Summary of the submission of the defendant's legal counsel

*The defendant's legal counsel responded to the plaintiff's claim with the following submission, dated **28 April 2016**, which is summarised below:*

The claim is inadmissible and unfounded, and its dismissal will therefore be requested at the hearing.

A. Preliminary remarks

The plaintiff's complaint concerns the alleged flood risk posed by the rising water level in the nearby glacial lake, which, the plaintiff alleges, is the result of progressive glacier melt. Because the plaintiff was not granted sufficient protection by the national authorities, he has chosen to direct his claim against the defendant. The plaintiff alleges that the defendant's CO2 emissions have contributed to climate change and therefore to the imminent threat of glacial flood.

It is the defendant's view that there is no legal basis for this suit, because civil claims presuppose an individual causal relationship between the injuring and injured parties. This relationship does not exist in this case, because, due to the complexity of the interactions between the manifold sources of emissions over many years, there is no identifiable linear chain of causation. Civil liability is excluded in such cases, as demonstrated in the decision of the BGH on forest damage [*Waldschaden* judgments]. In the defendant's opinion, cumulative, long-distance, and long-term (consequential) damage should be resolved at state and political levels. Contrary to the plaintiff's allegation, the criteria for entitlement to the abatement of a disturbance, as established under section 1004(1) of the BGB, are not fulfilled, and the legal consequences do not apply. The plaintiff has simplified and partially misrepresented the facts of the case. Although the absence of a causal relationship is alone sufficient to disqualify the plaintiff's claim, the defendant will contextualise the facts of the case for the court on the basis of the plaintiff's claim and readily available information.

B. Facts of the case

In May 2014, the plaintiff acquired the land from his parents by notarial deed.

I. Climate conditions in the region

The plaintiff neglects to account for the glacier melt that occurs in the disputed region year-round regardless of temperature. The mountains contain roughly 71% of all tropical glaciers, 25% of which are located in the nearby mountain range. This is also the site of the lagoon that, according to the plaintiff's claim, poses a flood risk. As demonstrated in three documents (including an expert report), the local climate is characterised by high rainfall and humidity, as well as heavy cloud cover. In months with low precipitation, the glacial meltwater is a useful resource for electricity generation, agriculture, and water supply. The ratio between accumulation and ablation (melting) of the glaciers is related not only to temperature, but also to the amount of precipitation. In the absence of fresh snow, which reflects solar radiation, more energy is absorbed into darker ice, resulting in a higher rate of melting. Naturally, this occurs on the western side of the mountain range—the location of the lagoon that poses a flood risk.

II. Tropical glacier development

The size of the glaciers has changed substantially over the years. Examination of the sediments of various glacial lakes has shown that the glacier in the region grew throughout the early and mid-Holocene, until roughly 2,000 years ago. Glacial advance and retreat have been recorded repeatedly throughout history. In particular, a steady erosion of the glacier occurred even before industrial emissions. The region's glaciers are subject to large fluctuations, depending on the location, size, and altitude. In the meantime, glaciers have advanced repeatedly, with some differences in the progression of different glaciers. Thus far, the plaintiff's statements have failed to address the progression of the specific glacier above the lagoon.

III. Manifold causes of glacial retreat in the region

The causal link between greenhouse gas (GHG) emissions and glacial retreat alleged by the plaintiff is oversimplified and unrealistic. The climate is constantly changing due to internal dynamics and external and anthropogenic factors. This was substantiated in an expert report. There has been no increase in temperature in the relevant region since the 1980s. More generally, there is no linear causal relationship between emissions and the global temperature increase because the Earth's climate is a product of a highly complex system affected by many factors. These include the Pacific Ocean surface temperature and soot and dust deposits on the glacier surface, which accelerate glacier melt by absorbing solar radiation.

