Exploring the Role of Alternative Energy Corporations in Ethical Supply Chains and Corporate Peacebuilding

Natalie Ralph and Linda Hancock

A paradigmatic shift from carbon-intensive to alternative and renewable energy prompts the question of whether lessons learned in one era are forgotten in the next. Carbon-intensive industries (oil, gas, and coal) have not performed well on mitigating negative impacts on host community conflict, but alternative energy corporate actors can learn from them. Focusing on alternative energy companies, and specifically companies in supply chains for new-generation lithium-ion battery systems, this article illustrates companies’ connections to conflict minerals and critical materials, and how a corporate peacebuilding strategy can address a company’s impacts on conflict whether on the ground or through the supply chain. Companies reframing their corporate social responsibility to corporate peacebuilding, which includes peacemaking, are better prepared for expanding international conflict minerals and critical materials governance and emerging action on resource sustainable governance. Keywords: energy, business, conflict.

The world is shifting from the old paradigm of carbon-intensive energy to a new paradigm of alternative energy, with an accompanying rise in transnational corporation (TNC) investment in alternative energy. This raises new questions about impacts on communities, ethical resource use, and governance of supply chains. The politics of this paradigmatic shift will impact on global governance, which prompts the question whether lessons learned in one era are forgotten in the next. The alternative energy paradigm needs to embrace not only environmental challenges in sustainable development, but social, political, and conflict-related challenges.

To begin this article, we outline the shift toward new alternative energy technologies, their use of conflict minerals and critical materials, and supply chain ethical issues related to minerals derived from conflict-prone areas. We discuss ethical supply chain issues in relation to lithium, cobalt, and copper as examples of the critical materials and other materials important to an alternative energy future, which comprise lithium-ion (lithium) battery systems and their electronics. We examine the corporate social responsibility (CSR) obligations of both carbon-intensive and alternative energy TNCs that operate in, or have supply chain links to, conflict-prone areas. This leads to
a proposal for TNCs to reframe their CSR to reflect corporate peacebuilding (CPB). A CPB strategy responds to on-the-ground and supply chain issues linked to conflict-prone areas. It assists TNCs to develop a culture, activities, and skills to address their impacts on conflict, whether due to their in-country operations or participation in supply chains that extract, produce, or use materials that cause or fuel conflict within communities.

We outline CPB, a voluntary business practice that has arisen in the emerging field of Business for Peace (B4P). CPB encompasses both structural peacebuilding, such as supporting good governance and economic development initiatives, and corporate peacemaking (CPM), aimed at bringing the conflict parties together for talks or peace processes. In-depth research on CPM is rare, but recent research has explored how extractive industries can support local or national conflict resolution and help build peace—ensuring sustainable sourcing and supply. This research is applied to companies in the lithium battery supply chain. We outline a Fourteen-Intervention CPM Framework developed from research on the oil, gas, and mining industries with operations in conflict-prone countries. We then outline recently evolving regulatory mechanisms for sustainable governance of resources including conflict minerals and critical materials, and we propose how a CPB approach by companies will prepare and align them better for these rapidly evolving governance frameworks.

In this article, conflict-prone areas are defined as those experiencing violence due to political and social instability, ongoing human rights abuses, or poor governance. The term also includes violent conflict. Violent conflict ranges from intra- and intercommunal conflict to conflict when an area is in the hands of the opposition, controlled by the government but suffers regular armed incursions or occasional terrorist attacks, to full-blown civil war such as seen in Syria and Iraq.

**New Alternative Energy Technology, Supply Chains, and Conflict and Critical Materials**

New alternative energy technology is needed to advance environmental sustainability, lower carbon dioxide emissions, and address climate change. Fossil fuels (coal, oil, and gas) currently supply 80 percent of global energy. Renewable energy (solar, wind, geothermal, hydropower, bioenergy, and ocean power) provides only about 7 percent of global energy needs.

New-generation batteries provide the crucial missing link to the problem of insufficient capacity to store intermittently generated alternative and renewable energy, for example, for periods of peak demand. The need for base load power generation has formed a major justification for coal-fired electricity generation, which has impeded greater use of solar and wind energy to displace oil, coal, and other carbon-intensive electricity generation.
Reducing costs means battery storage for solar or wind energy in microgrids (e.g., the Tesla Powerwall system\(^7\)) and for electric vehicles will become an increasingly efficient and used option.\(^8\) Markets currently favor lithium batteries due to cost reductions, energy and power density, and length of life,\(^9\) and their range of technical and performance advantages over other battery types.

