Why Major Projects Fail – A Snapshot on Deal Killers, Disruption of Projects and Project Related Dispute Resolution in the WtE-Sector

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To secure peace is to prepare for war

– Carl von Clausewitz, Prussian general and military theorist

It is worth disputing if high values and/or interest are at stake? The waste sector is a sector very prone to being affected by such disputes, as the aforementioned criteria are fully met.

1. Background

The process of generating energy through the treatment of waste from locally available resources such as, inter alia, waste, biomass and sludge, has very much become a headline topic in recent times. We have observed a gradual change of mindset from *waste disposal* to *waste management* and from *waste* to *resources*. [10] Waste-to-Energy (WtE) projects are all the more popular as they offer greater predictability than other renewable energy sources such as wind or solar, as they are not reliant on preferable weather and their progress is not hampered by adverse weather conditions.

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In 2012, approximately 3 billion residents worldwide each generated 1.2 kg of solid waste per day, which translated to 1.3 billion tons per year. [7] By 2025, this is likely to increase to 4.3 billion urban residents generating municipal solid waste of approximately 1.42 kg per capita per day, which, per year, would be 2.2 billion tons. [10] While sending waste to landfill may be seen as a cheap option for anyone disposing of waste over a long period of time, the worldwide drive to reduce pollution has seen the continuation of mass landfill become an unrealistic long-term waste management strategy and regulation. [12]

The WtE market has seen an ever-increasing number of international players from diverse jurisdictions contracting with each other on a global level. In 2013, the WtE market was valued to be at over 25.32 billion USD, which revealed an impressive growth of 5.5 % from the previous year, and the market is expected to continue to steadily grow at this pace until 2023, when it is estimated to be worth over 40 billion USD. [14] Europe is currently the market leader in the field of WtE, accounting for 47.6 % of total market revenue in 2013 and being the largest and most advanced market for WtE technologies. That said, the fastest growing WtE market can be observed in China, with the Asian market leader doubling its WtE capacity between 2011 and 2015. [14] By 2030, it is predicted that China will produce twice as much municipal waste as that produced by the United States. [7]

This is proof that WtE has become big business worldwide and this steady growth in the international WtE market, coupled with predictions that the growth observed thus far will continue to increase considerably, signals and evidences not only huge potential for success, but also significant risk of disputes and interruptions and, in turn, potential for failure of a large number of projects. Huge sums are invested in these projects and the role-players face the risk of losing all or large portions of their investments should the projects encounter difficulties or should the parties enter into dispute.

While there are cases of states (particularly Gulf States but also in some EU Member States such as Germany or, partly, Poland) procuring WtE projects directly, international WtE projects are frequently made possible through Public Private Partnership (PPP), i.e. through a procurement scheme whereby the private partner undertakes to build, finance, operate and often transfer an energy-from-waste facility after a pre-determined period of time. Governments and developers alike negotiate the terms of these partnerships in order to ensure that the projects are commercially viable. [12] These PPPs are principally made up of various supplementary agreements such as Engineering, Procurement and Construction (EPC) contracts, Power Purchase Agreements (PPA), as well as Operation and Maintenance (O&M) agreements and, of course, Waste Supply Agreements with a remuneration system which is often based on either gate fees (supported by bring-or-pay clauses) or availability/capacity based fee models.

Being prepared for, and expecting, the unexpected can go a long way in protecting the parties to an international WtE project, and the project itself, from ultimately failing. There is, in particular, evidence in the market that disputes arise, the Arcadis Global Construction Disputes Report 2016 for instance indicates:

- an increase in the size of disputes (the average size of disputes handled by them globally increased from 35 million USD in 2010 to 46 million USD in 2015);
- an increase in the number of large complex EPC disputes; and
- one in four joint ventures ending in major dispute. [1]

A key factor in ensuring the long-term success of a WtE project is laying the correct contractual foundation to construct and manage these massive international projects, which proves to be particularly vital given the scale of modern WtE plants, the numbers of parties involved in all of the various steps and the vast financial sums at stake.

2. Overview

Further to the above, and as will be illustrated in this paper, there are a number of preemptive steps the parties from the waste sector can take in order to minimize their risk and exposure; often these come about from learning from past projects and failures – lessons learnt so to speak – and taking action to ensure future projects do not suffer similar setbacks.

The purpose of this article is to provide an illustration of the classic, so-called *deal killers* and project disruptions and to thereafter provide some insight into project related dispute resolution in order to enable the reader to gain a better understanding of these regularly occurring issues. Short case-studies will be provided to better illustrate specific points.

