

## ALBERTA'S RENEWABLE ENERGY MARKET: DEVELOPING CONTRACT ISSUES

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*Governments and corporations around the world have increasingly demonstrated leadership in tackling climate change, resulting in new decarbonization policies and initiatives and new corporate environmental, social, and governance mandates. At the same time, wind and solar capital costs have decreased and new technologies, such as battery storage, are becoming more prevalent, thereby increasing the flexibility and utility of renewable energy generation. Developers and investors have already expended significant capital to further the development of renewable energy generation with, according to the International Energy Agency, renewable energy investment reaching its highest level ever in 2021 — \$367 billion internationally. This trend is only expected to increase if the global decarbonization goals are to be realized.*

*Within Canada, Alberta is at the forefront of renewable energy development due in part to its unique power industry structure — a deregulated, competitive, wholesale power market with non-discriminatory system access — which has attracted corporate off-takers and buoyed investment in renewable energy projects in the province, supported by corporate power purchase agreements. The pace of development is striking, and Alberta has rapidly become a preferred destination for renewable energy investment. The Alberta Electric System Operator says that 22 percent of the energy generated in Alberta in 2021 came from renewable energy sources. This is predicted to rise sharply — for instance, there are 61 solar projects currently under development in Alberta that could be completed by the middle of the decade.*

*This article examines several emerging contracting and development challenges currently facing renewable energy projects in Alberta, and aims to provide concrete, practical advice on several discrete contractual issues. Topics covered include, among others: (1) force majeure issues faced by project developers; (2) diverse carbon offset/renewable attributes programs and implications for power purchase arrangements; (3) developments pertaining to ethical procurement, including forced labour and the use of tracing protocols; and (4) the need for increased flexibility in contractual arrangements to accommodate the pairing of wind and solar with storage resources. Although this article is based primarily on experiences gained while developing renewable energy projects in Alberta, the analyses and solutions presented can be applied in many jurisdictions.*

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## I. INTRODUCTION

### A. RENEWABLE ENERGY IN ALBERTA

Within Canada, Alberta is at the forefront of renewable energy development, offering an abundance of natural resources and investment opportunities. From the perspective of renewable power development, Alberta is the fastest growing jurisdiction due to its strength and abundance of wind and solar resources and the unique deregulated structure of the wholesale electrical generation market.<sup>1</sup>

“In 2015, the Government of Alberta released the *Climate Leadership Plan* [which] articulated a goal of phasing out coal fired emissions and moving towards having 30% of Alberta’s energy coming from renewable sources by 2030.”<sup>2</sup> In 2021, the Alberta Electric System Operator (AESO) said that 14 percent of the energy produced in the province came from renewable energy sources.<sup>3</sup> By 2023, the AESO predicts the figure to rise to 26

<sup>1</sup> “Alberta Renewables Market Seeing Strong Growth” (March 2022), online: <[www.nortonrosefulbright.com/en/knowledge/publications/7daa0c21/alberta-renewables-market-seeing-strong-growth](http://www.nortonrosefulbright.com/en/knowledge/publications/7daa0c21/alberta-renewables-market-seeing-strong-growth)> [“Alberta Renewables”].

<sup>2</sup> Alberta, Farmers’ Advocate Office, *Renewable Energy in Alberta*, Ag Dex 817-15 (Edmonton: Farmers’ Advocate Office, 14 August 2017) at 3, online: <[open.alberta.ca/publications/ag-dex-817-15-renewable-energy-in-alberta#summary](http://open.alberta.ca/publications/ag-dex-817-15-renewable-energy-in-alberta#summary)>.

<sup>3</sup> Alberta Electric System Operator, *AESO 2021: Annual Market Statistics* (Calgary: Alberta Electric System Operator, March 2022) at 16, online: <[www.aeso.ca/assets/Uploads/market-and-system-reporting/2021-Annual-Market-Stats-Final.pdf](http://www.aeso.ca/assets/Uploads/market-and-system-reporting/2021-Annual-Market-Stats-Final.pdf)>.

percent.<sup>4</sup> With the rise of renewable energy developments and projects underway in Alberta, the province appears to be on track to meet its 30 percent target by 2030.

The Canada Energy Regulator forecasts that both Alberta and Saskatchewan will lead the nation in the growth of renewable energy.<sup>5</sup> Alberta has been in the process of phasing out coal-fired electricity generation, replacing it with natural gas, wind, and solar power. In 2021, “[i]nstalled coal generation fell to 2,530 MW, down from 6,003 MW in 2017,” whereas “[t]here was 1,254 MW of new generation installed, consisting of 629 MW of solar, 488 MW of wind, 116 MW of cogeneration, 20 MW of storage and 1 MW of other.”<sup>6</sup> Additionally, some analysts project “that 95 [percent] of all new renewable power projects in Canada through to 2025 will be in Alberta.”<sup>7</sup>

Development and investment in the renewable energy sector will continue to grow in the coming years. For instance, “there are 61 solar projects underway [in Alberta] that are expected to be completed by the middle of this decade.”<sup>8</sup>

## B. EMERGING CONTRACTUAL ISSUES

As the renewable energy industry continues to grow globally, in Canada, and in Alberta, the space is becoming increasingly complex, with projects growing in size and technical sophistication and business practices evolving. It is easy to forget that the wind and solar renewables industry is still in its infancy. Unlike the oil and gas industry, which is now over 150 years old and has the weight of established business practices behind it, the wind and solar renewables industry is still evolving, and its contracting practices are evolving with it. For the reasons noted above, the electricity industry is expected to play a key role in addressing the global challenges associated with climate change. Further, within Canada, Alberta has been a proving ground for renewable development given the regulatory environment and ability to attract investment.

This article examines several emerging contracting and development challenges currently facing renewable electricity developers in Alberta, which can also generally be applied more broadly outside of Alberta, and aims to provide concrete, practical advice on several discrete contractual issues. Part II discusses the increasing prevalence of *force majeure* claims in the renewables space and how careful drafting of the related contractual provisions can protect developers. Parts III and IV are focused on contracting practices and considerations pertaining to environmental attributes and ethical procurement, respectively. Part V briefly considers issues regarding the integration of battery energy storage systems with renewable energy projects.

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<sup>4</sup> “Alberta Renewables,” *supra* note 1.

<sup>5</sup> Nia Williams, “Canada Predicts Largest Oil Province Alberta to Lead Growth in Renewables,” *Reuters* (23 March 2021), online: <[www.reuters.com/article/us-canada-renewables-idUSKBN2BF0H8](http://www.reuters.com/article/us-canada-renewables-idUSKBN2BF0H8)>.

<sup>6</sup> Alberta Electric System Operator, *supra* note 3 at 12.

<sup>7</sup> “Alberta Renewables,” *supra* note 1.

<sup>8</sup> Bryan Labby, “Wind and Solar: A Robust Forecast for Renewable Energy in Alberta,” *CBC News* (1 January 2022), online: <[www.cbc.ca/news/canada/calgary/renewable-energy-solar-wind-alberta-1.6293329](http://www.cbc.ca/news/canada/calgary/renewable-energy-solar-wind-alberta-1.6293329)>.

## II. FORCE MAJEURE

### A. INTRODUCTION

Like other major capital construction projects, renewable energy projects, whether solar, wind, or otherwise, are subject to cost and scheduling risks during construction and, after they have been completed and commissioned, may encounter supervening events during their operational terms. For example, an engineering, procurement, and construction (EPC) contractor may encounter unforeseen subsurface conditions at the project site or a wind turbine supplier may have difficulty receiving a turbine component on schedule from their original equipment manufacturer (OEM). Renewable energy projects are particularly susceptible to the risk of supervening events given the rapid growth of the renewable energy sector, which has given rise to soaring demand for skilled labour, equipment, and materials in an environment with a relatively limited number of suppliers, experts, and other industry players. The greater use of new and relatively untested technologies can also lead to a greater risk of technical issues. As we discuss in Part IV of this article, the reliance on certain raw materials can also give rise to a greater risk of environmental, social, and governance (ESG) issues, such as the use of forced labour, which can impact supply chains and lead to a heightened risk of trade restrictions and regulatory changes.

Project agreements will generally contain terms allowing a party relief from the effects of such supervening events, potentially including a schedule extension, a price adjustment, or other relief, depending on the nature of the agreement and the circumstances in which any such supervening event arose. The most common mechanism to provide for contractual relief in connection with supervening events, and one which has seen increased use by parties since the onset of the COVID-19 pandemic, is the *force majeure* clause.

Prior to 2020, *force majeure* clauses often received relatively little attention during the drafting and negotiation of project agreements. Further, to the extent *force majeure* claims were made, they were often based on local issues such as labour disruptions, severe weather, or other events at the project site. However, the COVID-19 pandemic brought about an increased level of reliance and a heightened level of focus on these provisions by parties during contract negotiations. The onset and impacts of COVID-19 have been unprecedented in modern times, causing considerable disruption to supply chains, logistics, and operations both in Canada and globally. These impacts have resulted in many project owners receiving a relatively large number of *force majeure* claims from their contractors in relation to events occurring not just at the project site, but across the globe. Many of these claims were no doubt in response to related claims that such contractors received from their suppliers and subcontractors. Perhaps it is no coincidence that many project owners have simultaneously seen a rise in other, non-COVID-19-related *force majeure* claims; for example, in connection with transportation issues caused by the recent wildfires and flooding in British Columbia. Whatever the reason, in the last two years, *force majeure* claims have been on the rise, and *force majeure* provisions are receiving greater attention in the drafting of many project agreements. It is important for project owners (in this case the developers), and other parties involved in the development of renewable energy projects, to understand what *force majeure* is and how to draft *force majeure* clauses in a way that protects their interests across all related project agreements to which they are a party. We will briefly describe *force majeure*

below, provide some examples as to how *force majeure* clauses may be structured, and set forth some points to consider when drafting and negotiating them.

## B. PURPOSE AND ANATOMY OF A *FORCE MAJEURE* CLAUSE

### 1. CONTRACTUAL RISK ALLOCATION

*Force majeure* clauses are a tool contracting parties use to allocate risk associated with future events outside their control that affects a party's ability to perform its obligations under the contract. The Supreme Court of Canada has described a *force majeure* clause as one that "operates to discharge a contracting party when a supervening, sometimes supernatural, event, beyond control of either party, makes performance impossible. The common thread is that of the unexpected, something beyond reasonable human foresight and skill."<sup>9</sup> Today, *force majeure* events are commonly defined in contracts in terms of events beyond the control and without the fault or negligence of the affected party, and have become more complex than the *force majeure* clause considered by the Supreme Court of Canada in *Atlantic Paper*.<sup>10</sup>

The concept of *force majeure* originated in French civil law (literally translating as "superior force"), but, under common law, *force majeure* is solely a contractual construct and exists only to the extent there is such a provision in the contract. If there is no *force majeure* provision in a contract, there is no right to claim *force majeure*. In such a case, upon the occurrence of a supervening event which renders performance impossible, or "a thing radically different from that which was undertaken by the contract," a party may be able to rely on the common law doctrine of frustration for relief from its obligation.<sup>11</sup> However, this doctrine is comparatively difficult to invoke due to the relatively narrow circumstances in which it applies and the relatively high threshold that has to be met and, in the rare event of a successful frustration claim, it provides an inflexible result, effectively discharging the contract. Accordingly, *force majeure* provisions have developed as a means for contracting parties to achieve a more predictable and satisfactory resolution if a supervening event occurs.

*Force majeure* clauses can be as varied and flexible as the negotiating parties' needs, negotiating leverage, and imagination. In *Atcor Ltd. v. Continental Energy Marketing Ltd.*, the Alberta Court of Appeal remarked that "a *force majeure* clause ... should address three questions: how broad should be the definition of triggering events; what impact must those events have on the party who invokes the clause; [and] what effect should invocation have on the contractual obligation?"<sup>12</sup> In practice, *force majeure* provisions typically address these questions through some or all of the following elements:

- (1) A general definition of "*force majeure*" (which sometimes takes the form of a basket clause or catch-all provision covering types of events not specifically listed) outlining the

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<sup>9</sup> *Atlantic Paper Stock Limited v St Anne-Nackawic Pulp and Paper Company Limited*, [1976] 1 SCR 580 at 583 [*Atlantic Paper*].

<sup>10</sup> *Ibid.*

<sup>11</sup> *Naylor Group Inc v Ellis-Don Construction Ltd*, 2001 SCC 58 at para 53 [citations omitted].

