Summary of the defendant's submission of 30 October 2017

Supplementary opinion on the plaintiff's written submission of 5 September 2017 in preparation for oral proceedings

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Climate change is a global political challenge that cannot be addressed by holding individuals liable under civil law. Furthermore, it is both practically and legally impossible to take action against all disturbers. In the Munich commentary on the German Civil Code [*Bürgerliches Gesetzbuch* (BGB)], Prof. Wagner states that the global risk of CO^2 emissions cannot be the grounds for individual due diligence requirements.

A. No civil liability for climate change

There is no legal basis for the allegation because, by law, individual liability under civil law cannot be applied to global environmental impacts. In particular, as the District Court has rightly stated, there is no causal relationship between the emissions and the damage assessed; such a relationship would be necessary in order to establish liability. The complexity arising from the many sources of disturbance and the causal relationships prevents any assessment of individual attribution under the adequacy principle. This is the predominant view conveyed in the relevant literature and jurisprudence. Even in the case of large-scale emitters, damage can only be assessed in the aggregate and merely constitutes one of the general risks that are a facet of daily life. Contrary to the plaintiff's view, German courts have already adjudicated the question of causation in the context of climate change. For example, the Higher Administrative Court of Mannheim has ruled that scientists do not yet have the expertise necessary to attribute adverse global climate changes to individual installations. In its implementation of the Environmental Impact Assessment (EIA) Directive, the legislature confirmed this view and stated that it is impossible to calculate the impact of any single project on the climate. It follows from this determination that there can also be no attribution of such impacts. Furthermore, in its explanatory memorandum to the Environmental Liability Act, the legislature explicitly excluded liability.

B. No application of section 287 of the *Zivilprozessordnung* [Code of Civil Procedure (ZPO)] and no reversal of the burden of proof

The questions raised in the response to the appeal concern issues of causality as a basis for liability, which is subject to the strict standard of proof defined in section 286 of the

ZPO. Therefore, as the District Court stated correctly, section 287 of the ZPO does not apply. Section 287 of the ZPO can be applied only if the basis of liability (i.e., the infringement of rights) has been established in accordance with section 286 of the ZPO and the issue under consideration is the consequences of the infringement. The plaintiff must therefore provide full proof of the causal link between the emissions and the infringement. The judgment of the BGH cited by the plaintiff--which refers to the principles of evidence in disputes concerning medical treatment errors--is not applicable to the present case; as a result, it cannot be invoked to reverse the burden of proof at the expense of the defendant. The case law has permitted an easing of the burden of proof only for treatment errors that were the result of gross negligence on the part of the physician. This allegation cannot be made against the defendant, because it operated its plants in compliance with legal requirements. In addition, due to the complexity of climatic developments, the principle of 'proximity to the evidence' does not apply to the defendant here as it does in cases of medical liability; it is the plaintiff who has the opportunity to observe the development of the glacier and the alleged flood danger. The party accused of the allegations cannot bear the burden of proof to demonstrate the absence of the disturbance; a reversal of the burden of proof thus falls outside the scope of section 1004 of the BGB. The plaintiff therefore must provide evidence of the disturbance and causality in accordance with section 286(1)of the ZPO.

C. No claim for removal arising from section 1004 of the BGB

The defendant is not the disturber, as no appreciable increase in the alleged flood risk can be attributed to it. In addition, the plaintiff has presented no information on the defendant's total historical emissions. Because a climate model does not reflect all cause-effect relationships, it is not sufficient proof of a causal relationship. Regardless of the question of equivalence, 'adequacy' has not been established. Therefore, the defendant has no duty to ensure public safety, and the alleged flood risk is not relevant to the issue.

I. No increase in risk can be attributed to the defendant

In view of the vast number of processes involved, climate trends are so complex that a causal link between the emissions and the rise in temperature, the melting of the glacier, the increase in the volume of water, and the increase in the risk of flooding cannot be proven. In addition, the information submitted by the plaintiff is inaccurate and incomplete. No data are provided on the quantity of emissions, the increase in the lagoon temperature, the loss of glacier mass, and the hypothetical volume of water that would be expected in the absence of emissions by the defendant. In this respect, the plaintiff has not complied

with his duty to disclose.

1. Trends in greenhouse gas (GHG) concentration

The plaintiff has alleged that any emission necessarily raises the concentration of greenhouse gases. This allegation does not take into account the absorption by sinks or the chemical degradation of emissions. These processes lead to fluctuations that are far greater than the defendant's alleged emissions. In addition, the plaintiff completely disregards regional variations in the concentration and radiative forcing of greenhouse gases. It is therefore impossible to measure whether and how the defendant's emissions have led to an increase in atmospheric CO^2 concentration.

2. Trends in global and local temperature rise

Due to the chaotic dynamics of the climate system, there is no linear correlation between GHG emissions and temperature trends. No other conclusion can be drawn from the sources cited by the plaintiff. In particular, the modeled temperature projections do not provide any information that would trace the actual evolution of the lagoon climate since the early 2000s. Natural fluctuations cannot be disregarded. The data sets differ significantly in some cases and the calculations have a high margin of uncertainty, because monitoring stations do not capture the Earth's entire surface. Measurement technology varies and measurement errors occur. Rather than reflecting a global average temperature increase, measurements indicate changes in local temperatures. However, local measurements showed that a slight cooling-off and stagnation in temperature occurred between 1980 and 2010. The data from five monitoring stations in the region make this clear.