However, supply chains in alternative energy technology, including lithium batteries, frequently involve small artisanal mines in developing countries using intensive physical labor, often operating illegally with minimal safety, health, and environmental protections, and in areas of political or social instability.\(^10\) Supply chains can demonstrate similar issues as controversially found for electronics, garment, and food industries that have raised concerns about conflict minerals,\(^11\) human rights, social and environmental impacts,\(^12\) and the whole of life cycle. Like electronics, lithium battery energy storage systems use conflict minerals and materials recently categorized as critical for developing alternative energy and high-technology goods, including lithium, cobalt, and copper.\(^13\)

Conflict minerals are commonly associated with tin, tungsten, tantalum, and gold (3TG) obtained from conflict-affected and high-risk areas, particularly Democratic Republic of Congo (DRC) and surrounding countries. Their extraction may be used to fund armed groups and violent conflict. 3TG are widely used in electronics, vehicles, aerospace, construction, and jewelry.\(^14\) In alternative energy products such as the Tesla Powerwall (a domestic or commercial microgrid for energy storage for solar, wind, or biofuel systems), conflict minerals are used in the electronics, if not also in the battery itself. Impacts can be far-reaching. Global Witness reports that, in “the Central African Republic, Colombia and the Democratic Republic of Congo, the minerals trade has been partly responsible for fuelling deadly conflicts that have displaced 9.4 million people.”\(^15\)

Beyond conflict minerals, following Chinese price hikes for exports of rare earths in 2011, countries have developed “risk lists” of critical materials.\(^16\) Rare earths are relatively abundant in the earth’s crust, but discovered mineable concentrations are less common than for other ores.\(^17\) Critical materials’ supply risk factors include:

- geological scarcity;
- geopolitical stability of supplier countries;
- level of concentration of resources, production, and processing in countries or by individual companies;
- method of recovery (such as a by-product of a major commodity); and
- trade policies.\(^18\)

As alternative energy production rises over coming decades, lithium exemplifies a material for which efforts are needed to ensure the production
of this critical material does not cause or exacerbate local environmental and social conflicts, lead to calls for lithium to become categorized as a conflict mineral, or create geopolitical concerns (as occurred in 2011 with China over rare earth exports\textsuperscript{19}). Given that demand for lithium is increasing at 20 percent year on year,\textsuperscript{20} and it is also used in pharmaceuticals, mobile phones, building tools, and aeronautic systems, its increasingly cost-competitive use in household and vehicle battery systems will have a huge impact globally. Tesla Motors’ new “Gigafactory” will by 2020, “produce more lithium ion batteries annually than were produced worldwide in 2013.”\textsuperscript{21}

Lithium is a geochemically scarce metal,\textsuperscript{22} and best-estimate modeling suggests primary lithium resources will not meet demand.\textsuperscript{23} Lithium is produced in Chile, Australia, China, Argentina, the United States, Canada, Zimbabwe,\textsuperscript{24} and Bolivia. Bolivia is discussed due to its predicted lithium boom around 2020.

Bolivia sees itself becoming the “Saudi Arabia of lithium”\textsuperscript{25} and, with Chile’s Salar de Atacama and northern Argentina’s reserves, these three comprise the “lithium triangle” that could dominate future global lithium supplies. Bolivia’s salt lakes of Salar de Uyuni form the largest single reserve of lithium. The country has invited international companies to catalyze its lithium industry. However, the radical left Bolivian government’s philosophy is predominantly against selling out to foreign interests.\textsuperscript{26}

Historically, this indigenous majority state has experienced conflict between social groups, and between these groups and the state, over power, politics and interests, and issues surrounding mining, capitalism, corporations, and markets.\textsuperscript{27} There are numerous Bolivian examples of resource extraction and clashes involving indigenous rights that have caused social-environmental conflicts.\textsuperscript{28} Under President Evo Morales’s “resource nationalism” policy, it is hoped lithium mining will break with past examples of extraction, inequality, and exploitation by elites and foreign companies. Anna Revette finds that local communities around lithium production do perceive its predicted growth as a positive development opportunity.\textsuperscript{29} Yet she warns that communities already face poor access to information and decisionmaking, and various challenges to lithium industrialization include a lack of technological expertise and the threat of environmental risks in an area where tourism is important.\textsuperscript{30} As communities potentially see new environmental problems and inequalities, they may become more critical.\textsuperscript{31}

Turning to cobalt, this critical material is not categorized as a conflict mineral, but there are already calls for it to be. Between 50 and 75 percent of cobalt originates in the conflict-prone DRC and it is linked to human rights abuses, including hazardous working conditions and child labor.\textsuperscript{32} An Amnesty International report tracks the movement of cobalt from artisanal mines along the supply chain until it reaches battery manufacturers that sell their batteries to internationally known brands such as Apple, Samsung, and
LG for use in these brands’ own products. Amnesty International concludes that companies along this supply chain are not conducting adequate human rights due diligence and are failing to implement due diligence processes that go beyond 3TG, as recommended by the Organisation for Economic Co-operation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD Guidance), established in 2011.

