funding for environmental justice and the renewable energy initiatives, support for onshoring critical mineral production could be preserved. Thus, the Framework should be used to provide evidence of workforce and infrastructure development in future applications for federal funding. Furthermore, the Department of Energy (DOE) requires Community Benefits Plans[45] (CBPs) for nearly all funding from the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA). Thus, the metrics within the Framework should be included into CBPs to ensure community benefits from projects in Lithium Valley are uniformly presented.

[43] "Opt-In Certification Program Fact Sheet." (2024). *California Energy Commission*. https://www.energy.ca.gov/sites/default/files/2024-06/Opt-In_Certification_Fact_Sheet_ada.pdf

[44] "Good Neighbor Community Benefit Agreement Program." (2024). *Imperial County*. Accessed Dec 11th, 2024. https://lithiumvalley.imperialcounty.org/wp-content/uploads/2024/09/Good-Neighbor-CBA_20240823.pdf

[45] "About Community Benefits Plans." *U.S. Department of Energy.* Accessed Dec 11th, 2024. https://www.energy.gov/infrastructure/about-community-benefits-plans

VII. Conclusion

The development of Lithium Valley must not leave local communities behind. As it currently stands, state and local policymakers have successfully laid the groundwork for community members to substantially benefit from Lithium Valley projects. These benefits are expected to affect multiple aspects of the communities' livelihoods: direct investment into affected communities (financial), increased engagement and quality of life projects (social), Salton Sea restoration (natural), training and workforce development (human), infrastructure investments (physical), etc. Quantitatively monitoring and evaluating these benefits provides community members information to hold project developers and government agencies accountable.

The Community Benefits Framework proposed here provides a set of metrics tailored to capture the benefits communities local to Lithium Valley are expected to experience. The four themes of Industry Practices, Investment, Community, and Health/Ecosystem provide additional structure to the Framework and the purpose of their constituent metrics. These fifteen metrics were chosen by applying the livelihoods pentagon of the Sustainable Livelihoods Framework and evaluation methods were chosen by refinement of GRI Standards for the mining sector. For metrics which did not correspond to a GRI Standard, methods from literature and public policy best practices were drawn upon. Metrics and evaluation methods can be substituted based on community feedback and data availability to the CEC or other relevant agencies.

To ensure the metrics can be effectively communicated, the Framework can be easily used to produce fact sheets and dashboards. Particularly, an online Lithium Valley Dashboard should be created by combining the proposed Framework metrics with design elements of the UN SDGs. The Dashboard should incorporate data from CEC-funded projects, CNRA restoration projects, and projects independently funded or managed by Imperial County. While additional coordination by the CEC and other agencies is likely necessary to establish and maintain such a Dashboard, the tool would effectively demonstrate the multi-pronged commitment by the state of California to Lithium Valley and could become a foundational model for other multi-agency programs across the country.