Firstly, the complex nature of WtE projects will be briefly explored and how minimizing the complex nature of these projects (for example, the supporting agreements), as well as effective claim management, can help offset this complexity. Secondly, we will provide an illustration of how market conditions can be deal killers if not foreseen and accommodated.

Thirdly, we will take a look at how the legal starting point can determine if a project is essentially doomed before it's even really begun. We will demonstrate how a copy and paste mindset associated with using Standard Forms of contract may backfire and we will illustrate how parties can tailor their contracts to address and incorporate local law. Lastly, our focus will turn to dispute resolution and how there is often no o*ne size fits all* dispute resolution scheme that can be blindly implemented into these projects.

3. Complex nature of WtE projects

If an investor decides to erect for instance an energy-from-waste facility, huge sums will be invested and will be at stake. An incineration plant could easily cost a couple of hundred million Euros. Any delay in erection could lead to significant delay damages too.

Typically, multiple parties are involved in such projects and due to the highly competitive nature of these projects, WtE projects are complex and multi-faceted.

Taking steps to minimize complexity does not, of course, protect the parties from suffering losses or provide some element of immunity, however, taking such steps can go a long way in reducing potential threats and certainly provides protection against an entire project failing. A recent example is how a large United Kingdom based WtE project ran into losses of 15 million USD due to an error by its subcontractor and how it had to go to great lengths to allay investor fears which ended in having to suspend works at two other WtE projects as precautionary steps. [4] Here, the Employer of the project suffered great financial losses; however, it took immediate steps to protect the project itself from failing and provided the necessary security to its investors in order to ensure that the project could continue to run. As provided below, the figures in question in the dispute are even rather small when compared to other disputes.

By way of example, two major aspects that illustrate the complexity of WtE projects will be briefly expanded upon below, namely how an insufficient contractual basis can threaten the project itself (3.1.) and, thereafter, how having a clear and well thought out claim management process can go a long way in ensuring that disputes are handled effectively and with the least possible fallout (3.2.).

3.1. EPC Contracts

EPC Contracts most commonly provide the foundation and contractual framework whereby one party (the EPC Contractor) agrees to engineer, procure and construct a WtE plant. These are often designed as *turnkey* contracts as they enable the operator to simply *turn a key* in order to commence operations on the constructed and fully functioning WtE site.

As a consequence, one turnkey EPC Contractor undertakes the full completion, turnkey and interface risk of such a highly complex project. One of the most obvious benefits of entering into such a contract is having one point of contact and responsibility for the development of the WtE plant. Logistically this has the benefit of avoiding having to manage various role-players that would otherwise have to be involved in the construction and setting up of the WtE plant.

While it is, of course, commonplace for an EPC Contractor to hire various subcontractors to provide certain services or works, the EPC Contractor remains the single point of contact to the Employer of the project and is directly liable to the Employer for ultimately delivering a WtE site that is ready for operation.

Complexity, and with it potential for disruptions or potential failures, is added when there is a splitting of a turnkey EPC Contract into two parts, namely technology on the one hand and civils on the other. This is done frequently in some markets to reduce cost and/or in circumstances when technology providers are not willing to wrap the civils part as part of a turnkey package. With conversion projects, where for instance a coal-fired plant will be converted into a waste/biomass incineration plant, it is also difficult finding a turnkey contractor. Having two or more key players executing these works will further serve to add to the complexity of WtE projects and lead to further risks of the project failing. The more complex the underlying contract structure the higher the risk of failure.

As already mentioned; the single most obvious advantage of an EPC Contract is having one point of contact and one party who takes on the responsibility for development. This means for the Employer for an EPC project that the added risk of liaising with various parties and allocating various risks is avoided. By concluding a well drafted and thorough EPC Contract (and avoiding splitting or, if not possible, to closely monitor this splitting of a turnkey EPC Contract), one already dramatically reduces complexity in WtE projects, at least at this level. Obviously, the risk then sits with the EPC Contractor who will ultimately have to deal with and resolve any potential dispute.

Parties therefore need to face reality in terms of EPC projects. According to KPMG International's 2015 Global Construction Project Owner's Survey:

- major complex EPC projects fail more often than they succeed, resulting in disputes;
- 71 % of owners in the energy and natural resources sector reported unsatisfactory underperforming projects; and
- 69 % of all projects between 2012 and 2015 were reported to be more than 10 % over budget. [9]

Against this backdrop, it becomes incredibly important to sidestep the risk of such a project collapsing.