<sup>12</sup> 1996 ABCA 40 at para 12 [*Atcor*].

requirements that the supervening event must meet to qualify as a *force majeure* event under the contract. The general definition often includes some or all of the following components (or similar): (a) that the event occurs after the date of the contract; (b) that the event is beyond the reasonable control of the affected party and does not result from its fault or negligence; (c) that the event could not reasonably have been foreseen, overcome, or avoided by the affected party (see also mitigation obligations below); (d) that the event impairs performance by the affected party of its obligations under the contract; and (e) the degree of impairment (whether impossibility of performance, mere hindrance or delay, or something in between) that is required to trigger a *force majeure* claim, which can vary based on the language used, as discussed further below.

- (2) A list of specific types of events that may be included in the *force majeure* definition (which are typically not exhaustive and ought generally to be subject to the proviso that they meet the requirements of the general definition and are not otherwise excluded).
- (3) A list of specific types of events that are excluded from the *force majeure* definition.
- (4) Notice requirements for *force majeure* claims.
- (5) The forms of contractual relief provided for *force majeure* (for example, suspension of obligations, extensions of time, additional costs, or termination rights).
- (6) The affected party's mitigation obligations.

Each of these elements have renewable project-specific considerations that parties should address in their *force majeure* provisions, some of which are discussed below.

The interpretation of *force majeure* clauses follows the general principles of contractual interpretation. The goal of contractual interpretation is to find the objective intent of the parties based upon the wording of the contract by, in the words of the Supreme Court of Canada, “read[ing] the contract as a whole, giving the words used their ordinary and grammatical meaning, consistent with the surrounding circumstances known to the parties at the time of formation of the contract.”<sup>13</sup> The wording of the *force majeure* clause will be the primary point of reference to determine whether or not the clause is operative in a certain situation. However, a court will also consider the “real purpose of the *force majeure* clause” and the commercial context.<sup>14</sup>

While the courts have, on occasion, construed *force majeure* clauses narrowly, there is no rule of law requiring narrow interpretation of a *force majeure* clause against the party relying on it.<sup>15</sup> One rationale for the narrow interpretation may historically have been that *force majeure* clauses were sometimes described as exclusion clauses, which were “interpreted

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<sup>13</sup> *Sattva Capital Corp v Creston Moly Corp*, 2014 SCC 53 at para 47.

<sup>14</sup> *Acor*, *supra* note 12 at paras 14, 27–29.

<sup>15</sup> See, for example, the Supreme Court of Canada's application of the *ejusdem generis* rule of interpretation in *Atlantic Paper*, *supra* note 9, the Court of Appeal of Newfoundland and Labrador's decision in *Fishery Products International Ltd v Midland Transport Ltd* (1994), 119 Nfld & PEIR 153 (CA), and the Nova Scotia Supreme Court's application of the *contra proferentem* rule in *Hanna (MA) Co v Sydney Steel Corp* (1995), 136 NSR (2d) 241 (SC).

strictly against the party seeking to” rely on them.<sup>16</sup> However, this is no longer the case. For example, in *Dow Chemical Canada ULC v. NOVA Chemicals Corporation* the Alberta Court of Appeal found that exclusion clauses are not subject to a special rule of strict interpretation and that “[e]xclusion clauses should be interpreted like all other contractual clauses, not in isolation, but giving the words used their ordinary and grammatical meaning, considered in harmony with the rest of the contract and in light of their purpose and commercial context.”<sup>17</sup> Nevertheless, in view of the occasionally strict interpretation of *force majeure* clauses by the courts, one should remember the need for clear and specific language in the drafting and negotiation of *force majeure* clauses.

## 2. THE DEFINITION AND MITIGATION ELEMENTS OF A *FORCE MAJEURE* CLAUSE

As noted above, the Supreme Court of Canada has described *force majeure* clauses as “operat[ing] to discharge a contracting party when a supervening ... event ... makes performance impossible.”<sup>18</sup> However, whether impossibility or something less is required will depend on the language used in the contract. *Force majeure* clauses have generally moved away from the impossibility threshold for a similar reason, being that frustration is not generally viewed as an adequate mechanism to address supervening events. *Force majeure* definitions tend to use language such as “prevent,” “hinder,” or “delay,” and often apply a reasonability standard to determine what steps an affected party must take to overcome a supervening event. In the absence of clear language, the court will seek to determine the intent of the parties. For example, in *Atcor*, which concerned a *force majeure* clause that referred to failure to observe or perform covenants or obligations occasioned by or in consequence of *force majeure*, the Alberta Court of Appeal found that the test that was likely intended by the parties was whether the event made performance commercially impracticable or unreasonable and that “[a] supplier need not show that the event made it impossible to carry out the contract, but it must show that the event created, in commercial terms, a real and substantial problem.”<sup>19</sup>

In terms of the steps an affected party is required to take to overcome such an event, if a mere reasonability or commercial reasonability standard is included in the definition of *force majeure*, this will not mean that an affected party will automatically be able to discharge its mitigation obligations and claim *force majeure* if the cost to perform an obligation simply becomes more expensive. This is typically expressly stated in the definition of *force majeure* or as a separate term housed within the *force majeure* clause. In *Atcor*, the Alberta Court of Appeal considered a definition of “*force majeure*” that was generally defined as “any acts of God ... or any other causes, whether of the kind herein enumerated or otherwise, not within the control of the party claiming suspension and which, by the exercise of due diligence, such party is unable to overcome.”<sup>20</sup> The Court determined that the claiming party

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<sup>16</sup> Michael P Theroux & April D Grosse, “Force Majeure in Canadian Law” (2011) 49:2 Alta L Rev 397 at 406.

<sup>17</sup> 2020 ABCA 320 at para 47 [citations omitted].

<sup>18</sup> *Atlantic Paper*, *supra* note 9 at 583.

<sup>19</sup> *Atcor*, *supra* note 12 at para 17.

<sup>20</sup> *Ibid* at para 3.

must take “commercially reasonable and feasible” steps to mitigate the impact of the *force majeure* event.<sup>21</sup>

If the party fails to take steps or incur the additional costs to perform, so long as such failure is not reasonable, the inability to perform would be in the affected party’s control and, absent clear language to the contrary, would not generally be excused by a *force majeure* clause. Assuming the *force majeure* clause itself does not expressly establish parameters for mitigation (for example, a cost limit that an affected party must incur to overcome a supervening event), determining what is reasonable in any case will be fact-dependent. This obligation is further described in *Atcor*:

On the one hand, the supplier should not be able to cancel a contract merely because an expected profit will not occur as a result of new events. On the other hand, the purpose of the term is to protect the supplier from effects that are, in terms of what is commercially feasible or reasonable, out of his control. In sum, and in the absence of clearer words to the contrary, a supplier is not excused from non-performance by a *force majeure* event if the sole consequence of that event is to drive him to buy from another supplier and make a smaller profit. He is excused, however, if that solution, in all the circumstances, is not reasonable.<sup>22</sup>

In the context of a renewable energy project, if a supplier had originally intended to source components from one OEM but a supervening event caused this to no longer be possible, depending on the specific wording of the *force majeure* clause, the fact that it may be more expensive to source the component from a different OEM may not excuse the supplier unless, in all the circumstances, requiring the supplier to incur the additional expense would be unreasonable.

To what extent a party needs to continue performance or take mitigating steps in light of increases in cost is an aspect of particular risk for disputes among parties when determining whether there is a valid *force majeure* claim. When considering a claim of *force majeure*, a party should be cognizant of the fact that a *force majeure* clause may not protect the affected party from higher performance costs if it is reasonable in the circumstances for such costs to be incurred. It bears repeating that it will fall to the specific words used in the *force majeure* provision and the particular fact pattern to determine whether a *force majeure* claim has been made out. When drafting *force majeure* clauses, parties may wish to consider specifically addressing what mitigation efforts are or are not required. In the context of COVID-19, for example, consideration could be given to the types of requirements (such as requirements for personal protective equipment, washing facilities, social distancing, isolation of symptomatic workers, and so on) that fall within a contractor’s mitigation obligations and those that do not. Another example is the common provision that, while strikes may constitute *force majeure*, a party is not required to mitigate any such event by settling a labour dispute against its will.

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<sup>21</sup> *Ibid* at para 14.

<sup>22</sup> *Ibid* at para 35.



### 3. INCLUDED AND EXCLUDED EVENTS

It is common to list specific events that may be included in a definition of *force majeure*, such as acts of God, natural and physical disasters, war, revolution, rioting, terrorist acts, sabotage, epidemics, government actions, and so on. As a general rule, it is prudent to provide that such events constitute *force majeure* only insofar as they satisfy a general definition of *force majeure* (such that they must also be beyond the reasonable control of the affected party, not be reasonably foreseeable or avoidable, and so on) and frame such included events in language that makes it clear that they are not intended to be exhaustive, such as “including (but not limited to).” It is not uncommon to see the list of specific events followed by a basket clause such as “and any other events beyond the reasonable control of the parties.” Care should be taken when structuring a *force majeure* clause in this way to ensure that all specific events constitute *force majeure* only to the extent they satisfy certain overarching requirements, including not only being beyond the reasonable control of the parties, but also being not reasonably foreseeable and avoidable, occurring after the effective date of the contract, and actually impairing performance of obligations under the contract. With respect to the interpretation of such basket clauses, while the Supreme Court of Canada applied the *ejusdem generis* rule of interpretation to the *force majeure* clause in *Atlantic Paper*, that did not include a basket clause, and the courts have declined to apply the *ejusdem generis* rule in a number of subsequent cases involving *force majeure* provisions with basket clauses.<sup>23</sup> When drafting a list of specific included events, it is important to tailor the list to the particular project and contract, for example, to cover the specific types of unforeseeable weather conditions, supply chain impacts, government interference, interconnection issues, or other events that would prevent construction or operation, which may differ from one project to another and between solar, wind, and other renewable energy projects.

It is also common to exclude certain specific events, such as lack of funds or changes in market conditions, often as a means to further define the included events and any broader general definition or basket clause. For example, while it is common to include acts of God, hurricanes, tornadoes, tsunamis, and other severe weather events, this may be combined with an exclusion of less severe and foreseeable weather events which the parties do not intend to constitute *force majeure*. Similarly, while it is common to include epidemics, pandemics, and other public health crises, in the last two years it has become increasingly common to clarify the extent to which these include or exclude the impacts of COVID-19. Given the very real potential for disruptions to global supply chains (highlighted with the impacts from COVID-19), when drafting *force majeure* clauses, it should be considered whether the clause sufficiently addresses the possibility of intervening events affecting third parties in other jurisdictions. This should be considered particularly with respect to the following types of events, which have all seen increased reliance in relation to the global supply chain and logistical issues that have affected renewable energy project development during the pandemic:

- (1) Subcontractors or Suppliers — It is not uncommon to include in a *force majeure* definition any events affecting a subcontractor or supplier of a party if those events would

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<sup>23</sup> See e.g. *Morris v Cam-Nest Developments Ltd* (1988), 64 OR (2d) 475 (H Ct J); *World Land Ltd v Daon Development Corporation* (1981), 20 Alta LR (2d) 33 (QB) [*World Land*].

constitute *force majeure* if the subcontractor or supplier were a party to the contract (or something similar). However, the inclusion of such events can potentially give rise to issues. For example, because the subcontractors or suppliers are often not subject to the same notice procedures that apply under the head contract, the events may occur in other jurisdictions and it may be difficult for the party receiving the *force majeure* claim to verify the event itself. It may be particularly difficult for the non-affected party to be satisfied that the event was not within the control of the subcontractor or supplier or that the impacts of such event could not reasonably have been foreseen, overcome, or avoided, whether the subcontractor or supplier took reasonable steps to mitigate its impact, and what alternative subcontractors or suppliers were available to the contractor. It should therefore be considered carefully what, if any, *force majeure* claims by subcontractors or suppliers will entitle a party to relief and whether any additional provisions are required regarding the notices and evidence that the affected party will be required to provide. Even if reference to *force majeure* events affecting subcontractors and suppliers is not expressly included, a court may interpret them as being included in some cases. For example, in *Tenneco Canada Inc. v. British Columbia Hydro* the British Columbia Court of Appeal found that Tenneco's right to claim billing adjustments in circumstances where there was a reduction in the taking of electricity from BC Hydro caused by "[s]trikes, legal lockouts, and other labour disturbances"<sup>24</sup> (among other things) applied even though the strike in question affected Tenneco's customers rather than Tenneco itself, as "the effect on [Tenneco was] exactly the same as if its own workforce had been on strike."<sup>25</sup>

(2) Transportation Delays — This may be another example of *force majeure* affecting a subcontractor or supplier, since the event of *force majeure* may directly affect the transportation provider (such as a logistics services provider or ship operator) rather than the party itself. It is well reported that COVID-19 has caused global logistics disruptions. However, it is often difficult to determine whether such disruptions constitute *force majeure* because of difficulties in determining what was within the control of the transporter, the steps taken to mitigate the impact of the event, the other transportation options that were available and at what cost, and the foreseeability of the disruption. Such difficulties may be exacerbated by the fact that logistics disruptions have occurred on a global level and the events relied on by claimants may relate to shipping operations in overseas ports on which it may be difficult to obtain first-hand information. The onus should generally be on the party arranging transportation to ensure that it has incorporated sufficient time within the schedule to accommodate certain transportation disruptions and has made appropriate contingency plans, and consideration may be given to limiting *force majeure* relief in relation to transportation delays to only those delays that are not foreseeable, that cannot be planned for, and that are beyond the control of both the contracting party and also the relevant transportation providers (which, after all, were presumably selected and retained by the affected contracting party).