1. No linear relationship between temperature and GHG emissions

   It is impossible to determine whether and to what extent emissions from individual emitters might have contributed to a temperature increase. Global temperature trends have not corresponded with fluctuations in GHG emissions. Local temperature cannot be extrapolated from the average temperatures identified by the IPCC [Intergovernmental Panel on Climate Change]. The increase in temperature between 1880 and 2012 recorded by the IPCC was partly due to a natural temperature decrease that followed the Little Ice Age. Between 1940 and 1970, temperatures have fallen despite an increase in emissions. Climate models still cannot explain the decreased warming that occurred after the EI Niño event. The IPCC has concluded that, in this case, the models have overestimated the effects of GHG emissions. There is therefore no correlation between GHG emissions and global temperature increase. Global temperature also indicates nothing about local temperature, which, according to data from weather stations, rose only 0.13°C, not 0.2-0.45°C as the plaintiff has alleged.

According to *Schauwecker et al.,* the temperature has even fallen slightly since the 1980s (0.04°C). An illustration shows that the temperatures in the mountains at issue did not rise between 2002 and 2012. It is evident that, on the contrary, a slight cooling has been observed despite an increase in GHG emissions at higher altitudes, including the location of the relevant glacier. The temperature at a specific place cannot be presumed on the basis of the national average, because different trends can be observed in different regions. The study submitted concludes that glacial retreat is due not to current developments, but rather to those of the 1970s. Contrary to the plaintiff's allegation, climate change is not caused by humans alone, but is the result of natural and anthropogenic processes, as indicated in the IPCC definition of the term (IPCC, Ar 5, WG1, Annex III, p. 1450; SPM, p. 11). According to the IPCC, little more than half of the global temperature increase is due to anthropogenic GHG emissions (IPCC, AR 5, WG I, Chapter 10, p. 869). This conclusion was confirmed in an interview with Prof. Dr. Mojib Latif, of the Helmholtz Centre for Ocean Research in Kiel. In addition, numerous feedback effects are linked in such a way that it would be impossible to isolate individual contributions or attribute climate change to individual emitters. The following are the main drivers of climate change:

a) GHG emissions

   In addition to carbon dioxide, contributors to the greenhouse effect include water vapour, methane, dinitrogen monoxide (nitrous oxide), ozone, and halocarbons, which are also released into the atmosphere through natural processes. Relative to natural CO2 emissions (200 GtC/year), anthropogenic emissions (9.9 GtC/year) are low. Oceans and terrestrial ecosystems absorb most of the carbon dioxide, due, for example, to the increase in photosynthetic rate caused by a rise in CO2 ('fertiliser effect'). Given the existence of natural sinks and chemical degradation processes, it is impossible to determine which emitter is responsible for which GHG emissions in the atmosphere. In addition, the emissions contributed by power plant companies are so small that they are completely swallowed up and undetectable.

b) Changes in solar radiation

   Earth's primary source of energy, the sun, is of considerable importance to climate change due to its UV radiation and the intensity of its cosmic rays, which fluctuate with the magnetic field.

c) Clouds

   High clouds are believed to contribute to the greenhouse effect, while low clouds have a cooling effect through the reflection of the sun. The IPCC assumes that, in general, clouds contribute to warming, although this contribution is still uncertain.

d) Aerosols

According to the IPCC, aerosols—for example, particles of dust, soot or sulphate from anthropogenic or natural sources—are the most uncertain factor in energy balance models, but they are generally categorised as having a cooling effect.

e) Volcanos

The IPCC has identified volcanic eruptions as a cooling influence on the climate, due to their release of particulate matter. They also affect atmospheric circulation patterns.

f) Land-use change and agriculture

The IPCC has concluded that changes in land use impact the reflection of solar radiation on the Earth's surface and affect CO2 emissions, for example through deforestation. Cattle farming, which was responsible for 18% of global GHG emissions in 2006, plays a crucial role.

g) Ocean cycles and atmospheric circulation

Ocean cycles cause fluctuations in temperature and precipitation in the region in dispute. Expert reports attribute the warming that occurred between 1976 and 2000 to these processes.

h) Feedback effects

Feedback effects play a critical role, but are a source of great uncertainty in climate models. One feedback process occurs when warming leads to an increase in water evaporation, which in turn allows more hydrogen to enter the atmosphere and cause further warming.