3.2. Claim management processes

Another common *deal killer* is the failure to ensure that the parties involved in WtE projects have set up a solid and fully functioning claim management scheme. Experience shows that in many circumstances parties negotiate complex contracts over weeks and months, but the project execution team then handles a project very *practically* without following the contract. A good example is that parties typically agree that certain contractual rights need to be enforced through written requests (such as variation orders, cost consequences etc.) while in reality, the project team frequently agrees verbally or via email on changes and so forth.

Correct claim management by the parties is vital to the process and has the ability to quite literally make or break a deal. When effectively managed, claims that invariably do arise are often dealt with and resolved amicably and efficiently between the parties in a private and cost-effective way.

However, failure to have a sound claim management process in place or, by the same token, having a tedious claim management procedure with significant internal red tape as it were, can lead to substantial delays and possible risks of the project failing.

Case study

The parties (namely, the Contractor and Employer) to a WtE project entered into an EPC Contract for a lump sum in excess of 150 million EUR. Under the agreement the Contractor was to provide a performance bond amounting to approximately 20 million EUR as a measure of security. In terms of the contract a provisional acceptance date was calculated for approximately 600 days after commencement of works.

The WtE project suffered various delays basically from the outset, for varying reasons, and the Contractor made numerous extension of time (EoT) claims. These EoT claims were not always timeously dealt with by the Employer's internal team, as an effective claim management process was not in place from the outset of the project.

The Employer argued that it was entitled to Liquated Damages (LDs) as a result of the innumerable EoT claims. (It must be noted here that LDs are often triggered when EoT claims get *out of hand* and the project risks major delays, often putting the entire project at risk of failing).

The project ran into huge delays as a result of this back-and-forth arguing between parties and failure on the Employer's side to effectively deal internally with the claims raised by the Contractor.

The Employer threatened to call the performance bond which would have resulted in the Contractor's entire business risking liquidation, and all knock-on effects that would follow. The Contractor then triggered the dispute resolution mechanism as laid out in the EPC Contract, which was a time consuming process involving many internal meetings, and eventually instituted arbitration proceedings which further delayed the project and led to very high legal bills for both parties.

Lesson learned

Legal take away from this costly and potentially deal killing matter: Correct claim management by the Employer in this case would have proven vital and had there been one in place this may have been avoided and parties may have been able to process all claims expeditiously and effectively. This all refers back to the initial quote from Claus von Clausewitz – putting it simple: If you wish to have peace, you need to prepare for war, i.e. getting the documentation right, enforcing own claims and defending against claims from others. While parties always assume that any dispute will be resolved amicably at the end, the reality evidences the opposite.

4. Market conditions as trigger for disputes

Another factor that can very often threaten or disrupt the success of WtE Projects is the invariable fluctuations in the market. Market fluctuations are a reality of any and all projects and, therefore, the need arises for parties to cover themselves from a project finance perspective.

Market fluctuations can particularly affect income streams and thereby can have a negative influence on the (project) financing side of projects – for example, and as is often the case, a drop in market price could have the effect of jeopardizing financing contracts concluded with (project) financing banks.

From a waste supplier's perspectice, it is pertinent when setting fixed prices/gate fees for a WtE plant to ensure that their contracts contain an economic clause or hardship clause in order to safeguard that a balance is struck and that the interests of all involved are protected. In many circumstances, such concepts are already included in the relevant background law/civil code, even if not in contracts.

By way of illustrating the above, there is always a risk that a waste supplier agrees to offtake and/or collect waste from an industrial conglomerate (such as a paper mill) at market or spot price while they have entered into a longterm agreement with an operator of a waste incineration facility on a fixed price level. Here there is a risk that the market could fluctuate and drop significantly with the consequence that the waste supplier runs at a loss from the very start. As high sums are at stake (due to the high waste volume and significant gate fees), this may create a challenging situation for the waste supplier. While the operator of the plant relies on steady (and fixed) income through the gate fees, arguments and more frequently disputes start on the issue of whether the (agreed) fixed price can be adjusted.

Case study

A supplier received waste from an industrial park for market value which was expected, based on their business model and predictions, to be approximately 75 EUR per ton and would then deliver it on to a WtE plant for an agreed rate of 45 EUR per ton (supported by a bring-or-pay clause), with no reference in the underlying contracts to market fluctuations. The difference in price is required to allow the supplier to pre-treat the waste, cover transportation and internal cost and allowing him a margin. Markets dropped significantly and unexpectedly, and supplier received only 15 EUR per ton leaving it with a deficit of 30 EUR per ton plus pre-treatment, transportation and internal cost which it had to cover in order to sell it to the WtE plant at the agreed EUR45 per ton. The supplier therefore faced an insolvency risk.