(3) Government Action — Government action and inaction, or similar events, are often included in a list of *force majeure* events. Sometimes they may be subject to express exceptions, such as government action enforcing compliance with the law or permits,

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<sup>24</sup> 1999 BCCA 415 at para 15 [emphasis in original].

<sup>25</sup> *Ibid* at para 44.

changes in law, or changes in taxes or customs duties (although changes in law will often be subject to separate provisions providing for relief). Consideration should be given by parties as to the extent to which government action or inaction will constitute *force majeure* by reference to the type of action or inaction (for example, something more than simply enforcement of the law or a permit), any jurisdictional limits (for example, would a government shutdown of a subcontractor's manufacturing plant in another jurisdiction constitute *force majeure*?), and potentially other parameters. Again, where such events occur and affect suppliers or subcontractors in other jurisdictions, it can be difficult to verify whether the requirements of a *force majeure* clause have been met. As suggested above, given the unique impacts of changes in law (and in the case of electricity markets, the potential for market redesign), it is suggested such change in law impacts be addressed outside the scope of a typical *force majeure* clause.

### C. ALIGNMENT BETWEEN PROJECT AGREEMENTS

The first half of this discussion on *force majeure* has primarily taken the perspective of a developer negotiating *force majeure* claims with its contractors, but there is an equally important project agreement under which the developer is the performing party and may need to rely on the *force majeure* clause: the power purchase agreement (PPA). Prior to the commercial operation date (COD), the developer is acting effectively as a middleperson with the major contractors and suppliers on one side and the off-taker on the other side. The off-taker will likely have negotiated a target or guaranteed COD when the renewable facilities must begin delivering electricity and producing environmental attributes. To ensure these milestone dates are met, the developer will likely have negotiated substantial completion and commissioning dates in the major contractor and supplier contracts. If a valid *force majeure* claim arises under these project agreements, the contractor or supplier may receive an extension to their milestone dates. In order to minimize the risk of such events affecting the PPA, it is imperative that the developer attempts to achieve back-to-back protection between the PPA and its project contracts so that it can receive the same schedule extension and avoid defaulting on the PPA milestone dates. Contractors may be in an analogous position, seeking to align the head EPC contract or other construction-related contracts with any subcontracts, demonstrating the need to align the *force majeure* provisions of all project-related agreements up and down the chain to the extent possible. Ensuring alignment among these various project agreements often involves the concurrent negotiation of all project agreements — a juggling act requiring significant diligence and coordination by the developer.

#### 1. ALIGNMENT ON TRIGGERING EVENTS

A developer must ensure that it can claim *force majeure* under the PPA for the same triggering events for which its contractors and suppliers can claim *force majeure* under their respective project contracts. For example, if the delivery of a generating component is impeded by governmental action causing a delay to the turbine delivery schedule, the developer may wish to claim *force majeure* under the PPA for this delay in order to extend any PPA milestone dates. As it would not be the developer itself that is prevented from performing in such circumstances, it is important, from the developer's perspective, to ensure that the *force majeure* clause in the PPA covers events affecting contractors, subcontractors,

and suppliers (similar to those referred to above). In particular, the aim of the developer should be to ensure that it avoids a circumstance where its contractor or supplier has *force majeure* relief for a specific event, but the developer is unable to claim *force majeure* under the PPA, likely exposing the developer to penalties (such as liquidated damages for delay).

## 2. ALIGNMENT ON NOTICE REQUIREMENTS

The *force majeure* notice provisions between the contractor agreement and the PPA will also need to be aligned. These provisions identify the requirements that the notice of a *force majeure* claim must meet for the claiming party to rely on the *force majeure* clause, generally including the time period within which the notice must be provided and the information that must be included in the notice. These notice requirements may be interpreted as a condition precedent to *force majeure* relief, depending on the wording of the clause. In the past, courts have found that a defective notice, whether due to a late-arriving notice or a notice with insufficient information, will bar a party from an otherwise successful *force majeure* claim.<sup>26</sup> Accordingly, from the perspective of a developer, it is important to ensure that the timing and content of the notices it is entitled to receive from its contractors and suppliers are sufficient to allow it to discharge its notice obligations under the PPA.

### a. Notice Period

In regard to the prescribed notice period, the goal is for the developer to ensure that there is no scenario where its contractors' or suppliers' compliance with their *force majeure* notice requirements may prevent a reciprocal claim under the PPA. First, the developer should attempt to have the notice period under the PPA only start when a party knows that a *force majeure* event has occurred (or learns that an event qualifies as *force majeure*), and not when the *force majeure* event itself has occurred. That way, the notice period will generally start when the developer receives the *force majeure* notice from its contractor. However, the PPA *force majeure* provision may require that notice be given within a set amount of days from when the developer *ought to have* known that a *force majeure* event has occurred. If the PPA contains such a requirement, the other project agreements should have the same requirement with a shorter time period than under the PPA. This should help to preclude any issues where the off-taker alleges that the developer should have known that a *force majeure* event has occurred when the event itself takes place and not when the contractor provides notice of the same.

If possible and appropriate, the developer should seek to avoid timely notice being a precondition to relief under the PPA or include the concept of no prejudice in the PPA's *force majeure* notice provision. A no prejudice *force majeure* notice provision would excuse late delivery of a *force majeure* notice to the extent that the off-taker was not negatively prejudiced by such late delivery.

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<sup>26</sup> *World Land*, *supra* note 23 at para 47.

b. Notice Information

The *force majeure* notice must also contain the requisite details specified in the *force majeure* clause in order to claim relief. The developer needs to ensure that it is receiving enough information from its contractors to satisfy its obligations towards the off-taker, along with any information that it may be required to provide to third parties, such as financing parties and insurers. Under the PPA, a *force majeure* clause should ideally require the developer to provide only the materially relevant information of which it is aware at the time the notice is issued. Under the contractor's agreement, the developer's goal is to gather as much information as possible, not only to satisfy the PPA's requirements but also to ensure that the contractor has indeed suffered a *force majeure* event, discharged its mitigation obligations, and otherwise complied with the strict requirements of the specific *force majeure* clause. This can be achieved by specifically stating the type of information required in the notice, such as the details regarding the supervening event itself, the effects of the event on the claiming party's obligations, and, importantly for the reasons described above, the mitigation actions available and being taken by the claiming party. As mentioned above, where events are suffered by third parties in other jurisdictions, it can be particularly difficult to verify them independently, which makes the notice information requirements particularly important. An ongoing obligation to provide updates as new information arises may also be needed to meet the PPA requirements and should be included in the other project agreements as well.

**D. ALIGNMENT ON CONTRACT RELIEF**

1. COST RELIEF

A *force majeure* clause typically excuses or suspends a party's obligations to perform under the contract (generally excluding payment obligations) for so long as the supervening event prevents performance. Under construction and supply contracts, this usually translates into schedule relief on a day-for-day basis. For example, if a *force majeure* event delays delivery of major components by two weeks, the delivery schedule may be extended by two weeks and any downstream project schedule milestones affected by delayed delivery may be similarly extended. However, a consideration that often arises is whether the contractor should also be entitled to cost relief for the *force majeure* event in the form of a change order. This consideration is of particular concern to the developer due to the fact that the PPA price is locked in upon contract execution and is not generally subject to change except in very limited circumstances. Unless the developer is able to negotiate a price adjustment mechanism for a supervening event into the PPA, such as a change in law clause, the developer will be assuming all cost increases and overruns with no ability to flow-through the costs to the off-taker. Therefore, the developer will generally wish to keep cost relief to an absolute minimum under its project agreements, particularly in relation to events beyond its control, such as *force majeure*.

Depending on the contractor's obligations, it may be appropriate to limit *force majeure* relief to schedule extensions only and not provide any cost relief. In the case of a supply contract where the supplier's primary obligation is to procure and deliver goods, the most likely impact of *force majeure* is delivery delay and it may be appropriate to provide only

schedule relief. In the context of construction contracts, such as the EPC contract, a schedule delay can have significant cost implications, including in relation to major equipment leases, labour standby rates, and site mobilization and demobilization costs. If the EPC contractor is agreeing to perform the work for a lump sum, it may be less willing to take the risk of cost overruns caused by *force majeure* with no related right to a price adjustment. To address this concern, contractors may seek to negotiate some level of cost relief in connection with *force majeure* events, particularly for events affecting the owner's performance of obligations, such as the delivery of owner-supplied equipment. There are a variety of ways parties may provide for limited cost relief in relation to *force majeure*, including through the use of deductibles and caps. These can ensure that the developer is not "nickel and dimed" by the contractor and also provide cost certainty, which is important for the fixed revenue PPA. In any event, any cost relief should be limited to additional costs actually incurred as a result of the *force majeure* event and should be subject to the contractor's mitigation obligations.

## 2. TERMINATION RIGHTS

It is relatively common for one or both parties to have the right to terminate a project agreement if a *force majeure* event continues for a certain length of time. Alignment between project agreements is important to avoid the risk of one agreement (such as the EPC contract) being terminated while other agreements (such as the PPA) remain in effect. If the contractor has such a right of termination and the project agreements are not properly aligned, this could open the door to the potential scenario where an extended *force majeure* event causes the contractor to terminate the EPC agreement but, before the termination right arises under the PPA, the *force majeure* event ceases. In such a case, the developer would be faced with either renegotiating the EPC contract at a potentially higher cost or being exposed to liquidated damages or termination damages under the PPA for failing to achieve the COD prior to the milestone date. This risk may be avoided if only the developer (not the contractor) has the right to terminate the EPC contract due to extended *force majeure*. The contractor may arguably have less need than the developer for such a right of termination, particularly if the contractor is entitled to cost relief for *force majeure* such that it would not be required to endure unlimited standby and prolongation costs without relief.

## E. PPA-SPECIFIC CONSIDERATIONS

### 1. TRIGGERING EVENTS

In addition to aligning the *force majeure* triggering events between the contractor/supplier contracts and the PPA, there are also PPA-specific triggering events that are desirable to be included from a developer's perspective. These include transmission outages, curtailment orders, interconnection delay, main power transformer failures, and serial defects in the generating assets.

The PPA should excuse any maintenance or outage, whether scheduled or unscheduled, on the distribution or transmission facilities, whether localized or system-wide, as such events would generally be outside the control of the developer, are likely to occur at some point during the term of the PPA, and will impact the developer's ability to perform under the PPA, be it preventing the developer from achieving the COD or preventing the developer

from delivering electricity and generating environmental attributes. Similarly, the PPA should excuse any curtailment required by applicable law that is not the result of the developer's negligence. In Alberta, a curtailment directive may be issued by the AESO in accordance with the power grid rules to address transmission congestion issues, or the developer may be subject to a remedial action scheme to protect the transmission system from known transmission issues.<sup>27</sup>

While these first two examples of PPA-specific triggering events should be relatively non-controversial, the following three (interconnection delay, transformer failures, and serial defects) may entail a longer negotiation between the off-taker and developer. A developer should attempt to include interconnection delay as a triggering event to the extent the delay of interconnecting the renewable project to the distribution or transmission networks is not caused by the developer. The developer can only ensure that the interconnection application to the grid operator (in Alberta's case, the AESO) is submitted promptly and that the facilities built on its side of the interconnection point are built on time. The developer has next to no control over how the grid operator or the distribution or transmission owner perform their respective roles in the interconnection process. It is not uncommon for the construction of the required transmission facilities to be delayed, sometimes significantly, even if the developer has complied with all public guidelines. The off-taker may respond by saying that the developer is better able to manage this risk due to its experience with the interconnection process and better able to schedule a commissioning date that budgets this potential delay. In response, the developer would emphasize that it is naturally impacted by the interconnection delay as it is not receiving revenue under the PPA for electricity or environmental attributes until the COD has been achieved, which inherently creates an incentive for the developer to achieve the COD and to connect the project to the grid. Further, should the developer be exposed to the risk of interconnection delays, the result may be that, in order to budget for this potential delay, the developer would propose milestone dates that are significantly later than the actual COD and the commencement of PPA deliveries.

