Any scientist who has a question about serving as an expert witness can call the Climate Science Legal Defense Fund, where we provide free and confidential counsel to scientists with legal questions related to their work. Call us at **(646) 801-0853** or send an email to **lawyer@csldf.org**.

The Climate Science Legal Defense Fund (CSLDF) works to protect the scientific endeavor by helping defend climate scientists against politically and ideologically motivated attacks. CSLDF is a non-profit organization under section 501(c)(3) of the Internal Revenue Code.

CSLDF produced this guide to help scientists understand the basics of serving as an expert witness. This guide concerns only U.S laws, and nothing in it should be construed as legal advice for your individual situation.

This guide was made possible by the generous support of the Common Sense Fund.

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A POCKET GUIDE FOR SCIENTISTS

What to Expect When You're an Expert Witness, Part 1

Brought to you by the Climate Science Legal Defense Fund

INTRODUCTION

As the impacts of climate change become more apparent, various parties are using litigation to push lawmakers to address mitigation and adaptation strategies, and attempt to hold fossil fuel producers liable for climate-related damage. As such cases progress and multiply, there will be an increasing demand for climate scientists and other scientists with relevant training to serve as expert witnesses to assist judges and juries in understanding the science underlying these arguments.

These developments present an exciting opportunity for climate scientists to participate in the legal process. However, it is important for a scientist considering serving as an expert witness to understand what the process involves.

The Climate Science Legal Defense Fund (CSLDF) wrote this guide to help scientists know what to expect when serving as an expert witness. To learn more about the risks of participating, and how to mitigate them, see the second guide in this series: What to Expect When You're an Expert Witness, Part II: Risks and How to Avoid Common Pitfalls.

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What exactly is an expert witness?

A witness is traditionally someone who testifies about something they have personally seen or experienced. However, witnesses with relevant scientific, technical, or other specialized knowledge do not offer eyewitness accounts, but rather provide information and opinions to help a judge or jury better understand the evidence or determine a fact at issue. In cases involving climate change, attorneys might seek to offer expert testimony from a climate scientist who can help explain aspects of the science that are relevant to the litigation.

In what contexts are you most likely to be asked to present expert testimony?

The most likely context in which you might be asked to present expert testimony is as part of a civil case. Civil cases do not involve a claim of criminal misconduct, but rather a claim of damages or injury resulting from non-criminal behavior, such as negligence, breach of contract, or violation of a civil regulation.

This guide focuses primarily on scientists who are acting as retained, testifying expert witnesses. However, there are several other mechanisms by which you can provide expertise to lawyers working on climate cases.

Scientific experts can be hired to consult on a case without providing a report or direct testimony. Such "consulting experts" can help attorneys analyze relevant facts and data, assess the positions taken by other experts in the case, and provide background information. One potential advantage of taking on such a role is that consulting experts are not required to disclose the kinds of documents (such as expert reports or publication histories) that testifying experts must disclose. They may also be less likely to attract the level of attention that could give rise to a subsequent subpoena or open records request. See Part II of this series for more information on document discovery and requests.

Scientists can also participate in amicus curiae, or "friend of the court," briefs in litigation. When they participate in amicus briefs, scientists do not speak directly on behalf of a party in the case. Rather, they use their scientific expertise to provide the court with information or a particular perspective or insight that it will not get from the parties' briefs.

Scientists can lend their expertise outside of the active litigation realm as well. Specifically, when government agencies undertake rulemaking or other regulatory actions (which in many cases may eventually lead to litigation), they are usually required to go through a public notice and comment process, and will sometimes hold public hearings at which expert testimony can be presented. Scientists can participate in these processes and provide comments based on their expertise either on behalf of their institution (with appropriate approvals) or as private citizens. These comments can potentially be very impactful, including during later litigation. For more information on how to participate in this process, see CSLDF's pocket guide on How Scientists Can Participate in Government Rulemaking.

Finally, Congressional legislative proposals are frequently accompanied by hearings at which there are opportunities for expert testimony.

On what subjects will you be asked to provide expert testimony?

No matter what specific claims are involved in a particular climate litigation, the lawyers litigating the case will almost certainly need to present at least some foundational information about climate science to the court. This is because, almost without exception, these cases require plaintiffs to establish (and defendants to contest) some level of causal link between greenhouse gas emissions and climate-related harms.

1. Standing

In order to bring any case in federal court (and in many state courts as well), a plaintiff is required to establish what is known as "standing." This means that in order to proceed with a lawsuit, a plaintiff must show that they have suffered a concrete injury that is either actual or imminent, that this injury is traceable to the conduct of the defendant, and that a favorable decision by this court will help remedy this injury.

This generally requires establishing at least a basic set of facts about how greenhouse gas emissions cause climate change, and how climate change has caused (or will cause) the harm the plaintiff is experiencing (or is about to experience), which is alleged to result from the defendant's actions.

2. Proof of causation

Even when standing is not an issue, climate plaintiffs—or litigants seeking to defend some kind of climate regulation or other action intended to mitigate climate change—still generally need to establish at least some of the basic facts of climate science.

So far, many climate-related cases have been based, at least in part, on tort claims like negligence, trespass, or nuisance. Each of these theories requires the plaintiff to establish a causal link between the defendant's actions and the harm suffered by the plaintiff.

And even in other kinds of cases, causation can play an important role. For example, in the fraud claims that state Attorneys General (AGs) have pursued against ExxonMobil and other fossil fuel interests, the AGs have sought to show that climate change has caused harm that might not have occurred had the public not detrimentally relied upon the defendants' misrepresentations of the impacts of greenhouse gas emissions.

Establishing that the harm was (or should have been) foreseeable to the defendant—or, in a fraud case, that the defendant's statements were knowingly false—is also likely to be an essential element of such causes of action.