This led to an imbalance and not only to a risk for the supplier but also placed the project at a risk of failure, as the supplier faced enormous economic hardship due to the selling price to the WtE plant being fixed in the contract and not subject to market fluctuations.

This led to arbitration proceedings being instituted by the supplier, arguing that the contractually agreed hardship clause had been triggered and, further, the bring-or-pay obligation was invalid while the operator defended this case arguing that the fixed price had been validly agreed and the pricing risk sat completely with the supplier.

Lesson learned

The legal take away from the above case study: The parties should strike a clear contract which outlines who takes the pricing risk, even in case of imbalance, and how this risk is covered.

5. Legal starting point: The contract and jursidiction

Another one of the leading reasons that projects fail is the lack of a solid legal starting point upon which all projects are based. While this seems like a simple enough concept, failure to fully understand or analyze the jurisdiction within which the WtE plant will operate leads to insurmountable risks for the project itself and for the important role-players.

Very often projects fail because the parties have relied on a standard form contract without adapting it sufficiently to suit the specific country (and jurisdiction) where the plant is to be based. There is a vital need, as early as possible in a project planning phase, to run in-depth analyses of a specific jurisdiction, seek thorough legal advice from experts in the relevant jurisdiction and then conduct stress tests of standard form contracts to see where potential problems could lie and where weakness may be found.

If one were to take Germany as an example, parties should be aware of and cater for the unique and very strict German law on General Terms and Conditions (*AGB* or *GTC*). Since 1977, AGB have been subject to a law codifying measures controlling standard terms and conditions. [6] In 2002, German lawmakers incorporated these measures into the German Civil Code (*BGB*). [2] The strict AGB interpretation has the principle of good faith at its very core and applies when one party imposes its standard terms and conditions upon the other party. While GTC laws exist in many jurisdictions, the German courts apply many of the extremely strict regulations which were designed to protect consumers also in a B2B-context.

Further to the above, if a project company takes a standard form contract such as one from the FIDIC suite of construction contracts and uses it in a jurisdiction such as Germany – which we have noted follows a strict general terms and conditions (AGB) regime – there is a high risk that the project would encounter severe problems, and even potential failure. The German Federal Court of Justice (Bundesgerichtshof – BGH) has set high standards for the validity of certain important clauses in project and construction agreements. An example would be if clauses have been agreed to fall within these AGB, they are less likely to be declared valid than those that are individually negotiated between the contracting parties. The reasoning behind the strict AGB laws is to provide a measure of protection to consumers against larger counterparties. A party introducing a clause is, in terms of German law, considered to be a user of AGB and the burden of proof will then be on the user of the clause to prove that said clause was not, in fact, an ABG clause, and is, therefore, valid. This complication, if overlooked, could cause significant issues for a project and will most certainly be considered to be a probable *deal killer*. Against this background, it is very difficult to agree on valid limitation of liability, liquidated damages and suitable delay/performance caps in a GTC context.

Case study

An Employer tendering a project takes a standard form contract such as FIDIC contract and attempts to use it for an EPC WtE project that will be subject to German law.

The parties fail to run an in-depth analysis into German law, and particularly into the German AGB laws.

The contract had a so-called bring-or-pay clause, which was designed to ensure the project's continued cash flow. Bring-or-pay essentially means that the supplier of waste has to pay for bringing waste to the plant irrespective of whether it in fact brings such waste, as agreed. This mechanism thereby secures continuous cash flow for the plant.

The reasoning behind these bring-or-pay clauses is that operators face specific financial risks regarding payment for taking over waste from municipalities/communities, and therefore they counteract this risk by way of these so-called bring-or-pay clauses.

From a project finance perspective such a clause was non-negotiable as it ensured cash-flow for the project.

However, a ruling in Germany in 2012 determined that such clauses agreed to within AGB are ineffective as they unfairly penalize the waste supplier. [3] Had the parties not been aware of this unique rule under German Law, there could have been endless and very costly disputes that would have followed.

Lesson learned

The legal takeaway from the above case study: There was a real potential for the entire WtE project to have collapsed due to this bring-and-pay clause in the standard terms and conditions being ruled as unenforceable within Germany, and, therefore, the parties involved in these projects should take the time to correctly analyze their chosen legal starting point and avoid a simple *copy paste* mentality to standard forms. This takeaway is true in many other jurisdictions too. It requires a detailed legal analysis about (and in most cases adaption to) the legal system and jurisdiction of the project.

6. Dispute Resolution – is there really a perfect mechanism?

With large WtE projects, often involving multiple parties from numerous jurisdictions, disputes on some level are inevitable. It would be unrealistic and naïve of parties to enter into deals of this magnitude with the view that disputes would not arise in their project or that the parties would be capable of amicably settling any disputes that could arise. The reality is simply quite different.