Major defects in the main power transformer(s) and serial defects in the generating assets can be devastating to the developer. Unless the developer failed to maintain these assets according to good industry practice or was otherwise negligent in their operation and maintenance, such a defect would be outside of the developer's control and should qualify as a *force majeure* event. An off-taker may argue that the developer can manage this risk by conducting due diligence on their counterparties and negotiating contractual protections (such as a warranty). However, these arguments fail to account for the fact that these defects can significantly delay the COD or cause considerable declines in project availability, depending on when the defect is discovered. In this age of ever-present supply chain issues, a main power transformer can take upwards of 40 weeks from contract execution to site delivery, meaning potentially a 40-week delay to the COD, or 40 weeks of zero production.

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Alberta Electric System Operator, *ISO Rules* (26 November 2015), Part 300 System Reliability and Operations, Division 302 Transmission Constraint Management, Section 302.1 Real Time Transmission Constraint Management, online: <[www.aeso.ca/assets/documents/Section-302.1-Real-Time-Transmission-Constraint-Management.pdf](http://www.aeso.ca/assets/documents/Section-302.1-Real-Time-Transmission-Constraint-Management.pdf)>; Alberta Electric System Operator, *Alberta Reliability Standard – Protection System and Remedial Action Scheme Misoperation* (PRC-004-WECC-AB1-1) (30 August 2016), online: <[www.aeso.ca/rules-standards-and-tariff/alberta-reliability-standards/prc-004-wecc-protection-system-and-remedial-action-scheme-misoperation/download/PRC-004-WECC-AB1-2.pdf](http://www.aeso.ca/rules-standards-and-tariff/alberta-reliability-standards/prc-004-wecc-protection-system-and-remedial-action-scheme-misoperation/download/PRC-004-WECC-AB1-2.pdf)>.

Without some form of relief from its obligations, the developer would likely be faced with significant liquidated damages for a delayed COD or a failure to achieve the availability guarantee and, potentially, have its PPA terminated for an event of default.

## 2. PPA-SPECIFIC RELIEF

In the post-COD stage, when the work under the project development agreements will generally have been completed, the role of *force majeure* under the PPA will be to provide relief from the developer's obligation to produce electricity and deliver associated environmental attributes when a supervening event occurs. While the relief from non-performance is relatively straightforward, it may need to be considered how the generation hours that were lost when the renewable facility was unable to produce electricity due to *force majeure* will be treated under the PPA's availability guarantee. The availability guarantee is a commitment from the developer that the renewable facility will be available to generate electricity for a certain percentage of time, failing which the off-taker may be entitled to liquidated damages and, in certain cases, a termination right. There are many different ways that the availability guarantee can be calculated, ranging in complexity, and it should be considered how such calculations should take account of any periods of reduced availability resulting from *force majeure* and any other excusable events (including planned maintenance). Where a project has multiple off-takers, consideration may also be given to the allocation of power and environmental attributes under each of the PPAs in the event of reduced generating capacity caused by *force majeure* (for example, by requiring the production to be allocated pro rata between the various off-takers). This is often addressed indirectly by the capacity rights of each off-taker being defined in terms of a percentage of production and the aforementioned right of the developer to be excused under the availability guarantees under each PPA for any loss of production caused by *force majeure*.

## F. CONCLUSION

*Force majeure* clauses can be a helpful contractual tool to allocate risk associated with unforeseen events not caused by either party's fault. They can also produce inequitable and unanticipated results if not carefully considered prior to contract execution. This has taken on a renewed level of importance in renewable energy project agreements in light of the supply chain, logistics, and operational disruptions that have derailed many projects during the COVID-19 pandemic and brought about an increase in *force majeure* claims. The key is for the project team to fully understand the interplay between all project agreements and ensure that the appropriate contractual relief is available under the *force majeure* clauses in each of the agreements when warranted.

## III. ENVIRONMENTAL ATTRIBUTES AND CARBON CREDITS

### A. INTRODUCTION

Following the discontinuance of the Renewable Electricity Program in 2019, Alberta has seen a significant increase in the number of long-term corporate PPAs used in connection with the development of new renewable energy projects. These PPAs often utilize a contract for differences payment mechanism which establishes a fixed price per megawatt hour



(MWh) the developer will receive for the generation of renewable electricity. This mechanism removes all or a portion of the merchant risk associated with such projects, enables developers to obtain financing, and provides sufficient certainty to support investment decisions with respect to the construction of such projects.

In addition, such PPAs are often virtual, meaning the PPA does not require or involve the physical delivery of electricity by the developer to the off-taker and the off-taker does not receive or take title to the electricity generated by the applicable project. Instead, the developer delivers electricity generated by the renewable project to the power pool and, to the extent the pool price is less than the fixed PPA price, the off-taker is required to pay the developer the difference between such fixed price and the pool price.<sup>28</sup> The upshot of the foregoing is that, notwithstanding that these agreements are referred to as power purchase agreements, virtual PPAs are largely financial instruments that provide a hedge to the local spot electricity price, and the main product that is actually created and delivered by the developer and received and purchased by the off-taker under such agreements is the environmental attributes associated with the generation of renewable electricity. Such environmental attributes are often used by the off-taker to satisfy regulatory compliance obligations or ESG commitments.

In renewable PPAs in Alberta, off-takers are generally entitled to the environmental attributes associated with a specified percentage of generation from the applicable facility (this specified percentage is often referred to as the contract capacity). For example, suppose a developer is planning on building a 100 MW wind facility and is looking to mitigate or remove the merchant risk associated with all or a portion of such a facility. If it were able to do so, the developer could enter into a single PPA in which the off-taker agrees to purchase 100 percent of the environmental attributes generated by the facility. In such a case, the off-taker's contract capacity would be 100 MW (representing 100 percent of the capacity) and it would likely have greater leverage in the PPA negotiations with the developer, as it would be the single counterparty mitigating the merchant risk from the project. On the other hand, the developer may enter into three PPAs with three different counterparties pursuant to which one off-taker agrees to purchase 50 percent of the environmental attributes (for a 50 percent contract capacity), another agrees to purchase 35 percent of the environmental attributes (for a 35 percent contract capacity), and the last off-taker agrees to purchase 15 percent of the environmental attributes (for a 15 percent contract capacity). All else being equal, one would expect the off-taker with 50 percent contract capacity to have more leverage than off-takers with lower contract capacities. There are endless variations as to how the output of a renewable facility might be contracted (including leaving a portion of the facility uncontracted and subject to pool price fluctuations). Developers will need to ensure that, in circumstances where there is more than one PPA associated with a single facility, the PPAs do not have conflicting provisions or requirements, particularly as they relate to the generation and transfer of environmental attributes.

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<sup>28</sup> In cases where the pool price exceeds the fixed price, the generator is required to pay the off-taker the difference between the pool price and the fixed price.

## B. ENVIRONMENTAL ATTRIBUTES, RENEWABLE ENERGY CERTIFICATES, AND CARBON OFFSETS

As a foundational matter, it is important to distinguish between: (1) environmental attributes (EAs);<sup>29</sup> (2) renewable energy certificates (RECs); and (3) emissions and carbon offsets (offsets).

EAs are the intangible attributes or characteristics associated with the generation of electricity from renewable resources or through other means which reduce emissions. Renewable PPAs often define environmental attributes broadly to mean any attributes associated with the production of electricity from renewable sources or a generating facility having decreased environmental impacts, including avoided greenhouse gas, sulfur oxides (SO<sub>x</sub>), and nitrogen oxides (NO<sub>x</sub>) emissions.

RECs, on the other hand, “are the embodiment of one or more attributes of renewable electricity generation in an instrument that can be bought and sold separate from electricity, and that conveys a contractual right to claim those attributes.”<sup>30</sup> Another author defines RECs as “an ‘environmental commodity’ that legally bundles the ownership of all environmental and social attributes associated with the generation of one megawatt-hour (MWh) of renewable energy.”<sup>31</sup> In short, RECs are a specific subset of EAs that are tradable instruments used “to track the claim to the carbon-free attribute of the renewable energy generation to ensure that the credits are not double counted.”<sup>32</sup> For instance, one of the most common forms of RECs currently utilized in Alberta are those issued by the Western Renewable Energy Generation Information System (WREGIS), which is an independent REC tracking system. Renewable projects in Alberta can be registered as a “Generating Unit” under the WREGIS program and thereafter generate RECs under that system.<sup>33</sup>

Finally, an offset “represents a metric ton of verified carbon emissions that are avoided or reduced as a result of a discrete, external project.”<sup>34</sup> Similar to RECs, offsets represent or embody certain environmental attributes (that is, environmental attributes associated with reduction of carbon emissions) and can be sold or used to satisfy legislated environmental obligations. For example, in Alberta, projects which satisfy the *Technology Innovation and Emissions Reduction Regulation*<sup>35</sup> and applicable quantification protocol requirements (among other things) can be registered with the Alberta Emissions Offset Registry (AEOR) and create offsets which are registered thereunder. AEOR offsets are also subject to third

<sup>29</sup> Environmental attributes are also known as renewable attributes and green attributes, among other things.

<sup>30</sup> Edward A Holt & Ryan H Wiser, “The Treatment of Renewable Energy Certificates, Emissions Allowances, and Green Power Programs in State Renewables Portfolio Standards” (April 2007) at 1, online (pdf): *University of California* <escholarship.org/content/qt4jj146vk/qt4jj146vk\_noSplash\_d9cedee01dc631ad3de7e44a8e0d39e9.pdf?t=lnr05k>.

<sup>31</sup> Vanessa Barreto et al, “A Study of Carbon Offsets and RECs to Meet Boston’s Mandate for Carbon Neutrality by 2050” (17 May 2018) at 4–5, online: *Massachusetts Institute of Technology* <mitsloan.mit.edu/sites/default/files/2018-10/BU-Report-2018.pdf>.

<sup>32</sup> *Ibid* at 5.

<sup>33</sup> “WREGIS Account Holder – How WREGIS Works” (August 2021), online: *Western Electricity Coordinating Counsel* <www.wecc.org/Administrative/How%20WREGIS%20Works.pdf>.

<sup>34</sup> Barreto et al, *supra* note 31 at 4.

<sup>35</sup> Alta Reg 133/2019 [*TIER*].

party verification pursuant to the Standard for Validation, Verification and Audit.<sup>36</sup> As will be discussed below, *TIER* offsets can be used to satisfy an entity's compliance obligations under *TIER*.

As illustrated above, while RECs and offsets serve related purposes and have some similar characteristics, they have important differences and are not interchangeable (even if they are often used interchangeably in conversation). As one author noted, "RECs cannot be converted to offsets or vice-versa. This is because REC generating projects do not meet the offset requirement to have caused reduction in emissions beyond a business-as-usual scenario, and offsets do not convey ownership of the non-GHG benefits that are bundled in a REC."<sup>37</sup> That being said, an important feature of both RECs and offsets is that they provide comfort that relevant environmental attributes have been measured and verified by third party tracking systems (such as WREGIS or the AEOR) and that environmental attributes are not being double counted or used in two different tracking systems.

### C. VOLUNTARY AND COMPLIANCE MARKETS

In general, there are two main carbon markets: (1) compliance markets; and (2) voluntary markets. Compliance markets are generally created and regulated by governmental authorities, often by establishing a price on carbon through cap and trade or carbon tax programs. In these markets, buyers attempt to purchase offsets in order to "comply" with their regulatory obligations to bring the emissions associated with their activities below the regulated limit. In Alberta, *TIER* requires that facilities which emit at least 100,000 tonnes of carbon annually meet regulated benchmarks.<sup>38</sup> Facilities which do not achieve such benchmarks have a number of compliance options, including purchasing and submitting offsets registered with the AEOR.<sup>39</sup> RECs cannot be used to satisfy compliance obligations under *TIER* (which is not to say that RECs cannot be used by compliance buyers, as RECs are often used by US utilities to satisfy renewable portfolio standard obligations).<sup>40</sup>

Voluntary markets, on the other hand, involve any transactions for RECs or offsets which are not related to satisfying obligations in a regulated compliance market. In the voluntary market, buyers purchase RECs or offsets for a number of reasons, often related to corporate social responsibility or ESG goals and commitments. For example, a large, multinational corporation may purchase RECs generated by an Alberta solar facility to demonstrate compliance with its voluntary ESG commitments (such as a goal to be carbon neutral by 2030), with no intention of retiring such RECs in order to meet regulatory emissions requirements.

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<sup>36</sup> Alberta Environment and Parks, *Technology Innovation and Emissions Reduction Regulation: Standard for Validation, Verification and Audit*, Version 5.1 (Edmonton: Alberta Environment and Parks, 17 December 2020), online: <[open.alberta.ca/publications/standard-for-validation-verification-and-audit-version-5](http://open.alberta.ca/publications/standard-for-validation-verification-and-audit-version-5)>.