i) Influence of the Pacific Ocean

Ocean surface temperature also affects localised climate in the region. Studies have shown a correlation between the temperature increase of the ocean surface and air temperature in the late 1970s. The effects of albedo reduction and high melt rates also must be taken into account.

j) The impact of soot and dust deposits on albedo

The deposits lead to a reduction in the glacier's surface albedo, which increases energy absorption and therefore the rate of glacial melting. The plaintiff's property is located in a region in which the concentration of deposits from transport, industry, land use, agriculture, biomass burning, and slash-and-burn farming is the highest of all of the regions studied.

k) Conclusion

This explanation has shown that changes in the climate are the result of extremely complex interactions that cannot be attributed to individual emitters. As a result, not even the plaintiff can quantify the defendant's alleged contribution to the cause.

The Heede study cited by the plaintiff—on the defendant's alleged contribution of 0.47% of CO2 emissions— neglected to consider the many factors that impact the climate; in addition, because it failed to identify the specific sources of its information, a comprehensive critical assessment of the study was impossible. The defendant contests the uncertainty factor identified in the study. In any case, the study is misleading, because it only considers industrial emissions of CO2 and CH4. Other anthropogenic and non-anthropogenic emissions and relevant greenhouse gases are not addressed. It is also unclear whether and to what extent the study takes into account the fact that the companies associated with the defendant were acquired or decommissioned by it only a few years ago. The study is unusable for these reasons.

IV. Formation of the lagoon

The lagoon specified in the facts of the case was formed after the cold period of the Little Ice Age, with the moraine acting as a natural dam.

V. Glacial lake outburst flood of 1941 and other flooding

Due to its location at the plate boundary, the region has exhibited high rates of seismic activity, which for centuries has led to earthquakes, landslides, and glacial outburst floods. Since 1702, several such events have been documented, including a serious case in 1725 and another event in which a flood was caused by ice avalanche, destroying parts of the city in which the plaintiff's property is located. Such incidents occurred before 1970 and can be described as typical of the region.

VI. Measures taken by national authorities

The national government has developed a strategy for population protection that involves a reduction in sea volume, a ban on human settlements in hazardous areas, and the construction of protective walls along the local river. Since 1942, the water level of the lagoon specified in the facts of the case has been lowered by 4m, and its volume has fallen by nearly 500,000m^3. Security equipment was destroyed in the earthquake of 1970. The plans to prohibit settlement in vulnerable zones failed because people settled in those locations, despite their awareness of the danger and in violation of specific warnings. According to the study by *El Instituto Nacional de Defensa Civil* (INDECI), presented by the plaintiff, these individuals built dwellings close to the river in violation of the required safety distance, and as a result put themselves at increased risk of flooding.

In 1974, a drainpipe and two protective dams were constructed at the lagoon and, in 2003, retained a flood wave. Between 2003 and 2009, the water volume rose from 3.959.776m^3 to 17.3 million m^3, which the plaintiff alleges is due to the increase in meltwater. Since 1974, however, there have been no natural outflows; the increased water volume (or inadequate drainage) is due to the faulty design of the installed pipe.

The lagoon is the main source of drinking water for the city in which the plaintiff's property is located; clearly the increased water volume has been tolerated for years because it benefits the water supply.

In 2010-2011, the regional government developed a plan to use siphons to lower the lagoon water level by 15m and purify and contain river water. Contrary to the plaintiff's allegations, lowering the water level was not necessary for technical safety, but for the construction of a new dam, according to the *Glacial Lake Handbook* and lagoon regulations. In addition, the objective was to lower the volume to 10 million m^3 and not, as the plaintiff claims, to 7 million m^3.

The process of constructing a drainage canal started in June 2011, confirming that prior measures had been inadequate. The canal became operational in May 2012 and, beginning in January 2011, the national government issued a total of 11 emergency regulations to implement the new development. Overall, with the help of the six overflow pipes, the water volume decreased to 12 million m^3, a permissible level. The project's chief engineer has confirmed that the lagoon no longer posed a threat, as have the relevant officials. As a result, the defendant contests that there is an acute flood risk.