Efficient dispute resolution is therefore essential to any large project and parties can, of course, attempt to prepare for all eventualities and have such dispute resolution mechanisms in place that promise to ensure efficient and cost-effective resolution. Failure to adequately cater for the eventuality of disputes and to agree on an effective dispute resolution process is a huge threat to major projects, but, is there really a one size fits all dispute mechanism to have in place that will ensure a party's rights are sufficiently protected and ensures that the project itself does not fail while the parties are engaged in legal battles?

Parties to these large projects need to be adequately prepared and should calculate the benefits of taking a dispute to local court or to arbitration in respect of factors such as time, risk and financial aspects. Analyzing these factors prior to contracting ensures that both parties are on the same page in terms of expectations as to how to handle disputes and will go a long way in the parties reaching a compromise. [5] Dispute resolution mechanisms for PPP disputes include, i.a. in many circumstances alternative dispute resolution regimes (such as mediation, adjudication) and international arbitration. [8]

However, often parties agree on numerous steps to be taken in the resolution of possible disputes. These involve internal steps and, failing those, the elevation to formal proceedings. Arbitration is far and wide the most common of the dispute resolution mechanisms, with its popularity steadily growing with the increase of international, multi-party, WtE projects. The biggest stumbling block with respect to international arbitrations is enforcement of the awards, which is required by the New York Convention on the Recognition and Enforcement of Foreign Awards [11] , of which 137 countries are signatories. It is, therefore, vital to establish prior to embarking on a WtE project and concluding all auxiliary agreements, that the host country is a signatory to the Convention and, if not, to consider whether there is an arbitration law in place providing for similar protections. [13]

Case study

Parties to a large WtE Project agreed in the underlying EPC Contract that any disputes will ultimately be referred to Arbitration (a standard arbitration clause making provision for three (3) arbitrators, under International Chamber of Commerce (ICC) rules and with the seat to be in Paris and in English language). However, the dispute resolution clause made provision for various steps that would need to first be taken prior to a party being able to institute arbitration proceedings.

These steps included, firstly, an upper management meeting. This meeting of upper management was, however, loosely defined and the form these meetings should have taken, or whether or not parties were entitled to have legal representation present, was not set out in the EPC Contract. It was also unclear who formed part of the *upper management* for these purposes and whether all members of management had to be present.

Failing the upper management meeting, parties were required, as a second step, to elevate their dispute to expert proceedings, however, it was unclear whether or not this was only available should the upper management meeting be declared unsuccessful (and if so, it was not clear what an unsuccessful upper management meeting was defined as). The parties were not certain as to whether the claims brought before upper management or expert proceedings had to be final or whether interim claims could be brought before these meetings.

While these tedious and largely undefined proceedings were taking place, the project itself suffered losses as the plant was not functioning at 100 % (despite the fact that parties were instructed to continue *work as usual*); months passed between the various steps of dispute resolution leading ultimately to lengthy delays in the project itself and a near total breakdown of communication between the parties.

Of course, had the parties not adhered to these steps prior to arbitration there was a risk that the Arbitral tribunal may have declared that the parties had failed to take all necessary steps in terms of the EPC Contract and this, in turn, would have caused further delays and significant costs.

Lesson learned

The legal takeaway from this case study: Parties have to ensure that they adequately prepare for potential disputes and that the steps to be taken in dispute resolution are clearly defined so as to avoid lengthy delays and costly procedures.

7. Conclusion

There are numerous potential *deal killers*, of which only a few have been expanded upon. However, many of these potential disruptions and project threats can be avoided, or at the very least their effects mitigated, if the parties take the time, often at pre-contractual stages, to prepare and plan and execute such plan.

Being prepared for the unexpected so to speak and conducting thorough stress-tests on contracts and contractual clauses where possible will ensure that the parties are ready for these eventualities and have a plan of action if and when these eventualities become reality. Dispute resolution, for example, needs to be more than what is contained in the underlying contracts, and parties and their teams should be prepared to take all required measures.

Ensuring that management is aware of these precautions put in place and that the teams on the ground at these large projects know the procedure are also both vital to the success of the project. This requires, by the way, also sufficient budget and resources for executing such projects, demonstrating that it is much better investing a small portion of money upfront to avoid/mitigate litigation risk rather than investing big money in courts and arbitration later on.

Learning from past projects and conducting thorough debriefings after large projects have been completed is another way of learning and ensuring future projects do not suffer the same fate.

The supreme art of war is to subdue the enemy without fighting

– Sun Tzu, Art of of War

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