Copper exemplifies broader resource supply concerns. Saleem H. Ali et al. discuss concerns regarding impeded copper supply from geological reserves and urgently needed sustainable governance and sourcing of materials for infrastructure building for an alternative energy future. This “will consume a different mix of minerals from current applications, including not only ‘critical’ metals . . . but also vast amounts of common commodities such as copper, steel and cement.” Copper discovery “has slowed in the past decade as many easily accessible deposits are exhausted.” “The obligation to mine in an environmentally acceptable manner . . . [and] the need to obtain the community’s social licence to operate, and a scarcity of legislative, economic and governance stability in the host country, will place further constraints on mineral supply.”

Copper supply chains (indeed, broader lithium battery supply chains) must become more sophisticated in terms of sustainable governance and sourcing, including strengthening companies’ responsible business practices, social license to operate, end-of-life product recycling, and reducing conflict-exacerbating impacts, particularly amid governance and political instability. Strategies are needed (e.g., a corporate peacebuilding approach as discussed below) that assist companies to do this.

The diagram in Figure 1 illustrates some corporate actors in the lithium battery supply chain. Alternative energy supply chains are complex. For brevity, this article focuses on mining corporations; product developers such as chemical companies, researchers, or battery component companies; manufacturers of battery systems, electric vehicles, microgrids, and other uses of batteries; and companies operating battery applications such as microgrids and solar or wind farms. Just as oil and large-scale coal mining operations have caused environmental, social, and political conflicts, alternative energy solar, wind, and hydro operations may involve large-scale high-technology infrastructure plants with similar environmental and community impacts to large extractive industry projects.

Country of origin and supply chain issues are factors that must be considered at all four stages of the supply chain shown in Figure 1. Ethical procurement and supply chains are a major issue in CSR research and practice, driven by scandals in mining, garment manufacturing, banking, electronics, and food labeling. The obligations and expectations of new alternative energy technology supply chain companies are bound up with changing
international expectations of corporate behavior, including in relation to conflict within countries.

Theories of Business, Conflict, and Peace
Liberal peace philosophy states that liberal democracies interdependent through trade liberalization are highly unlikely to go to war with each other. In the past twenty-five years, this theory has led to international endeavors of state building and peacebuilding based on strengthening relations between states with democracy and trade. Jason Miklian illustrates how the new B4P paradigm in international development and peacebuilding is the most recent expression of liberal peace concepts.

In the late 1990s, as traditional methods for resolving intrastate intractable conflict faltered, research turned to economic factors in conflict, applying political economy and ecology approaches. These recognize how ideology, ethnic divisions, and poor governance contribute to conflict, but demonstrate how economic factors and natural resources, such as minerals, gems, and oil, are major causes of conflict that make conflict profitable for certain groups and mold war economies that benefit vested interests. Notably, natural resources can become a resource curse. High yields in revenue from resources can encourage corruption, poor governance, and social and political inequity—all of which can feed frustration, friction, and violence.

For companies, it is necessary to understand the role that business plays in determining the duration, intensity, and character of conflict due to the revenues they create, impacts they have at a local level, their business operations, and their pathways to international markets. The emerging field of peace economics seeks to illustrate that “the benefit of peace to business, and the benefit of good business to peace, is measureable and scalable and that the private sector can contribute to a sustainable, peaceful global society.” Jurgen Brauer and J. Paul Dunne define “peace eco-
nomics” as “the economic study and design of political, economic, and cultural institutions, their interrelations, and their policies to prevent, mitigate, or resolve any type of latent or actual violence or destructive conflict within and between societies.”  

Concurrently, corporate peacebuilding, as part of the B4P field, was born out of multitrack diplomacy theory that recognizes actors other than governmental officials as diplomatic actors, including business actors. Theoretically, CPB is underpinned by the well-established CSR field, while the B4P field is an emerging multidisciplinary area. CPB, particularly its inclusion of peacemaking practices, necessitated consideration of concepts from peace and conflict studies, conflict resolution, and peace psychology.