<sup>37</sup> Barreto et al, *supra* note 31 at 5 [footnotes omitted].

<sup>38</sup> *TIER*, *supra* note 35, s 3.

<sup>39</sup> *Ibid*, ss 12–13.

<sup>40</sup> *Ibid*, ss 13(2), 13(5), 19–20; US Department of Energy et al, *Guide to Purchasing Green Power: Renewable Electricity, Renewable Energy Certificates, and On-Site Renewable Generation* (September 2018) at 2–4, online: <[www.epa.gov/sites/default/files/2016-01/documents/purchasing\\_guide\\_for\\_web.pdf](http://www.epa.gov/sites/default/files/2016-01/documents/purchasing_guide_for_web.pdf)>.

Compliance buyers and voluntary buyers have related, but different, objectives. Compliance buyers require environmental attributes in the form required by the regulated market. For example, facilities regulated by *TIER* cannot submit WREGIS registered RECs to satisfy their compliance obligations; instead, they will need to purchase offsets registered with the AEOR.<sup>41</sup> Likewise, if a voluntary buyer has made commitments in relation to the use of green energy, it will likely prefer RECs which are measured in MWhs.

#### D. PPA CONSIDERATIONS

With the foregoing background in mind, we now turn our focus to PPA provisions dealing with EAs, RECs, and offsets. Such provisions often address the following matters:

- the transfer of EAs from developer to off-taker and the definition of EAs;
- facility registration and generation and transfer of RECs or offsets; and
- changing the REC or offset tracking system.

Each of these matters, and relevant considerations for developers and off-takers, will be addressed below in turn.

##### 1. TRANSFER OF EAS FROM DEVELOPER TO OFF-TAKER AND EA DEFINITION

Renewable PPAs generally provide that, during the term of the PPA, the developer is required to sell and transfer all EAs associated with an off-taker's contract capacity to the off-taker (free and clear of all encumbrances) and that the off-taker is required to purchase such EAs in accordance with the PPA terms. As noted above, EAs are usually defined broadly to include present and future attributes associated with the facility's generation of renewable electricity.

More specifically, EAs are often defined to include the right to the full set of non-energy attributes, including any and all RECs, offsets, credits, benefits, emissions reductions, and allowances, howsoever entitled, directly attributable to a specific amount of capacity or electric energy generated from a renewable facility. These EAs, as defined, are then conveyed to the off-taker by the developer, thereby providing the off-taker with the exclusive right and benefit to such EAs.

The developer should consider whether specific attributes should be carved out of the EA definition. For instance, as reliability and grid frequency become more relevant to system operators, there is a possibility that such attributes could become valuable and, as a result, developers may be well-advised to specifically carve out such attributes from the EA definition. At the very least, the allocation of such attributes between the off-taker and developer should be clearly delineated (even if the current market does not specifically contemplate such products). Comparably, as will be discussed further below, the parties

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<sup>41</sup> *TIER, ibid.*

should consider whether the EA definition should also exclude any attributes that may be specifically associated with a battery energy storage system (BESS) that may be subsequently incorporated into, or connected to, the renewable facility. Failure to carve out such attributes may, from the developer's point of view, result in the off-taker receiving a windfall in respect of such attributes if the PPA contains an overly broad definition of EAs.

It is important to note that, under a typical Alberta PPA, the off-taker not only takes the merchant risk with respect to the generation of electricity (to the extent the merchant price is lower than the PPA price), but it also assumes the risk associated with the value of any EAs. The developer does not typically guarantee that the EAs will be worth any minimum amount or even that they will continue to qualify as an offset under any regulatory framework. Developers argue that this is a risk more appropriately borne by the off-taker given its assessment of its own compliance needs and ESG commitments.

As will be discussed below, the developer may have the ability or obligation to register the facility with a specific tracking system (such as WREGIS or the AEOR) or to change the tracking system, but such changes only affect the manner in which EAs are registered and certificated. They do not affect the basic transaction at the heart of the PPA (namely the transfer of intangible EAs for payments under the contract for differences payment mechanism).

## 2. FACILITY REGISTRATION AND GENERATION AND TRANSFER OF RECs/OFFSETS

In addition to transferring EAs to off-takers, renewable PPAs usually impose obligations on the developer to register the facility with a particular REC or offset tracking system and to transfer RECs or offsets generated from the off-taker's contract capacity to the off-taker or its designee. Placing this obligation on the developer makes sense since: (1) the developer has care, custody, and control of the facility and is in the best position to register the facility, submit metering and other data to the tracking system, and deal with ongoing compliance issues; (2) the developer is often an expert in developing renewable energy projects and in generating RECs or offsets; and (3) off-takers may not have much, if any, experience with RECs or offsets. In other words, generating and transferring RECs or offsets is often a key element of the service or product the developer is offering to the off-taker. The developer, however, is typically responsible for all reasonable costs associated with registering the facility and generating identified RECs or offsets.

An off-taker will generally want the PPA to impose firm obligations on the developer to register the facility with its desired tracking system and to generate its preferred form of RECs or offsets. As discussed above, for a compliance buyer, receiving RECs or offsets in a form that does not satisfy its compliance obligations is not particularly useful. Similarly, buyers in the voluntary market will not want to purchase RECs or offsets which do not help it to achieve its ESG commitments (although such buyers may have more flexibility).

Developers, on the other hand, would be well-advised to resist absolute obligations to register the facility with a particular tracking system or to create a specific form of RECs or offsets. Given (1) the long-term nature of most PPAs and the ability of tracking systems to

unilaterally change their requirements; (2) absent specific contractual provisions to the contrary, the inability of the developer to pass increased tracking-system compliance costs on to the off-takers (since most PPAs provide the developer with a fixed price per MWh of electricity generated, often without adjustment for compliance costs); and (3) the significant damages the developer may be responsible for in the event it is unable to deliver the required RECs or offsets, developers often avoid providing any guarantee that their facility will meet the requirements of any particular tracking system over the entire term of a PPA.

In order to address the legitimate concerns of off-takers and developers, the parties to the PPA may wish to impose an obligation on the developer to use commercially reasonable efforts to register the facility with the specified tracking system. While this approach falls short of an absolute requirement to register with a particular tracking system or warrant that the facility will continue to meet the criteria in respect of such tracking system, it would require the developer to make real efforts to register its facility with the specified tracking system. In addition to the foregoing, the developer may seek an acknowledgment from the off-taker that tracking system requirements may change over time and that the developer is not obligated to deliver any specific form of REC or offset in respect of which the facility does not qualify.

Some PPAs attempt to address the problem of a change in tracking system requirements by requiring the developer to transfer all relevant data and documentation to the off-taker so that the off-taker can, on its own accord, register its EAs with the desired tracking system. This approach raises a number of issues and may not provide an adequate remedy for the off-taker. As noted above, it is not generally possible to register a single facility with two or more tracking systems and, therefore, if the developer has not previously registered its facility with the applicable system or has registered its facility with a different tracking system, we are skeptical that an off-taker will be able to take the information from the developer and create the desired RECs or offsets.

Furthermore, if a developer expects to have multiple PPAs or off-takers on a single facility, it will need to be very careful to ensure that all of its PPAs are aligned with respect to the requirements to register with a tracking system and generate RECs or offsets. Failure to align its PPAs could result in significant issues, such as: (1) conflicting requirements to register its facility with two separate tracking systems; and (2) the developer breaching one or more PPAs, potentially giving rise to the termination of such PPAs and the obligation to pay damages or a termination payment to the off-taker. As noted above, a key function of tracking systems is to ensure that EAs are not double counted, and we understand that it is often not possible to register the same facility with two or more tracking systems.<sup>42</sup> In order to have two or more tracking systems apply to a single facility, such systems would need additional mechanisms and protocols to confirm that, for example, the EAs used to create RECs or offsets in one tracking system are not double counted and used to generate RECs or offsets in another tracking system. We do, however, expect tracking systems to become more sophisticated and to permit multiple registrations on a single facility in the future. In

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<sup>42</sup> See e.g. Midwest Renewable Energy Tracking System, *Midwest Renewable Energy Tracking System: Operating Procedures* (16 June 2021), s 4.3, online: <[www.mrets.org/wp-content/uploads/2021/01/M-RETS-Operating-Procedures-9-2021.pdf](http://www.mrets.org/wp-content/uploads/2021/01/M-RETS-Operating-Procedures-9-2021.pdf)>.

fact, we understand that WREGIS and the Alberta Emissions Offset System have recently developed a process that would allow a renewable facility to concurrently register under both WREGIS and the AEOR.<sup>43</sup>

In addition to the foregoing, the PPA parties should be mindful that RECs and offsets may be subject to different GST rules, depending on whether such RECs or offsets qualify as “emission allowances” under the *Excise Tax Act*.<sup>44</sup> Generally speaking, emission allowances under the *ETA* would include RECs and offsets that are used in compliance markets (for example, a market or system, such as *TIER*, that is regulated by government authority).<sup>45</sup> RECs and offsets used in the voluntary market, on the other hand, would generally not qualify as emission allowances under the *ETA*. Where RECs or offsets do *not* qualify as emission allowances, the typical GST rules apply: the off-taker is required to pay GST to the developer in respect of the PPA payments and the developer is required to remit such GST to the appropriate authorities.<sup>46</sup>

On the other hand, where RECs or offsets qualify as emission allowances, the off-taker is required to: (1) self-assess and remit all GST properly exigible under the *ETA* in respect of the market value of such RECs or offsets; and (2) pay to the developer GST on the difference, if any, between the PPA payment amount and the market value of such RECs or offsets (and the developer is required to remit such GST to the appropriate authorities).<sup>47</sup> In such cases, it may be advisable to include a mechanism in the PPA to determine the fair market value of such REC or offsets.

Unfortunately, there are no simple fixes to, or boilerplate provisions which can solve, the issues discussed in this section. PPA counterparties and their counsel will need to consider these issues carefully and will often need to craft bespoke provisions to address the specific situation before them. For example, a developer could seek to have all of its off-takers agree to two or three acceptable tracking systems, which would give the developer some flexibility in the event of unforeseen changes to the initial tracking system.

### 3. CHANGING THE REC OR OFFSET TRACKING SYSTEM

Given the importance of the form of RECs or offsets to the off-taker, many PPAs provide a mechanism for the off-taker to, from time to time, request or require that the developer register the facility with a different or alternate tracking system and generate RECs or offsets under such a system. In cases where a single off-taker has contracted for 100 percent of the EAs generated by a facility, this process is relatively straightforward. The developer will usually be obligated to use commercially reasonable efforts to register the facility with the alternate tracking system and the off-taker will be required to keep the developer whole with

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<sup>43</sup> Western Electricity Coordinating Council, *AEOS/WREGIS Concurrent Registration Process Overview* (April 2022).

<sup>44</sup> RSC 1985, c E-15 [*ETA*].

<sup>45</sup> *Ibid.*, s 123(1).

<sup>46</sup> Canada Revenue Agency, “General Information for GST/HST Registrants,” online: <[www.canada.ca/en/revenue-agency/services/forms-publications/publications/rc4022/general-information-gst-hst-registrants.html](http://www.canada.ca/en/revenue-agency/services/forms-publications/publications/rc4022/general-information-gst-hst-registrants.html)>.

<sup>47</sup> *Ibid.*

respect to any additional costs or expenses the developer incurs as a result of registering with and generating RECs or offsets under the alternate tracking system.

Where there are multiple off-takers, changing tracking systems becomes more challenging and complex, since such a change could result in some off-takers no longer receiving the form of RECs or offsets they require or prefer. Therefore, in such cases, developers should ensure that they are not required to change tracking systems where such change could interfere with their obligations to other off-takers. Alternatively, the parties may want to establish a framework or specified triggers that will apply for so long as simultaneous registration of a single facility is not permitted. For example, such a framework could provide that if off-takers with aggregate contract capacities representing more than 50 percent of the facility's capacity require the use of an alternate tracking system, the remaining off-takers will be required to accept RECs or offsets from such alternate tracking system.

In addition, developers may also want to further limit off-takers' right to request changes to tracking systems by providing that: (1) the off-taker may only make such a request once every few years; (2) such a request may only be made following a material change in the current tracking system; and (3) the developer is not required to change registration systems if such change would require modifications to the facility or require the developer to reduce the volume of electricity generated by the facility.