The March 2014 study by the University of Texas Center for Research in Water Resources, presented by the plaintiff, does not make a persuasive counterargument, because it is based on outdated data from 2009. Even the authors admit that there is insufficient information about the internal structure of the moraine and susceptibility to erosion. The study finds a very low probability that the dam will burst—the scenario on which the plaintiff bases his claim. The regional government deemed the study incomplete and unreliable because it did not take important factors into account. The defendant contests the study findings cited by the plaintiff, as well as the allegation that a small piece of ice would be sufficient to cause a dam burst. The INDECI study also only identifies a 'latent danger'.

The water level is not increasing, as the plaintiff alleges; it is continually falling. After protective measures were taken, the regional government, chief engineer, and national government no longer considered the lake dangerous.

C. Legal assessment

The claim is inadmissible and unfounded.

I. The claim is inadmissible

The claim is inadmissible because the plaintiff does not have a legitimate interest in the action and because the claim lacks specificity [*Bestimmtheit*].

1. No legitimate interest in the action

Because the plaintiff could pursue his goal with a suit for specific performance, he does not have a legitimate interest under section 256 of the ZPO, because a suit for specific performance takes precedence over others. The plaintiff alleges that he was unable to file a suit for specific performance because the total cost of the preventive measures could not be anticipated. This is circular logic, however, because it starts

from the premise of his own claim. Uncertainties in the estimates cannot be the grounds for a legitimate interest.

2. Lack of precision

Under section 253(2)(2) of the ZPO, in a motion for declaratory action, the legal relationship whose existence or non-existence is to be determined must be described in such detail that there is no uncertainty as to its nature or the extent of its legal force. However, this condition is not met in the present case, because the case does not refer to a 'contribution to an interference' or a specific remedy. Citing the share of global GHG emissions in parentheses does not eliminate this uncertainty. For this reason, the scope of liability is not sufficiently clear.

II. The claim is unfounded

The claim is also unfounded. Climate change cannot be addressed through individual civil liability; it must be combatted through state and inter-governmental measures. Even if individual civil liability applied, the claim would still not meet eligibility requirements.

1. No civil liability for climate change

Civil liability is predicated on the existence of a causal relationship between individual factors and requires an outcome to be attributable to a given cause. A combination of cumulative, long-term, and long-distance damage does not fulfil these requirements. This position was confirmed by the judgment of the BGH in the *Waldschaden* cases. The Federal Constitutional Court [*Bundesverfassungsgericht* (BVerfG)] also denies an individual causal relationship in the case of long-distance emissions. The intermingling of sulphur dioxide from countless emission sources makes individual contributions indistinguishable from one another, which rendered it impossible to establish a causal connection in the *Waldschaden* cases. The legal basis for environmental liability law is the inability to attribute general environmental to individual sources. It presupposes that damage cannot be regulated "under the terms of individual liability law".

Contrary to the plaintiff's assertion, the *Waldschaden* judgments are applicable to the present case, because it, too, cannot attribute climate change and its alleged consequences to individual sources, nor can it determine proportional causation. The fact that the previous case concerned an inability to establish a direct link between SO2 molecules and tree damage is not an argument against the comparability of the cases. Forest damage concerns the question of which molecule impacts the trees through rain and the causal link between sulphur dioxide emission and the immission of these molecules in the form of precipitation. The legal question of attributability ceases to apply only if emissions do not have a direct impact as immissions and instead exert an indirect effect after remaining in the atmosphere for a long period of time, intermingling with other molecules and undergoing partial degradation—and even then only through combination with other emissions. The causal relationships that are responsible for the climate are even more indirect and unclear than are those associated with forest damage. Anthropogenic emissions intermingle with natural

emissions in the atmosphere. According to the IPCC, since 1750, more than half of anthropogenic CO2 emissions have been absorbed by land and ocean sinks; as a result, contrary to the plaintiff's allegation, not every emission contributes to the increase in GHG concentrations. In addition, there is an increase in the capacity of the CO2 sinks. Aside from natural and anthropogenic GHG emissions, external factors impact the climate; these influences, in turn, overlap with those of internal climate variability and feedback effects. The absence of a linear chain of causation between emissions and temperature trends precludes civil liability.