**Broadening CSR to Embrace Corporate Peacebuilding**

Corporations, particularly mining and oil companies, have been controversial for a range of negative impacts, including human rights violations, labor practices, environmental degradation, corruption, the hollow rhetoric of their claims to CSR, and their role in causing or exacerbating violent conflict in areas of operation. Globalization and the diffusion of power away from states, to markets, TNCs, and civil society, have engendered a paradigm shift in concepts of global governance and the responsibilities of business to society. CSR encompasses society’s expectations for business at a given point in time, with expectations that may be mandated but are usually voluntary. These expectations are economic (to make products and services at a profit), legal (to obey the law), ethical (to align with society’s behavioral and ethical norms), and discretionary or philanthropic.

Companies have proactively embraced CSR as a means of avoiding more intrusive state regulation. By proposing codes of conduct and voluntary reporting, buttressed by corporate political activity lobbying, business has successfully brokered self-regulation with CSR as the primary vector. Examples of self-regulation aimed at reducing corporate influences that increase conflict are the Extractive Industries Transparency Initiative, Kimberley Process (and others like it), and Voluntary Principles on Security and Human Rights.

Yet corporate support for increasing peace in an area, especially corporate political and diplomatic efforts toward peacemaking (CPM), is currently (barely) included in discretionary CSR, let alone the ethical phase of CSR. This renders CPM (and broader corporate peacebuilding) a worthy focus for identifying ways CPM can assist sustainable sourcing and supply chains. Incorporating CPM and CPB helps a company create a new corporate approach, culture, skills, and activities. These may be applied when (as in the applied lithium battery systems context) the mining of materials for batteries, or development of alternative energy battery applications such as
solar or wind farms in communities, fuels conflict due to, for example, the displacement of indigenous communities.

Similar to CSR, corporate citizenship conceptualizes business as a part of the community, with rights, duties, and responsibilities in society and globally. Corporate citizenship views businesses as political entities and participants in the governance of (global) society, requiring companies to use responsibly their political power and influence.57

In conflict-prone areas, corporate citizenship suggests the use of corporate political and diplomatic power to help mitigate conflict, violence, and human rights abuses—potentially through support of local- (or national-) level peacemaking. The alternative—“business as usual”—does not mean that a company takes a “neutral” position in conflict; corporate presence invariably favors particular interests.58

While avoidance or disinvestment is a primary option for companies operating in or obtaining materials from conflict-prone areas, in some circumstances companies could have a more positive influence if they undertook a corporate peacebuilding stance. They could, for example, identify how to help build peace in the area or country, in cooperation with other actors such as societal groups, communities, and more traditional peace actors such as the United Nations and conflict resolution nongovernmental organizations (NGOs). The aim would be to ensure that they are of greater benefit to the country and local communities than if they disinvest. Examples include community-building activities by corporations retailing mined products through activities that build community resilience, conflict resolution, and fair labor standards in their supply chains.

Research has addressed how companies can reduce their negative impacts on conflict-prone countries (a do-no-harm approach through conflict-sensitive business practices) and, more recently, how they can contribute to initiatives aimed at building peace.59 Economic development, education and training, and promoting good governance and human rights are positive contributions companies can make and may be termed structural peacebuilding. Structural peacebuilding addresses the underlying structural issues in society that cause grievance and conflict; for example, when socially constructed institutions provide some people with material goods, representation, and a voice in matters affecting their well-being while depriving others.60 Companies can support equitable economic and business development (e.g., jobs for youth or ex-combatants), democracy and good governance (e.g., capacity-building for transparent local government), human rights (e.g., those of indigenous groups or employees), disarmament and demobilization programs, and local environmental sustainability.

Alongside structural peacebuilding, companies can undertake roles in corporate peacemaking. CPM is the political and diplomatic role of companies when, at local or national levels, they help bring together the conflict
parties, such as communities, governments, and armed groups, for talks. (CPM can also include less directly promoting peace such as through advocacy, lobbying, or marketing.) As distinct from structural peacebuilding, peacemaking concentrates on the political and diplomatic, relational, and reconciliation aspects of peace work. It can build more peaceful relations, resolve disagreements, progress peace talks, and in violent conflict help parties reach a peace agreement.