## **E. CONCLUSION**

The concepts and provisions discussed in this section are central to any renewable PPA. Off-takers need to ensure that they are receiving a form of REC or offset which will meet their needs and enables them to largely receive the benefit of their bargain. On the other hand, developers need to ensure that they have sufficient: (1) flexibility to deal with changes to tracking system requirements, such that they are not left in a position where they are obligated to deliver a form of REC or offset which their facility is not capable of producing; and (2) alignment across all PPAs associated with a renewable facility, such that complying with one PPA does not result in the breach of another PPA. As discussed above, there are a number of tools and approaches that can be used to address these issues, but there is no one-size-fits-all solution. PPA counterparties and their counsel will need to carefully consider these issues and they may need to be prepared to explore multiple options.

## **IV. ETHICAL PROCUREMENT**

### **A. INTRODUCTION**

Renewable energy generation projects employ advanced technology at a great scale, relying on complex, integrated, and global supply chains to deliver the materials and equipment needed. Increasingly, these supply chains have been the focus of scrutiny from governments and non-governmental organizations (NGO) concerned with human rights and other social considerations. In the private sector, socially responsible investors in, and customers of, renewable energy developers are similarly demanding a demonstrated commitment to ESG policies and business practices. Frequently, energy developers have



been questioned on their involvement with, and visibility on, their supply chains. Furthermore, “the emergence of electronic media, NGOs and an active civil society are effectively highlighting the issues of unethical behaviour ... prompting [developers] to take more stringent actions in curbing socially irresponsible activities.”<sup>48</sup>

Notable supply chain issues that renewable energy developers are grappling with include, among other issues, environmentally responsible sourcing of materials and the use of forced labour in their supply chains.

The issue of forced labour in the solar industry has been called into stark focus in the past few years, with a number of reports concluding that there is significant evidence of forced labour among the indigenous “Uighurs and other Muslim minorities in ... China’s autonomous Xinjiang region.”<sup>49</sup> The use of forced labour is an acute problem in the solar industry, given that the primary material used in 95 percent of solar modules is solar grade polysilicon, and “approximately 45% of the world’s solar-grade polysilicon supply” is produced in the Xinjiang region.<sup>50</sup>

In June 2021, the Biden administration in the United States banned imports of silicon materials produced by a major Chinese firm as part of “a ‘whole-of-government’ approach to combating forced labour in supply chains,”<sup>51</sup> and US Customs and Border Protection agents seized any solar products which were “suspected of having links to forced labor ... unless companies could prove they did not.”<sup>52</sup> While this ban was levied against a specific supplier, rather than an end-use customer, governments in the Western world have signalled that action against customers whose supply chains are impugned is coming.

## B. WHAT IS FORCED LABOUR?

Forced labour concerns have become a point of focus in supply chains, and many governmental authorities and private companies have adopted the following definition of forced labour from the International Labour Organization: “[A]ll work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.”<sup>53</sup> Forced labour can take many different forms. It is not as

<sup>48</sup> Sadaat Ali Yawar & Stefan Seuring, “Management of Social Issues in Supply Chains: A Literature Review Exploring Social Issues, Actions and Performance Outcomes” (2017) 141:3 *J Bus Ethics* 621 at 622.

<sup>49</sup> Michael Copley, “Human Rights Allegations in Xinjiang Could Jeopardize Solar Supply Chain,” *S&P Global Market Intelligence* (21 October 2020), online: <[www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/human-rights-allegations-in-xinjiang-could-jeopardize-solar-supply-chain-60829945](http://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/human-rights-allegations-in-xinjiang-could-jeopardize-solar-supply-chain-60829945)>. See also Laura T Murphy & Nyrola Elimä, “In Broad Daylight: Uyghur Forced Labour and Global Solar Supply Chains” (2021), online: *Helena Kennedy Centre for International Justice* <[www.shu.ac.uk/-/media/home/research/helena-kennedy-centre/projects/pdfs/evidence-base/in-broad-daylight.pdf](http://www.shu.ac.uk/-/media/home/research/helena-kennedy-centre/projects/pdfs/evidence-base/in-broad-daylight.pdf)>.

<sup>50</sup> Murphy & Elimä, *ibid* at 7.

<sup>51</sup> Gavin Bade, “Biden Bans Solar Panel Material From Chinese Firm Over Forced Labor,” *Politico* (24 June 2021), online: <[www.politico.com/news/2021/06/24/biden-chinese-firm-ban-forced-labor-496071](http://www.politico.com/news/2021/06/24/biden-chinese-firm-ban-forced-labor-496071)>.

<sup>52</sup> Ella Nilsen, “Solar Energy Projects Are Grinding to a Halt in the US Amid Investigation Into Parts From China,” *CNN* (6 May 2022), online: <[www.cnn.com/2022/05/06/politics/solar-energy-china-investigation-climate/index.html](http://www.cnn.com/2022/05/06/politics/solar-energy-china-investigation-climate/index.html)>.

<sup>53</sup> *Forced Labour Convention, 1930 (No. 29)*, 28 June 1930, art 2(1) (entered into force 1 May 1932).

simple as workers being forced to work for no wages, and “indicators of forced labour” include the following:

- 1 threats or actual physical harm to the worker;
- 2 restriction of movement and confinement (to the workplace or to a limited area);
- 3 debt bondage...;
- 4 withholding of wages or excessive wage reductions that violate previously made agreements;
- 5 retention of passports and identify documents...; and
- 6 threat of denunciation to the authorities, where the worker is in an irregular immigration status.<sup>54</sup>

Any of these issues in a company’s supply chain is likely to constitute an issue of forced labour.

### C. WHAT IS CANADA DOING?

In March 2020, Canada amended its customs legislation to impose a ban on importing “goods that are mined, manufactured or produced wholly or in part by forced labour.”<sup>55</sup> This “*Customs Tariff* import prohibition is the only legislative enforcement tool in Canadian law regarding the importation of goods produced by forced labour.”<sup>56</sup>

Notwithstanding this change in Canada’s legislation, to date we are not aware of any solar panels being intercepted or seized in Canada. Rather, there has only been one seizure of women’s and children’s clothing which was “manufactured under coercive conditions,” which is in considerable contrast to the US, where over 500 solar-related shipments have been seized in the last year alone.<sup>57</sup>

The difference between US and Canadian enforcement has to do with the fact that in the US there is essentially a reverse onus rule which requires importers to prove that imported goods from Xinjiang were not produced with forced labour.<sup>58</sup> The *Uyghur Forced Labor Prevention Act* was signed on 23 December 2021 and creates a rebuttable presumption that all goods wholly or partially manufactured in the Xinjiang Uyghur Autonomous Region are the product of forced labour.<sup>59</sup> In Canada, every shipment needs to be considered on a case-

<sup>54</sup> Stephen John New, “Modern Slavery and the Supply Chain: The Limits of Corporate Social Responsibility?” (2015) 20:6 *Supply Chain Management* 697 at 698.

<sup>55</sup> *Customs Tariff*, SC 1997, c 36, s 132(1)(m)(i.1), as amended by *Canada–United States–Mexico Agreement Implementation Act*, SC 2020, c 1, s 204(8).

<sup>56</sup> “Prohibition on Goods Produced by Forced Labour” (8 February 2021), online: *Public Safety Canada* <[www.securitepublique.gc.ca/cnt/tmnsprnc/brfng-mtrls/prlmntry-bndrs/20210625/10-en.aspx](http://www.securitepublique.gc.ca/cnt/tmnsprnc/brfng-mtrls/prlmntry-bndrs/20210625/10-en.aspx)>.

<sup>57</sup> Steven Chase, “Canada Lags U.S. in Intercepting Imports Made with Forced Labour,” *The Globe and Mail* (2 May 2022), online: <[www.theglobeandmail.com/politics/article-canadas-forced-labour-import-interception-lags/](http://www.theglobeandmail.com/politics/article-canadas-forced-labour-import-interception-lags/)>.

<sup>58</sup> Kristyn Melvin & Matt Bonovich, “Making Sense of Solar Supply Chain Issues,” *PV Magazine* (16 March 2022), online: <[pv-magazine-usa.com/2022/03/16/making-sense-of-solar-supply-chain-issues/](http://pv-magazine-usa.com/2022/03/16/making-sense-of-solar-supply-chain-issues/)>.

<sup>59</sup> US, Bill HR 1155, *Uyghur Forced Labor Prevention Act*, 117th Cong, 2021 (enacted).

by-case basis, and Canada is still working on an “effective operationalization of the ban.”<sup>60</sup> Accordingly, it is likely a case of “when” and not “if” Canada will begin increasing its enforcement efforts with respect to goods produced wholly or in part by forced labour.

In support of the proposition that enforcement is likely to increase, we would note that governments including those in Canada, the United Kingdom, and Australia have all instituted or attempted to institute “legislation that *requires firms to provide an account of their efforts to combat modern slavery.*”<sup>61</sup> In Canada, Bill S-211 (the *Forced Labour Act*) passed its third reading in the Senate on 28 April 2022.<sup>62</sup>

The *Forced Labour Act*, in addition to applying to Canadian governmental institutions that produce, purchase, or distribute goods anywhere in the world, will also apply to businesses which are listed on a Canadian stock exchange, or which have a place of business in Canada, do business in Canada, or have assets in Canada and meet two of the three following requirements in one of its two most recent financial years:

1. have at least \$20 million in assets;
2. generate at least \$40 million in revenue; or
3. employ, on average, at least 250 employees.<sup>63</sup>

If the *Forced Labour Act* applies, then the business will be required to comply with specified reporting requirements, including the production of an annual report outlining “the steps the [business] has taken during its previous financial year to prevent and reduce the risk that forced labour or child labour is used at any step” in their respective supply chains.<sup>64</sup> Such report must also detail the diligence activities that the business is undertaking in its supply chain.<sup>65</sup>

Importantly, the *Forced Labour Act* does not impose penalties for inadequate diligence in supply chains, unlike some analogous legislation in France, Germany, and the Netherlands.<sup>66</sup> However, the requirement to report on diligence efforts is expected to increase pressures on businesses to enhance their diligence efforts.

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<sup>60</sup> Chase, *supra* note 57.

<sup>61</sup> Stefan Schaper & Irene Pollach, “Modern Slavery Statements: From Regulation to Substantive Supply Chain Reporting” (2021) 313 J Cleaner Production 1 at 1 [emphasis added].

<sup>62</sup> Bill S-211, *An Act to enact the Fighting Against Forced Labour and Child Labour in Supply Chains Act and to amend the Customs Tariff*, 1st Sess. 44th Parl, 2022 (as passed by the Senate 28 April 2022). The Act passed a second reading before the House of Commons of Canada on 1 June 2022.

<sup>63</sup> *Ibid.*, cls 2, 9.

<sup>64</sup> *Ibid.*, cl 11(1). See also Alison Babbitt, Alison G FitzGerald & Meaghan Farrell, “Bill S-211: Canada Revives its Fight Against Modern Slavery” (17 January 2022), online: <[www.nortonrosefulbright.com/en/knowledge/publications/41a9d26b/bill-s-211-canada-revives-its-fight-against-modern-slavery](http://www.nortonrosefulbright.com/en/knowledge/publications/41a9d26b/bill-s-211-canada-revives-its-fight-against-modern-slavery)>.

<sup>65</sup> Babbitt, FitzGerald & Farrell, *ibid.*

<sup>66</sup> *Ibid.*

## D. CONTRACTING CONSIDERATIONS

It is against the foregoing backdrop that additional scrutiny is being placed on ethical procurement provisions in renewable energy agreements, especially in the case of PPAs and solar module supply contracts. Project developers and off-takers alike are increasingly concerned with ensuring that ethical procurement standards are contractually agreed upon and adhered to.

In today's business environment, most governmental authorities, whether federal, provincial, or municipal, have robust ethical procurement policies and associated supplier codes of conduct which specify that neither developers nor any of their contractors will use forced labour in the production and delivery of goods and services.<sup>67</sup> Similarly, many renewable industry developers and project off-takers have voluntarily adopted ESG policies and responsible investment policies which require the developer, off-taker, their employees, and their contractors to respect human rights and avoid the procurement of any goods or services which utilize forced or compulsory labour in whole or in part.<sup>68</sup> Simply put, ethical procurement is becoming a basic expectation of shareholders and investors on both sides of the development industry.

With such rise in ESG policies and shareholder and investor expectations, PPA off-takers and project developers alike are paying considerable attention to ethical procurement provisions in PPAs, especially in relation to forced labour, and discussions abound as to how such risks should be allocated between the parties. In addition to being concerned with the underlying ethical issues, both parties are concerned with schedule risk, cost increases, and the reputational harm which may arise from being associated with a project in respect of which forced labour concerns or allegations have been made.

In terms of contractual provisions, ethical procurement concerns were historically dealt with (if given any real consideration at all) through simple representations and warranties from the project developer to the off-taker that all work or services would be undertaken and performed in accordance with all applicable laws. Of late, however, it has become increasingly apparent that this is not enough. Now, it is not uncommon for project off-takers to implement a number of ethical procurement compliance strategies, such as those set forth below, in their PPAs and associated procurement documentation which impose obligations on developers or require them to face claims of breach of contract or damages.