This conclusion is consistent with US case law: in Kivalina *v ExxonMobil Corporation, et al*, the court held that the issue of climate change was a political issue that could not be adjudicated under the 'political question doctrine'. In its justification for the decision, the court stated that

- the large number of emitters and the intermingling of emissions in the atmosphere made it impossible to distinguish those released by individual emitters;
- regulations under climate protection law superseded liability law; and
- there was no clear indication of the concrete ways in which the plaintiff was affected by the interference.

The present case should be decided on the same principles.

The issue must be addressed through state action, not by arbitrarily targeting specific emitters with no basis for liability. The Urgenda decision cited by the plaintiff confirms this position, because that case concerned the Dutch government's state obligation rather than individual liability. The same applies in the case of *Massachusetts v EPA,* in which the complaint was directed against an environmental authority. As a result, the plaintiff cannot use these decisions to overcome the obstacle posed by individual attribution. The fact that the plaintiff does not want to wait for national measures to combat climate change, cannot justify the defendant's liability without an appropriate legal basis.

2. Entitlement to the abatement of a disturbance, as established in section 1004(1) of the BGB, does not apply

   This provision does not apply to the present case, because German civil law provides no basis for liability in cases of potential interferences of 'all by all'. In the absence of adequate causation and a system for allocation, the plaintiff fails to satisfy the material requirements to establish his entitlement to compensation. The provisions of section 1004 of the BGB do not specify a claim for 'cost reimbursement' as a potential legal consequence.

   a) No cost sharing

      The provisions regarding entitlement to a claim for abatement or injunctive relief do not also establish a claim for damages or reimbursement. Irrespective of this fact, compensation would be limited to the plaintiff's costs; state costs, such as

those for drainage, would not be reimbursable.

b) Current interference with property

To qualify as an ‘interference with property’, the risk to the plaintiff's property must be concrete, not merely abstract. The plaintiff has not shown sufficient evidence of such danger; in fact, the current data indicate that the protective measures implemented by the state have been successful.

c) The defendant is not a disturber

Contrary to the plaintiff's allegations, the defendant has not caused a disturbance through its actions or omissions [*Handlungsstörung*], nor is it accountable for the disturbance simply by virtue of its position as the owner or occupier of the property on which the disturbance takes place [*Zustandsstörung*].

aa) The disturbance is not the result of its actions or omissions

The link between the defendant's agency and the interference with the property would need to be adequately causal. The plaintiff's argument referred to the flood risk, not the immissions from the defendant, as the interference. However, it is the defendant's opinion that this risk is the result of the geographical location and the settlement of people below the lagoon, as well as the glacier melt and lake outburst, which initially were entirely natural events. The interference is not the result of human will, nor is the defendant under any obligation to eliminate hazards. The operation of power stations in Europe cannot entail a duty of this kind.

i) Equivalence

To satisfy the criteria for equivalence, the defendant's behaviour could not be eliminated without also eliminating the interference. Civil liability requires individualised, linear causation, which cannot be established between the emissions from the defendant's power stations, climate change, the melting of the glacier, and the alleged flood risk. The applicant's sweeping allegation is inadequate and, as discussed above, the study on which it relies is untenable. Even if one were to assume that historical emissions amounted to 0.47% of the total, due to the many influencing factors, such as clouds and aerosols, there is no identifiable linear causal relationship.

The plaintiff does not even attempt to account for these natural factors or for the historical changes in the glacier, the lagoon water volume, and local temperatures.