In-depth research on peacemaking by corporations and potential activities, issues, and concerns is rare, as focus is generally placed on local or domestic firms.\(^61\) Recent research has explored TNCs’ “multilayered web” peacemaking ability (reaching throughout and across countries, and connecting local-to-global levels).\(^62\) This highlights peacemaking activities particularly suited to TNCs. Based on analysis of ten case studies of applied CPM and concepts from fields focused on conflict and peace issues, Natalie Ralph developed a corporate peacemaking framework of fourteen peacemaking “interventions” (Figure 2).\(^63\)

Applying these interventions, companies or their representatives may undertake collective action with businesses and other actors, lobby key actors in the conflict, or advocate (including through marketing) peace efforts. They can provide economic or industry advice for peace talks (such as financial and technical information for exploiting an important resource) or information for the public on economic impacts of a conflict. They may provide positive inducements such as transportation or accommodation to encourage parties to come to the negotiating table, or provide early-warning information about rising conflict. They may relay messages and information between conflict parties (shuttle diplomacy), and (if possible) provide access to armed groups when others (e.g., the government) do not have established communication channels. They can also support informal grassroots conflict resolution workshops between community leaders across the conflict divide, or (often via a business collective) support formal top-level national peace negotiations with mediation or administrative or process advice. Finally, they can conduct activity at the global level potentially focused on a particular country, and they can join international business organizations supporting peace.\(^64\) In terms of cost-benefit analysis, the downside of not undertaking such activities where needed could mean business disruption, reputational damage, or worse.

The fourteen interventions in Figure 2 involve wide-ranging activities, creating a “Map of CPM Activities.”\(^65\) Many activities can be applied by companies across the supply chain whether in-country or not. CPM is therefore relevant across the lithium battery supply chain. It also assists in talks between parties or communities that can prioritize structural peacebuilding activities according to what communities most need and what will decrease conflict; thereby, facilitating sustainable sourcing and supply.
CPM can contribute something new to conflict resolution, noting that corporations must remain outside state decisionmaking in foreign policy and diplomacy. Energy-related industries, particularly mining, are regularly located in conflict-prone or remote locations, without the ability to move elsewhere due to the location of resources. Therefore, they are important when considering CPM and conflict or peace issues and in relation to supply chains.
Potential Corporate Peacemaking Activities in Lithium Battery Systems Supply Chains

For companies, CPM can assist in stakeholder engagement, enhance risk management, provide early warning of problems, and contribute to social license to operate, leaving a positive legacy as well as strengthening the business case for ongoing business opportunities. Increasingly, tools such as indexes for corporate “peace capital” will enable the public benchmarking of companies’ peace/conflict impacts. Conflict is also expensive for business if, for example, operations are suspended or security costs rise, interrupting supply of a material crucial to product manufacture.

Human rights cannot be enjoyed amid violence. Since 2011, under the UN Guiding Principles for Business and Human Rights, companies are expected to demonstrate their responsibility to respect human rights and implement human rights due diligence in their operations and supply chains. Companies may find that supporting local mediation (or wider peace processes) to reduce conflict is the most immediate way to demonstrate responsible prevention of human rights abuses in a conflict-prone host community.

Both corporate peacemaking and structural peacebuilding are gaining international attention. In 2013, the UN’s main agency partnering with business, the Global Compact, established its B4P platform. Membership is growing, with over 130 companies and 18 of the Global Compact’s Local Networks around the world having joined the platform, including the Colombian Local Network that has already actively assisted the recent Colombian peace process.

Goal 16 of the Sustainable Development Goals (SDGs) launched globally in 2015 calls for governments, business, and civil society to: “Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.” A CPB (and peacemaking) strategy will assist companies to support this goal, promoting peaceful communities and strengthening conflict resolution mechanisms and accountability, including on issues regarding the sustainable sourcing of resources crucial to alternative energy technologies.

We are entering a new era where business is increasingly identified as a potential partner in building peace and where more is expected of its social obligations. Some governments, such as the Norwegian government, are shifting from traditional development aid to the B4P paradigm so that companies can contribute to peace and development efforts. In 2015, the UN High-Level Independent Panel on Peace Operations recommended that the Secretary-General should convene an international forum on prevention including governments, regional organizations, civil society, and the global business community “to exchange conflict prevention experiences and
agree on innovative approaches that integrate conflict prevention, governance, development and human rights.\textsuperscript{73}

This global norm setting expands opportunities for global society and business, especially companies with operations and supply chains linked to conflict-prone areas, to identify how to demonstrate business support for human rights, peace, and conflict reduction. Considering companies in the lithium battery systems supply chain, we briefly discuss examples of potential CPM activities that might, where relevant, be applied.

By applying the Fourteen-Intervention CPM Framework and Map of CPM Activities to companies in the battery systems supply chain, potential activities are identifiable. Each conflict context and company situation will be different and there is no set pattern of activities a company can undertake.