### 1. INTERNATIONAL STANDARDS

Many contracts now place positive obligations on the developer and its subcontractors to comply with international standards with respect to human rights, and it is not uncommon for the developer, without prejudice to its other obligations under the contract, including

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<sup>67</sup> See e.g. "Code of Conduct for Procurement" (13 August 2021), online: *Public Services and Procurement Canada* <[www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/cca-ccp-eng.html](http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/cca-ccp-eng.html)>; City of Calgary, policy CFO008, *Sustainable Environmental and Ethical Procurement Policy (SEPP)* (12 March 2008); City of Edmonton, policy C556A, *Sustainable Procurement* (4 July 2022), online: <[www.edmonton.ca/sites/default/files/public-files/C556B.pdf?cb=1662408617](http://www.edmonton.ca/sites/default/files/public-files/C556B.pdf?cb=1662408617)>.

<sup>68</sup> See e.g. "Supplier Code of Conduct," online: <[transalta.com/wp-content/uploads/2022/06/Supplier-Code-of-Conduct-approved-2021-11-02.pdf](http://transalta.com/wp-content/uploads/2022/06/Supplier-Code-of-Conduct-approved-2021-11-02.pdf)>.

compliance with all applicable federal, provincial, and local laws, to agree to comply with the following matters with respect to the performance of its work or obligations:

1. respecting internationally-proclaimed human rights;
  2. ensuring it is not complicit in human rights abuses;
  3. taking steps in its procurement activities to advance the elimination of all forms of forced and compulsory labour;
  4. not employing children;
  5. upholding freedom of association and collective bargaining rights;
  6. eliminating discrimination;
  7. respecting the environment;
  8. working against corruption; and
  9. refraining from offering bribes or illegal payments in violation of applicable law, or as an inducement to entering into the contract.
2. DEVELOPER POLICIES AND CODES OF CONDUCT

In addition to including obligations in respect of complying with international standards, developers are also being asked to establish their ethical procurement bona fides prior to the execution of the off-take agreement during the process of contractor qualification. In particular, project off-takers are interested in receiving copies of the developer's procurement and responsible investment policies for purposes of assessing the developer's commitment to social issues. To the extent that such policies are acceptable, positive covenants to adhere to such policies will be set out in the relevant off-take or procurement documents.

a. Forced Labour Procurement Provisions

i. *Pre-Contract Execution – Due Diligence*

With respect to the issue of forced labour in the solar sector, we would note that developers may be required to undertake supply chain due diligence in advance of executing the PPA, in order to provide the off-taker with information in respect of its photovoltaic module suppliers and other key suppliers. Such due diligence may be as simple as receiving an officer's certificate or other form of attestation from the module supplier or other supplier, to the effect that:

1. such supplier does not use or employ forced labour in any of its facilities or operations;

2. neither the supplier nor any of its affiliates have any direct contractual relationship with any first tier supplier or contractor which uses or employs forced labour in any of its facilities or operations; and
3. the supplier is not aware of forced labour being used or employed within any of the facilities or operations of any lower tier supplier or contractor.

Pre-execution due diligence activities may, however, be more involved, and include receiving social and environmental audit reports from both the module supplier (or other key supplier) and from independent third parties. Such audit reports are often difficult to complete, however, given that access to production facilities in jurisdictions where forced labour is a concern, and reliable information with respect thereto, is often very difficult to obtain.

*ii. Contract Execution – Representations and Warranties*

At the time of entering into the PPA, the developer may be required to represent and warrant to the off-taker that neither the photovoltaic modules which will form part of the generation facilities at the project, nor any component parts of such modules, including without limitation any raw materials, polysilicon, ingots, wafers, or cells, were produced through the use of forced labour.

The developer will attempt to limit such representation to its knowledge, based on the results of any pre-execution due diligence undertaken with respect to the use of forced labour, including any officer's certificate or attestations received from the supplier, and on the results of any audit reports provided by the supplier and any independent parties. Off-takers, on the other hand, will want developers to provide such representation and warranty without any such knowledge qualifier. Whether proceeding without a knowledge qualifier is acceptable will depend on the level of certainty that the developer is able to obtain from its module supplier and other key vendors that no forced labour is being utilized in the relevant supply chain. To the extent that the developer does not have visibility beyond its tier one contractors (that is, those contractors which it has a direct contractual relationship with), such developer is likely to be unable (or at least unwilling) to proceed with a broader form of representation and warranty.

*iii. Operating Term – Reporting and Indemnity Obligations*

In addition to representations and warranties, forced labour procurement provisions will typically delineate the developer's obligations in the event that forced labour allegations arise at any time during the term of the PPA in connection with the manufacture of goods or products procured by the developer, its affiliates, or its suppliers in connection with the relevant solar project. The key point of friction is typically whether, and to what extent, the supplier will, or should be, exposed to additional risk or costs if such allegations prove to be true. Allocating the responsibility for additional costs (for example, additional costs relating to project delay caused by modules or components being delayed at the border, or relating to sourcing alternative modules or components for existing or remaining work) is a complex issue. Remediation may be tremendously expensive and impractical — especially if any

portion of the offending solar modules or components in question have been delivered to the project site or potentially even installed.

Many developers have entered into module supply contracts based on limited due diligence, and based on the representations and warranties from the module supplier, along with the comfort provided by performance security posted by the supplier. Many such contracts do not require the module supplier to provide fulsome information and transparency with respect to the source of the raw materials and all of the component parts of the modules — all of which makes it more difficult to definitively conclude whether or not forced labour has been utilized at any point during the production of the modules. Without such transparency in respect of the supplier's supply chain, the developer is unlikely to agree to broad indemnification and remediation obligations or termination rights. The developer may only agree to notify the off-taker of any allegations of forced labour which arise in connection with the project and which may bring reputational harm to the off-taker or the project, and to take commercially reasonable steps to assess the supply chain issues in accordance with its own policies, procedures, and codes of conduct (which were previously assessed by the off-taker prior to executing the power purchase agreement), which assessment may or may not include the development of a remedial action plan.

For some off-takers, however, such an approach to allegations of forced labour may be seen as insufficient, and there is a growing trend to require developers to procure solar modules in a fashion which permits the origin of materials and components to be traced through the supply chain.

#### b. Tracking Protocols

Tracking protocols can provide a structure for parties to identify where a product and its constituent materials have come from (geographically) and who has been involved in their manufacture. Development of, and adherence to, tracking protocols helps to assure both developers and off-takers that products have not been manufactured by parties, or in areas, with documented breaches of social and governance standards, amongst other concerns. These assurances are not only important for sustainability and corporate social responsibility practices, but also to meet import compliance requirements.

Tracking protocols describe the documentation, processes, roles and responsibilities, resources, and competencies that a firm must fulfill and provide to comply with the tracking protocol.<sup>69</sup> For instance, the Solar Energy Industries Association (SEIA) tracking protocol recommends, among other things, that firms gather

the following documents related to the transactions throughout the supply chain that resulted in the product being imported:

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<sup>69</sup> See e.g. "Solar Supply Chain Traceability Protocol 1.0" (April 2021), online: *Solar Energy Industries Association* <[www.seia.org/sites/default/files/2021-04/SEIA-Supply-Chain-Traceability-Protocol-v1.0-April2021.pdf](http://www.seia.org/sites/default/files/2021-04/SEIA-Supply-Chain-Traceability-Protocol-v1.0-April2021.pdf)> [SEIA Tracking Protocol]. See also "Global Trace Protocol Project," online: *US Department of Labor* <[www.dol.gov/agencies/ilab/global-trace-protocol-project](http://www.dol.gov/agencies/ilab/global-trace-protocol-project)>.

- Transaction details, e.g., purchase order(s) and contracts between and among the links in the supply chain, associated commercial invoice(s) between and among the links in the chain, and proof of payment against said invoices;
- Customs entry documents...;
- Freight forwarder notice[s] of arrival;
- International Bill[s] of Lading/Packing List[s]...; [and]
- Customs broker instructions.<sup>70</sup>

The SEIA Tracking Protocol recommends that these documents should be organized so as to pair with discrete transactions in the supply chain, and the firm should ensure that each transaction has an accompanying document.<sup>71</sup> One of the stated goals of the SEIA protocol is “integrating product traceability to upstream suppliers into the applicable management system in such a way that will allow consumers to determine the provenance of material inputs from a specific module all the way back to the plant that produced [the] raw materials.”<sup>72</sup>

Given recent concerns over forced labour with respect to solar module components originating in the Xinjiang region in western China, a number of off-takers are now including covenants in PPAs which require the developer to cause its subcontractors and vendors to comply with the SEIA protocol, including the provision of supply chain maps which show the supply chain from raw materials right through to finished products, or to comply with similar requirements which allow the off-taker to determine the source of the silica used in the modules.

Complying with tracking protocol provisions imposes a large administrative burden, and module suppliers have been moving quickly to implement supply chains which comply with such protocols. It should be acknowledged that these tracking protocols often give rise to considerable additional expense and potential delays, which are factors that need to be carefully considered by both project developers and off-takers within the terms of the PPA. For instance, it may be prudent to specifically list “import delays” as a *force majeure* event that would provide the developer with milestone relief within a PPA (to the extent ethical procurement obligations are adhered to). Further, if tariff costs are imposed on certain equipment, the developer may wish to seek to either pass these costs onto the off-taker (as a change in law) or to have the EPC contractor or OEM supplier assume this risk.

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<sup>70</sup> SEIA Tracking Protocol, *ibid* at 15.

<sup>71</sup> *Ibid.*

<sup>72</sup> *Ibid* at 22.



## E. ATTENTION TO ESG IMPROVES BUSINESS METRICS

If ESG concerns are not already on a developer's radar, a developer will likely see a direct and indirect benefit by incorporating ESG principles into the developer's overall business practices. This includes increases in business performance and competitiveness for firms that develop ESG policies, including those targeting the supply chain. These benefits come not only from increased competitive advantage for ESG-conscious customers, which are an increasing portion of customers, but also in the form of increased transactional ease in other business relationships, such as financing and improved performance in the equity markets.<sup>73</sup> Just as renewable energy developers have a focus on their supply chains, industries upstream of them, such as banks, are focusing on their "supply" chains as well. For instance, commercial banks active in the energy project finance market have begun taking significant steps to incorporate ESG considerations and standards of sustainability into evaluating loans, and have specific products such as green bonds available to companies that show performance in this area. In contrast, if certain projects or developers do not have robust internal sustainability policies, banks may have policies prohibiting financing, although these standards are not market consistent. It is clear that companies which have more robust ESG frameworks have, or at least report, enhanced financial performance. A meta-analysis of 132 studies on financial performance showed that in 78 of the studies firms with more robust ESG protocols had increased financial performance of metrics such as returns on assets, equity and investment, and earnings per share.<sup>74</sup>

If a renewable energy developer can demonstrate excellence in the areas of ESG, it may facilitate relationships with customers, suppliers, and financiers, thereby reducing the cost of capital and improving business metrics — in addition to the inherent benefits to society that arise from acting as a socially-responsible corporate citizen.

## F. CONCLUSION

As ESG policies continue to play an important role in terms of investor and shareholder expectations, and as governments around the world continue to implement legislation to address social and human rights issues such as forced labour, PPA off-takers and project developers will be required to pay increasing attention to ethical procurement provisions in PPAs. It is unlikely that the inclusion of brief representations and warranties with respect to undertaking and performing contractual obligations in accordance with applicable law will continue to be sufficient to meet corporate codes of conduct and sustainable investment policies. Rather, developers and off-takers will need to consider additional contractual covenants to comply with internationally-accepted human rights standards, especially in the area of forced labour. Developers are increasingly being asked to provide more information on the origin of goods supplied, and to bear additional risk of loss attributable to supply chain risks within their control. This will likely result in an uptick in the utilization of tracking

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<sup>73</sup> Ingeborg Schwenzer & Benjamin Leisinger, "Ethical Values and International Sales Contracts" in Ross Cranston, Jan Ramberg & Jacob Ziegler, eds, *Commercial Law Challenges in the 21st Century* (Uppsala, SE: Iustus Forlag, 2007) 249 at 251, online: <edoc.unibas.ch/14628/3/20110916171632\_4e736850375bcPDFA27.pdf>.

<sup>74</sup> Ali Alshehhi, Haitham Nobanee & Nilesh Khare, "The Impact of Sustainability Practices on Corporate Financial Performance: Literature Trends and Future Research Potential" (2018) 10:2 Sustainability 1 at 13.

protocols to trace the origin of materials and components through the supply chain, and developers will need to give careful consideration with respect to how to flow corresponding obligations to their contractors and subcontractors.