3.Glacier trends in the Peruvian Andes

No linear relationship can be demonstrated between GHG emissions, temperature trends, and glacier trends. Rather, data show that the glacier has decreased in mass even when the temperature has dropped. Its mass is therefore dependent on other factors, such as precipitation, humidity, clouds, sunlight, geographical location, altitude, and area. The plaintiff has not demonstrated the loss in glacier size with aerial or satellite images. This is therefore denied due to a lack of knowledge. The IPCC report does not show that, as the plaintiff claims, anthropogenic influences are responsible for up to 99%

of the glacier melt. The report merely describes such influence as ‘probable’. There is evidence that, in the twentieth century, glacier dynamics and decadal climate variability influenced glacier mass. The plaintiff has not sufficiently substantiated a dispute of the impact of PDO [Pacific Decadal Oscillation] and ENSO [El Niño/Southern Oscillation]. The same applies to the effect of soot deposits on the surface of the glacier. The article by Prof. Marzeion on the subject of anthropogenic climate change, submitted by the plaintiff, reflects uncertainty levels of -10% to 60%. In addition, the author states that glacier variations could be due to internal variability alone. At best, the article characterizes the anthropogenic influence on the evolution of the glacier as uncertain. The model calculations deviate up to 80% from reality and therefore cannot be used to establish the responsibility of a single emitter.

4. Trends in the lagoon

The plaintiff himself has admitted that natural factors have an influence on the changes in the lagoon. With the help of an overflow lift, the volume of water could initially be reduced by up to 12 million m³. The information provided by the plaintiff shows that the subsequent increase is due to El Niño. Without any factual basis, however, he denies that an increase of 92,618 m³ occurred, as can be deduced from the official annual report. Because more recent measurements have been provided, the burden is on the plaintiff to submit further information on the volume of water and flood risk of the lagoon. Moreover, the fact that, in the year of the highest volume, no warming was recorded, counters the argument that global warming is the sole factor influencing the volume of water.

II. No liability on the basis of a percentage of emissions

It is not undisputed, nor has it been proven, that the defendant's share of emissions is 0.47%. The *Carbon Majors Report 2017* is based only on non-transparent estimates. Furthermore, the basis of calculation in the study is false. The figures are therefore inconsistent. Only the Scope 1 emissions can be used to calculate the defendant's share, because the defendant cannot be liable for emissions from upstream and downstream companies. On this basis, the defendant's share would be 0.06%. However, the study only takes industrial emissions into account, ignoring land use, agriculture and other non-industrial sectors, inclusion of which would make the defendant's share lower still. In addition, in view of the complex factors with reciprocal influence on climate change, the plaintiff's submission is inconclusive.

III. No proof of causality

A model-based study cannot provide proof of causality as required under civil law; the fact that climate models have improved over the years does not change this point. The legal literature indicates that a statistical risk increase of the kind determined by model calculations is one of the general risks that are a part of daily life. For climate modeling, the parameters and approaches used vary among institutions. In addition, the models are primarily intended for developments at continental and global levels and are not suited to capture regional or local changes. Measurement of the carbon footprint and its impact is fraught with uncertainty. As a result, the models cannot do justice to the actual variety and complexity of the processes involved. This assessment is based on the reports of the IPCC [United Nations Intergovernmental Panel on Climate Change] and statements by Prof. Dr. med. Latif.

IV. GHG are customary and acceptable within existing social norms [*Soziale Adäquanz*]

In Germany, the operation of power plants is a constitutionally protected activity that serves the common good. The legislature has regulated the release of emissions, and the corresponding emission allowances, in the TEHG [*Treibhausgas-Emissionshandelsgesetz* (Greenhouse Gas Emission Trading Act)]. Because the defendant adheres to these legal requirements, it is excluded from liability for any risk arising from its emissions.

V. No breach of a duty of care

The effects of natural events, which undoubtedly have an impact on the lagoon, require a different interpretation of the concept of a 'disturber'. The defendant cannot be subject to stricter liability than is the plaintiff himself, who, as the owner, has the closest legal relationship to the source of the disturbance.

VI. Alleged flood risk

The defendant's submission is not late, because, in accordance with section 531(2)(1) of the ZPO, it refers to matters that were overlooked by the Court of First Instance or held to be insignificant. The defendant did not consider the applicant's arguments to be relevant to the issue and asked to be notified if the Court of First Instance reached a different conclusion. No such notice was given.

Regarding the alleged flood risk, the date of the last oral proceedings should be considered. The plaintiff has not provided evidence that there is a seriously threatening or imminent danger of flooding. According to Mr. Emmer's statement, the slope movement that would trigger flooding is "quasi-coincidental" and can be predicted only through modeling. Mr. Emmer also relies on a study that cannot substantiate any specific property risk. The defendant cannot perceive the current condition of the lagoon and therefore continues to dispute the existence of a legally relevant hazard. It is not sufficient for the plaintiff to contest the opposite of what he must prove.

D. Impossible and incorrect legal consequences

Contrary to the plaintiff's view, there is nothing to suggest that monetary damages would be a legal consequence of section 1004(1) of the BGB. His alternative claim, requesting precautionary measures, does not reveal the exact form that such measures would take or how they would be carried out. It is beyond dispute that the lagoon is subject to natural variations, and the possibility that such fluctuations are greater than the defendant's alleged total emissions has not been (sufficiently) challenged. The water level has already fallen; therefore, in accordance with section 275 of the ZPO, it is altogether impossible to reduce the water volume of the lagoon to the value specified. If the plaintiff were awarded damages, the defendant could face claims from roughly 50,000 additional property owners who would be affected by an alleged flood. It is impossible for creditors to act jointly or for third-party notice to be served; the defendant would therefore necessarily be liable to each owner individually. This would result in an excessive liability that is disproportionate and arbitrary.

In relation to all other points, please refer to previous submissions.
The appeal is inadmissible and unfounded.