Companies with operations within a conflict-prone country (e.g., a mining TNC) might link with other local businesses or NGOs to promote peace-making efforts. The company can sponsor a countrywide award for local businesses that rewards their peace-focused work. Firms might provide information and support for planning and coordination regarding mining and energy-related issues addressed during local talks or peace negotiations,\textsuperscript{74} or provide such information to the public and promote the economic benefits of conflict and violence ending. Alternative energy–related companies may also share research and development and share advice on building alternative energy infrastructure. In 2014, Tesla publicized the fact that it would drop all intellectual property claims over its e-car technology to encourage worldwide innovation in environment-friendly vehicles.\textsuperscript{75}

Companies may also apply conditions in preinvestment contracts that require a host government to address conflict drivers or begin peace talks before business can begin.\textsuperscript{76} A company’s employees can give financial contributions or participate in local peace efforts, providing leadership and human resources.\textsuperscript{77}

Internationally, companies can support the UN B4P platform. For instance, based in the United States, Tesla Motors could encourage the US Local Network of the Global Compact to become a member of the B4P platform and develop links with Local Networks elsewhere, including in Sudan, Indonesia, or Iraq, which have already joined the B4P platform.\textsuperscript{78} Companies such as Tesla Motors are able to develop a CPM strategy that includes both the CPM activities the company undertakes and CPM activities it encourages along its supply chain using its products, marketing, events, and competitive advantage(s).\textsuperscript{79} Potential benefits are that such engagement will enhance corporate reputation in a competitive market; not doing so is an opportunity lost.

At the global level, industry organizations in the mining and alternative energy industries can develop policy and assistance for member com-
panies regarding CPB and CPM strategies. Companies might promote through marketing the benefits of conflict resolution workshops and peace processes, real-life examples of peacemaking in communities, and encourage customers to support peace initiatives and organizations.

Of note, new alternative energy technologies may also pose new ethical risks for companies that will require fine-tuned CPM capacity. For instance, should companies that manufacture, install, or operate alternative energy infrastructure (e.g., microgrids or solar and wind farms) not only ensure they do not negatively impact on local communities, but also be prepared to engage stakeholders (e.g., local government and community leaders) in conflict resolution talks? Further, microgrids can increase community development and disaster resilience. But they may place communities at risk by criminal armed groups intent on leveraging power and profit by appropriating the community’s microgrid, as happened in Colombia, where armed groups took over oil company sites (and other natural resource–rich areas). Interest in national energy security has escalated recently, as a core issue for countries globally.

The main caveat on CPB and CPM activities is that if companies engage in peace efforts, particularly peace negotiations, issues around power inevitably arise. It is important to analyze issues of corporate power and interests, and ways to counter corporate self-interest when engaging in peace efforts. Civil society has already pushed for companies to learn how to balance power asymmetries; for example, in negotiations for company-community conflict.

A broader concern regarding corporate peacebuilding as a whole is corporate consistency in responsible behavior across operations and markets, and due diligence across supply chains. The next section proposes a new business paradigm that, in parallel with the oncoming alternative and renewable energy paradigm, could encourage B4P alongside social and environmental sustainability. This paradigm also means alternative energy TNCs prioritize evolving regulation on conflict minerals and frameworks for sustainable resource governance, particularly critical materials, to avoid contributing to future intrastate or geopolitical conflict.

Evolving International Regulatory Mechanisms for Governance of Conflict and Critical Materials
Growing corporate attention to supply chain ethics linked to conflict minerals has been driven by new voluntary or mandatory national, intergovernmental (European Union [EU]), and international (OECD) regulation. The voluntary OECD Guidance advises on supply chain due diligence for all minerals globally and provides supplementing guidance for 3TG. A five-step framework is outlined:
1. Establish strong company management systems;
2. Identify and assess risk in the supply chain;
3. Design and implement a strategy to respond to identified risks;
4. Ensure third-party audits of smelters’ and refiners’ due diligence practices have been undertaken; and
5. Report annually on supply chain due diligence.\textsuperscript{86}

The mandatory Conflict Minerals Rule of Section 1502 of the US Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act),\textsuperscript{87} framed on the OECD Guidance, has demanded that companies registered in the United States conduct conflict minerals reporting on their supply chains using 3TG from the DRC and adjoining countries. In 2017 the rule will likely be weakened or repealed due to legal challenges, and the Donald Trump administration’s draft executive order waiving compliance with the rule for two years.\textsuperscript{88}

Despite this, the global law firm Squire Patton Boggs argues that most involved companies have now established their 3TG due diligence programs and, while they may not be required to report officially (by filing the specialized disclosure Form SD), companies (depending on different industries) will likely continue 3TG due diligence based on the OECD Guidance due to customer demand. “Commercial pressure requiring companies to know and control the origin and chain of custody of their raw materials and products is likely to continue—and even grow,” including possibly expanding to minerals other than 3TG.\textsuperscript{89} Activist NGOs will continue to report on companies’ conflict minerals due diligence and they have underlined the OECD Guidance as the primary mechanism by which companies should monitor changing requirements and expectations.\textsuperscript{90}