## V. STORAGE AND GENERATION

### A. INTRODUCTION

Given the abundance of renewable intermittent generation expected to come online over the foreseeable future, not only in Alberta, but in electricity markets across North America, there will be large increases in intermittent renewable generation. This will have potentially significant impacts on the reliability of electrical energy supply given that renewable energy projects are not load following and are subject to uncontrollable (and sometimes unpredictable) increases or decreases in generation output. To ensure reliability, one or more developments will need to occur: (1) a more widespread adoption and development of storage resources, such as pumped hydro storage or BESS (including new BESS technology); (2) a continued reliance on thermal generation, potentially paired with carbon capture and storage; (3) a significant overbuild of intermittent generation, together with potentially significant (and costly) interconnections to other jurisdictions; or (4) widespread adoption of technological developments, such as hydrogen generation or small modular nuclear reactors.

In regard to those options to secure reliability, the integration of BESS with renewable energy projects is currently showing the most promise. In Alberta, on 15 October 2020, the 10 MW WindCharger project developed by TransAlta Corporation and powered by the company's Summerview II wind farm became the first utility scale BESS in Alberta, making it a truly renewable system.<sup>75</sup> Since that time, there has been a rapid development of storage facilities in Alberta. As of June 2021, there were 14 storage-only or co-located storage projects planned or under construction in Alberta.<sup>76</sup> By June 2022, the number of hybrid renewable and storage projects rose to 37 — an increase of over 250 percent in just 12 months.<sup>77</sup> This surge in storage projects mirrors the US, where 34 percent of solar and 6 percent of wind capacity under development in 2021 included a storage project component.<sup>78</sup>

### B. LEGISLATIVE DEVELOPMENTS

To support the development of BESS, the Government of Alberta recently introduced Bill 22,<sup>79</sup> which proposes amendments to the *Alberta Utilities Commission Act*,<sup>80</sup> the *Electric*

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<sup>75</sup> TransAlta, "WindCharger Battery Storage," online: <transalta.com/about-us/our-operations/facilities/windcharger-battery-storage/>.

<sup>76</sup> David Eeles et al., "Energy Storage: The Regulatory Landscape in Alberta" (2021) 59:2 *Alta L Rev* 355 at 375–77.

<sup>77</sup> "Connection Project Reporting," online: *Alberta Electric System Operator* <www.aeso.ca/grid/projects/connection-project-reporting/>.

<sup>78</sup> Will Gorman, "Hybrid Renewables-Plus-Battery Power Plants Are Growing Rapidly – Are They a Good Idea?," *Energy Storage News* (4 October 2021), online: <www.energy-storage.news/hybrid-renewables-plus-battery-power-plants-are-growing-rapidly-are-they-a-good-idea/>.

<sup>79</sup> Bill 22, *Electricity Statutes (Modernizing Alberta's Electricity Grid) Amendment Act, 2022*, 3rd Sess, 30th Leg, Alberta, 2022 (assented to 31 May 2022), SA 2022, c 8.

<sup>80</sup> SA 2007, c A-37.2.

*Utilities Act*,<sup>81</sup> and the *Hydro and Electric Energy Act*.<sup>82</sup> The Bill received royal assent on 31 May 2022, and will come into force on proclamation. With Bill 22, Alberta follows other jurisdictions, as diverse as Poland or Namibia and many US states, who are either considering or implementing legislative changes to encourage deployment of storage resources.<sup>83</sup>

One of the stated purposes of Bill 22, among others, is to allow the integration of energy storage into Alberta's interconnected electricity system in both the competitive electricity market and the transmission and distribution system.<sup>84</sup> The legislation mainly accomplishes this by: (1) including formal definitions, and providing much needed clarity, as to what constitutes an "energy storage resource" or an "energy storage facility" for the purposes of Alberta's legislative and regulatory framework; (2) clarifying which parties are entitled to own such assets; and (3) placing certain restrictions on energy market participation by certain BESS owners. Notably, distribution and transmission utilities will now be permitted to competitively procure BESS projects as non-wires alternatives in system planning (that is, using energy storage as an alternative to, or deferral of, building or expanding transmission and distribution facilities).<sup>85</sup> The proposed legislation makes it clear, however, that these parties will be restricted from using such facilities to participate in the energy and ancillary services markets due to market distortion concerns, and the balancing of the fair, efficient, and open competition principles which underpin the *EUA*.<sup>86</sup>

While some further clarity will undoubtedly be required with respect to the regulatory framework for BESS projects, Bill 22 represents a significant step forward and should provide developers and investors considerable confidence in proceeding with storage projects.

### C. BRIEF CONSIDERATIONS FOR INTEGRATING STORAGE

Given the developments noted in the above two sections, it is no surprise that developers of intermittent renewable generation projects are increasingly contemplating incorporating a BESS into their projects, or at least reserving the right to do so in the future. BESS projects are unique, in that a BESS operates as both a generation resource (when being discharged) and also as load (when being charged). As a result, a BESS introduces unique complexities to PPAs.

For most developers of renewable generation projects, the potential to include a BESS as part of a renewable project development has typically been considered a potential future

<sup>81</sup> SA 2003, c E-5.1 [*EUA*].

<sup>82</sup> RSA 2000, c H-16.

<sup>83</sup> "Energy Storage Updater" (June 2021), online: <[www.nortonrosefulbright.com/en-us/knowledge/publications/74c07d49/energy-storage-updater](http://www.nortonrosefulbright.com/en-us/knowledge/publications/74c07d49/energy-storage-updater)>; Andy Colthorpe, "Connecticut Looks to Join Seven Other US States in Setting Energy Storage Target," *Energy Storage News* (25 May 2021), online: <[www.energy-storage.news/connecticut-looks-to-join-seven-other-us-states-in-setting-energy-storage-target/](http://www.energy-storage.news/connecticut-looks-to-join-seven-other-us-states-in-setting-energy-storage-target/)>.

<sup>84</sup> Government of Alberta, "Modernizing Alberta's Electricity System," online: <[www.alberta.ca/modernizing-albertas-electricity-system.aspx](http://www.alberta.ca/modernizing-albertas-electricity-system.aspx)>.

<sup>85</sup> Bill 22, *Electricity Statutes (Modernizing Alberta's Electricity Grid) Amendment Act, 2022*, *supra* note 79, s 2(2)(i), amending *EUA*, *supra* note 81, s 1(bbb)(i).

<sup>86</sup> Bill 22, *Electricity Statutes (Modernizing Alberta's Electricity Grid) Amendment Act, 2022*, *ibid*, s 2(9), amending *EUA*, *ibid*, s 39.

opportunity, as opposed to a BESS being developed and commissioned simultaneously with commercial operation of the renewable project. As a result, the PPAs negotiated in Alberta have historically had little to no reference to future potential BESS projects and the allocation of BESS-related rights as between the developer and the off-taker. Going forward, this is expected to change, and drafters of PPAs will need to give consideration to a number of additional issues:

1. **Product:** One of the first issues which will need to be considered is the nature of the product being sold. Will it be an integrated system where the off-taker gets the benefit of the combined BESS and renewable project, and simply pays a single price for each MWh delivered, whether the generation is delivered from the BESS or the renewable generation project? Will it be a co-located system where the renewable generating facility and the BESS are treated like separate projects, with separate payment mechanisms and obligations? Or, will it be a hybrid renewable energy system where the rights and obligations of the developer and off-taker vis-à-vis dispatch and control of the BESS is subject to change depending on the time of day, system conditions, or other factors?
2. **Payment Mechanism:** An issue which will require careful review is the payment mechanism. Many corporate PPAs in Alberta, as elsewhere, utilize contract for differences settlement provisions which are based on the metered volumes of generation delivered to the grid multiplied by the difference between a fixed price and the pool or market price. If a developer wants to develop and implement a BESS in combination with a renewable project, but be solely entitled to the economic benefits of the BESS, then the typical settlement provisions should be revised such that the developer is solely entitled to the power pool revenues related to discharging the BESS into the grid, and the settlement provisions with the off-taker are based on the total amount of electricity generated by the renewable project and delivered to either the grid or the BESS.
3. **Control:** Relatedly, a determination will need to be made as to which party controls the use and dispatch of the BESS. Will the off-taker be entitled to the benefit of the stored electricity to reduce its load (and its energy costs) during peak periods, or for peak shaving purposes to reduce its coincident peak demand transmission tariff charges? Or, will the developer be entitled to use the system to sell energy or ancillary services to boost project revenues?
4. **Performance Guarantees:** Performance guarantees will need to be addressed and are generally negotiated in respect of energy capacity, maximum charging and discharging rates, annual availability, and “round trip efficiency” (which is the ratio of discharging energy to charging energy). Such guarantees may be challenging, as BESS systems typically degrade by some percentage each year.
5. **Operational Requirements:** Additionally, in order to maintain the performance of the BESS, the parties may need to adhere to certain operating parameters specified by the

original equipment manufacturer, including with respect to a required amount of cycling (that is, charging and discharging) each day.<sup>87</sup>

#### D. CONCLUSION

The pace of development of BESS projects integrated or co-located with renewable energy projects continues to increase. Bill 22 is expected to be proclaimed imminently, and such legislation will provide additional clarity in respect of the legislative and regulatory framework for BESS projects. Contracting for co-located facilities, as opposed to stand-alone generation, can be challenging, in that the PPA tends to be a hybrid which incorporates different financial payment mechanisms relating to both generation and storage. Therefore, it becomes critical to provide more structured supporting documentation to address the issues described above.

### VI. CONCLUSION

The renewable generation industry has recently been defined by a significant increase in demand (both from corporate and government off-takers), a changing regulatory environment, and a challenging supply chain. At the same time, renewable generation (combined with increased electrification) is being touted as a significant component of the global efforts to decarbonize, driving even further growth of new renewable projects. This combination of factors has resulted in a rapidly evolving industry and, consequently, a complex and ever-evolving contracting environment. Within this environment, developers are being required to negotiate unique and novel terms within their PPAs (and other relevant project contracts) to address both known and unknown risks. These contracts need to both reflect both current industry realities and be flexible enough to address foreseeable developments, while ensuring an appropriate allocation of risks between the contracting parties.

Contracting issues that have recently received prominent attention, and that have been the focus of this article, include *force majeure*, environmental attributes, and ethical procurement. A common thread among each of these issues is the need for developers to align contractual terms across a number of contracts. For instance, it would be prudent for a developer to ensure that a *force majeure* provision contained in a PPA is comparable to the *force majeure* provisions contained in an EPC agreement. Comparably, a developer may have an ethical procurement obligation to a corporate off-taker under the PPA, which may require the developer to implement effective tracing protocols within its EPC agreement and major equipment supply agreements. The same is also true with environmental attributes, which requires a developer of a renewable project with multiple off-takers to ensure the identification and registration of the desired environmental attributes are consistent across the off-take agreements. A developer of a renewable project needs to keep a close eye on these contractual provisions and have a keen understanding of how these terms impact and align with the various project documents, as it does not take a significant misalignment of

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Caileen Gamache, "Energy Storage: Unique PPA Considerations" (1 October 2017), online: *Norton Rose Fulbright* <[www.projectfinance.law/publications/2017/october/energy-storage-unique-ppa-considerations/](http://www.projectfinance.law/publications/2017/october/energy-storage-unique-ppa-considerations/)>; Richard Baxter, "Energy Storage Financing: Advancing Contracting in Energy Storage" (October 2019), online: *US Department of Energy* <[www.osti.gov/servlets/purl/1572745](http://www.osti.gov/servlets/purl/1572745)>.

any of these terms between project contracts to potentially result in a material and adverse impact on the development and economics of the underlying renewable project.

A renewable project developer must also anticipate future developments, which are arising at an increasing rate. One notable and foreseeable development is the increased deployment of hybrid renewable projects, which pair renewable generation with battery storage. A corporate off-taker focused primarily on the environmental attributes associated with the renewable generation may not be particularly concerned with the reliability benefits of a co-located BESS. Nonetheless, a developer would be prudent to expressly preserve its ability to pursue the development of such a project within the terms of the PPA, even if the potential future development of the BESS is uncertain at the time of entering into the PPA.

To conclude, this article has sought to summarize certain key contracting issues emerging in renewable development projects, while providing practical recommendations to effectively identify and address such issues. The pressure on developers to ensure strict control over project costs (particularly in the current inflationary environment) and to meet ambitious milestones is not expected to dissipate anytime soon. Given the pace of change, unanticipated contract issues will undoubtedly continue to arise. However, it is our expectation that a thoughtful and deliberate approach to allocating rights and obligations (and benefits and risks) in respect of the various renewable project contracts will go a long way in mitigating the extent of otherwise potentially adverse impacts on a developer and its projects.