He argues that, without the defendant's GHG emissions, the lagoon water level would not have increased as much, even though the water level reached a similar volume in the 1930s. Furthermore, the new accumulation of water in the lagoon is clearly due to the dam’s poor design or to the authorities’

willingness to tolerate the increase because it bolstered the drinking water supply. In addition, cumulative causation cannot serve as grounds to attribute an outcome to an individual cause, because under the principles of cumulative causation, removing even one of the causes would necessarily eliminate the outcome. The defendant's emissions are neither a sufficient nor a necessary condition for the alleged flood hazard.

ii) Adequacy

An adequate relationship presupposes that the causal process is not adequate to bring about an outcome under especially extraordinary, unlikely circumstances. In view of the necessary predictability of climate change, it is unclear why the plaintiff has focussed on the year 1750—even though, in accordance with the Urgenda judgment, climate change could not be foreseen until 1990 and the exact impact of GHG emissions is still in dispute today. The plaintiff also ignores the natural causes of the alleged flood hazard. A chain of events of this kind could not be predicted by the defendant, as a power plant operator, and is not adequately causal.

iii) Duty of care

In its decision on the mealybug and mildew case [*Wollläuse-und Mehltau-Entscheidung*], the BGH held that the plaintiff would have needed to establish a duty of care to prevent an interference. Establishing a duty of care would require the presence of a legal provision or any other circumstance that would give rise to this obligation, such as proximity or the creation of a dangerous situation; these prerequisites are not met in this case.

iv) Emissions do not establish a breach of duty

In view of the permits granted under public law, there can be no accusation that the emissions constitute a breach of duty. It is not yet possible to provide a completely emission-free energy supply, and as a result any finding of liability would violate the defendant's fundamental rights under article 12(1) and article 14(1) of the Basic Law [*Grundgesetz*]. Based on the regulation on permits under section 5(1)(1) of the Federal Immission Control Act [*Bundes-Immisionsschutzgesetz* (BImschG)], it is reasonable to conclude that long-distance effects like the alleged flood risk cannot justify a limit on emissions. The emission guidelines confirm this assumption.

bb) Not a 'disturber by situation' [*Zustandsstörer*]

A party is a 'disturber by situation' if it maintains the conditions under which the disturbance occurs. The plaintiff erroneously assumes that the source of the disturbance is the operation of a power plant in Europe, rather than the lagoon.

Because the defendant has no authority to dispose of the lakeside property, the condition of the lagoon is the result of circumstances out of its control.

d) No attributability through section 830(1)(2) of the BGB (analogous)
Attributability presupposes that, in the presence of multiple participants, each had a role in producing the result, but it remains doubtful whether individuals can be held accountable for the entire outcome or only for their respective share of the damage. Attributability has not been established in the present case.

e) No illegality
There is no indication of illegality in this case, because only instances of direct interference have implications for illegality. In the absence of a duty of care, no illegality can be established.

f) Duty to tolerate an act or situation [*Duldungspflicht*]
Entitlement to a claim to abatement or removal, established under section 1004(1) of the BGB, does not apply in this case. Therefore, the existence of a duty to tolerate an act or situation is irrelevant.

3. No claim for compensation under section 906(2)(2)of the German Civil Code [*Bürgerliches Gesetzbuch* (BGB)]/section 14(2) of the BImSchG. Both norms presuppose a legal relationship between neighbours, which requires a close spatial and temporal relationship. This is not the case here.

4. In the alternative: Exclusion of claim analogous to section 254 of the BGB
If the plaintiff were entitled to a claim for abatement or removal and a claim for compensation, these claims would be excluded, analogous to section 254 of the BGB. 'Action at one's own risk' is a specific application of section 254 of the BGB. The plaintiff acquired his property in 2014, at which time, according to his own statements, there was already a flood risk. He therefore knowingly placed himself in a dangerous situation. In fact, there was already knowledge of the situation when his family first acquired the house, although this is not a decisive point. Following the flood of 1941, the residents defied the ban on settlements in the area.

5. In the alternative: Limitation period
The defendant contests the action on the basis of the limitation period, because the plaintiff's claims are already time-barred in accordance with sections 195, 199(1) of the BGB. The limitation period for such claims is three years. The plaintiff would have been aware of the risk no later than 2009, when a state of emergency was declared. Therefore, he would have needed to file his claim before the end of 2012. The limitation period had already expired when the claim was filed in December 2015. Because the plaintiff is not entitled to bring any claims against the defendant, the action should be rejected.

This summary was prepared on a voluntary basis by Tim Sterniczuk and Francesca M. Klein of the Institute for Climate Protection, Energy and Mobility (IKEM). English translation provided by Kate Miller, also of IKEM.