Concurrently, the new mandatory EU conflict minerals regulation will impact on European importers, particularly by 2021. Agreed to in 2016, the regulation reflects the OECD Guidance due diligence framework and likewise applies to conflict-affected and high-risk areas worldwide (extending geographically further than the Dodd-Frank Act). The European Commission will publish a list of responsible smelters and refiners and a regularly updated nonexhaustive list of conflict-affected and high-risk areas within a handbook. Companies sourcing from areas not on the list will still be responsible for due diligence checks on sources. Importers must annually disclose publicly their supply chain due diligence. Those importing products incorporating 3TG such as laptops are not covered, but may be pressed to disclose details of products that might contain conflict minerals.\textsuperscript{91}

In 2015, the China Chamber of Commerce of Metals, Minerals & Chemicals Importers and Exporters also published voluntary Guidelines for Social Responsibility in Outbound Mining Investments. These guidelines too are based on the OECD Guidance.\textsuperscript{92}
In response to critical materials scarcity, some countries have adopted new strategies. The US Department of Energy’s 2011 critical materials strategy includes: diversifying supply; developing substitutes; and driving reuse, recycling, and efficient use of materials in manufacturing.\textsuperscript{93} The EU identifies the need to address all stages of the value chain (exploration, extraction, processing, recovery, and recycling) of critical materials for ecoindustries and the need to mitigate risk through recycling and substitution.\textsuperscript{94}

Internationally, there are calls for a dedicated sustainable governance framework for geochemically scarce materials that will incorporate production, manufacturing, use, and recovery.\textsuperscript{95} Mechanisms include research on global scarce metals stocks and flows in society and building effective institutions, raw materials taxes, certification schemes, and metals and minerals recycling or renting rather than selling.\textsuperscript{96} Timothy Prior et al. underline the need for bilateral or multilateral agreements for minerals stewardship to encourage sustainable business models, including joint ventures along “responsible supply chains,” and strong links between producing and consuming countries, that structure supplier and consumer chains for mutual resource (and energy) security.\textsuperscript{97} Crucially, international stewardship agreements need to highlight, as part of continuing the availability of resources, corporate and public policy guidance on steps to mitigate links to conflict in communities and advice on strategies (e.g., corporate peacebuilding) to help build more peaceful relations in conflict-prone areas.\textsuperscript{98}

Beyond the EU regulation and Dodd-Frank Act, regulatory responses to encourage supply chain disclosure and resource sustainability have rarely been enshrined in law, relying instead on voluntary codes developed by, or for, companies. Companies aiming to demonstrate ethical procurement practices have relied on ethical scorecards, reporting on best practices, and creating corporate cultural change. However, these approaches lack teeth when it comes to monitoring implementation and outcomes.\textsuperscript{99}

Consequently, as the effects of conflict minerals regulation and emerging sustainable resource governance become better understood, it is timely to call for best-practice corporate reframing of CSR to reflect corporate peacebuilding for conflict-prone contexts. Regulation and norm-setting frameworks for the sustainable governance of conflict minerals, critical materials, and beyond (think copper) are rapidly evolving. A CPB strategy will assist alternative energy TNCs to develop the mind-set, skills, and practices that help them align to this new governance and respond to calls for going beyond compliance and assisting communities to actually build peace.

**Conclusion**
Carbon-intensive extractive industries (oil, gas, and coal) have not performed well in terms of mitigating their negative impacts on human rights
and host community conflict. Despite some recent case studies on companies (including extractive TNCs) contributing to corporate peacebuilding, such examples are few and the lessons learned reflect this is a nascent area of corporate activity. It is imperative that new alternative energy industries apply these learnings, avoid a repeat of the negative impacts of carbon-intensive industries, and consider emerging scholarship in corporate contributions to CSR that support peace and sustainability. This is pertinent when companies use materials with ethical supply chain issues or develop large alternative energy projects such as solar and wind farms or microgrids.

In this article, we focused on TNC involvement in alternative energy and, specifically, the applied example of supply chains for conflict minerals and critical materials and new-generation lithium battery systems. We raised ethical issues related to the supply chain of battery components and applications, and we addressed how attention to supply chain ethics can provide companies the opportunity to extend into corporate peacebuilding, including peacemaking activity. This aims to reduce conflict in conflict-prone areas and build more peaceful relations. Components in lithium battery systems and electronics include conflict minerals and critical materials such as lithium, cobalt, and rare earths that arguably may become conflict minerals in the future. We demonstrated how materials such as copper, while not critical materials, still need governance to ensure sustainability. This constitutes an opportunity for alternative energy TNCs, which benefit from a clean and green image, to ensure that they (and their supply chains) underpin resource sustainability, do no harm to local communities, and indeed help support peaceful communities across their supply chains.

For alternative energy TNCs, reframing their CSR to a corporate peacebuilding approach will prepare and align them to expanding conflict minerals and critical materials frameworks and regulation and emerging debates on sustainable resource governance. Addressing the potential negative impacts of battery production and applications will be crucial “to satisfying consumers who may not be keen to invest in clean technologies founded on ‘dirty’ production processes,” or founded on conflict, human rights abuses, violence, and killing in supply chains. Companies that align their corporate culture, strategy, policies, value chains, products, and marketing to corporate peacebuilding, and prioritize peace as part of sustainable development, will be better positioned in coming years.

The Global Compact, with over 8,000 business members, engages companies on Goal 16 of the SDGs to “promote peaceful and inclusive societies” and, at the same time, on Goal 7 that calls governments, business, and civil society to “ensure access to affordable, reliable, sustainable and modern energy for all.” Former Secretary-General Ban Ki-moon insists that “access to clean energy is essential to leave no one behind in the move to zero carbon emissions.” We argue it is equally essential that within this global process, no one experiences violence, human rights abuses, or loss of
life due to supply chains in alternative energy production. Thus, the two goals (Goals 7 and 16) are interwoven, as are energy industries (both high and low carbon intensive) and the peacemaking community.

Notes
Natalie Ralph is associate research fellow and Linda Hancock is professor of politics and policy studies. Both are affiliated with the Alfred Deakin Institute for Globalisation and Citizenship and the Australian Research Council’s Centre of Excellence for Electromaterials Science. Ralph specializes in energy, mining, international politics, peacebuilding, and corporate responsibility, having worked in government, academia, business, and development organizations. She is author of Peacemaking and the Extractive Industries (2015). Hancock holds a personal chair in public policy, specializing in public policy analysis, corporate social responsibility, regulatory theory, and corporate political analysis.


6. Ibid.


23. Ibid., p. 787.
24. Ibid., p. 786.
33. Ibid., pp. 8–9, 55.
36. Ibid., p. 369.
37. Ibid., p. 368.
38. Ibid.
56. Ralph, Peacemaking and the Extractive Industries, p. 29.
58. Ganson, Management in Complex Environments, p. 80.
63. The framework in Figure 2 breaks mediation and conflict resolution interventions down to grassroots, middle-, or top-level interventions. Grassroots interventions apply at the community level. Middle-level interventions are either national or local, but involve more senior societal leaders including humanitarian and business leaders. Top-level interventions apply at the national level with top political leaders. See John Paul Lederach, Building Peace: Sustainable Reconciliation in Divided Societies (Washington, DC: United States Institute of Peace Press, 1997); Nick Killick, “Adoption of Lederach’s Triangle,” in Jane Nelson, ed., The Business of Peace (London: International Alert, Council on Economic Priorities, and Prince of Wales Business Leaders Forum, 2000), p. 55.
64. Ralph, Peacemaking and the Extractive Industries.
67. Ralph, Peacemaking and the Extractive Industries, pp. 73–74.


81. Freeman and Hancock, “Energy and Communication Infrastructure for Disaster Resilience in Rural and Regional Australia.”


83. Ralph, Peacemaking and the Extractive Industries.


85. OECD, Downstream Pilot Implementation of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

86. Ibid., p. 5.


90. Ibid.

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92. Michèle Brühlart Banyiyezako, “Here Is What You Need to Know About
China’s New Conflict Minerals Guidelines,” RCS Global, 26 August 2015, www
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97. Ibid., p. 790.
98. See also Giles Besada and Michael Olender, “Fossil Fuel Subsidies and Sus-
tainable Energy for All: The Governance Reform Debate,” Global Governance 21,
99. Robert Baldwin, Martin Cave, and Martin Lodge, Understanding Regula-
100. For example, Elf Aquitaine in Congo-Brazzaville, and the Ok Tedi mine in
Papua New Guinea.
101. Ralph, Peacemaking and the Extractive Industries.
103. UN, “Sustainable Development Goals.”
104. UN Secretary-General, “Secretary-General’s Remarks at International
Renewable Energy Agency Debate,” Statement by Secretary-General Ban Ki-moon,
Abu Dhabi, United Arab Emirates (17 January 2016), www.un.org/sg/statements