Establishing the causal link between greenhouse gas emissions and the specific harm suffered by plaintiffs can also be highly relevant to assessing damages, particularly when apportioning liability among multiple defendants.

At each of these junctures in climate cases, your testimony can play an essential role in establishing how the defendant's greenhouse gas emissions have contributed to climate change, and how climate change has resulted in, or is likely to imminently result in, the harm for which a remedy is being sought.

What are the criteria used to qualify you as an expert?

Before your expert opinion testimony can be admitted and considered in court, the judge needs to make a determination that you are qualified to testify as an expert. In federal court, a qualified expert witness is someone who has knowledge, skill, experience, or training in a specialized field; most state courts have similar rules.What should the lawyers you are working with do to help you prepare?

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What are the criteria applied to determine admissibility of expert opinion?

After you have been qualified as an expert, the judge will need to determine whether the specific testimony you propose to give meets the standards of admissibility for expert testimony. In general, a witness who is qualified as an expert may provide expert testimony if:

- The expert's scientific, technical, or other specialized knowledge will help the judge and/or jury to understand the evidence or determine a fact at issue;
- The testimony is based on sufficient facts or data;
- The testimony is the product of reliable principles; and
- The expert has reliably applied the principles and methods to the facts of the case.

A series of Supreme Court cases have provided guidance to trial judges on the factors to consider in determining whether these criteria have been met. Some that are likely to be considered:

- Can the scientific theory or technique being offered by the expert be tested—and has it been?
- Has it been subjected to peer review and publication?
- What is the known or potential error rate of the scientific technique?
- Has it received general acceptance in the scientific community?

In recent decades, the Supreme Court has tended towards granting trial courts increased discretion to make context-specific decisions about whether expert testimony is admissible. As climate change litigation becomes more common and judges become more comfortable with the theories and methods of climate science, expert testimony from climate scientists will likely be readily admissible.

What tasks might you be asked to undertake as a testifying expert witness in litigation?

1. Expert Reports

The first task you will likely be asked to undertake as an expert witness is to draft an expert report that addresses specific issues at stake in the litigation. This is a written report, provided to the opposing side and their experts (and in some circumstances to the court), which explains your conclusions and your bases for them. Your expert report will describe any research, modeling, experimentation or other work you did in order to reach your conclusions. Depending on the circumstances, your report may also need to include explanations about approaches you took, how these approaches underpin your opinion, and other supporting arguments. In many cases, you will also have to disclose a list of your previous expert testimony and reports, along with any and all documents that you relied on in preparing your report.

Litigants on both sides of a case frequently engage expert witnesses who offer different conclusions on the same issue. In the event that the opposing side engages an expert witness or witnesses to contradict your conclusions, it is likely that you will be asked to review any reports filed by opposing experts and perhaps draft a supplemental report rebutting them.

2. Depositions

After expert witness reports and any rebuttal rounds are exchanged, you will likely be deposed. In a deposition, you are asked questions under oath by the opposing side's lawyers. Although depositions generally do not take place in a courtroom, the questions and responses are recorded by a court reporter. If you are considering serving as an expert witness, it is important to understand that being deposed is similar in many ways to being subjected to a cross examination by opposing counsel.

In a deposition, one of the opposing attorneys' primary goals is often simply to understand your positions and establish their contours under oath. However, the opposing attorneys will also be looking for anything they can use to discredit you. This may include suggesting problems with your qualifications, such as searching for something they can present as a deficiency in your experience that calls into question your credibility on the subject on which you have been asked to testify. They may also try to discredit you by highlighting contradictions between your deposition, any subsequent testimony (such as at trial), and/or any previous work.

The opposing attorneys will do anything they can to call the actual conclusions or opinions you have offered into question. This means you should fully expect to have any and all sources, methods, approaches, and assumptions you have used thoroughly challenged, and you should be prepared to explain them. You must be prepared to answer questions about any fees you are charging to serve as an expert witness (these are typically disclosed in your expert report), your prior experiences serving as an expert witness, and the amount of time you spent preparing your report and testimony.

Finally, you may also be asked to attend depositions of opposing experts. Here your role is to serve as a consultant to the attorneys you are working with as the deposition proceeds. You will help them think through questions to ask, understand the responses, and provide advice on where the opposing expert should be challenged.

3. Pre-trial Hearings

In a case where one or both sides wish to present expert testimony, it is relatively common for the opposing side to challenge the admissibility of such testimony, either on the grounds that the expert is not sufficiently qualified or on the grounds that the would-be expert's opinion does not meet the legal standards for admissibility in court (those standards are discussed in more detail earlier in this guide). When this kind of challenge is brought, the judge will generally hold a hearing in order to determine whether the proffered expert testimony is admissible. Such a hearing is commonly known as a "Daubert" hearing and can also be referred to as a "Frye" hearing.

You may be asked to testify at such a hearing, either to defend your own expert opinion or as part of a challenge to another expert. Through a series of questions asked by the lawyers you are working with, you will need to explain your qualifications, your conclusions or opinions, and your bases for them. This kind of pre-trial hearing usually involves cross examination by opposing attorneys.

4. Trial Testimony

Finally, if the case proceeds to trial—many cases are either settled or dismissed by a judge before proceeding to trial—you may be asked to give trial testimony. This will include undergoing a direct examination, where (similar to the processes previously described), the lawyers you are working with will ask you a series of questions through which you will explain your opinions and your bases for them. You should also expect to be cross examined by the lawyers for the opposing side.

In addition, you may be asked to participate in putting together trial exhibits. These are simply visual aids, such as charts, graphs, models or pictures, that help illustrate your testimony and make it easier for the judge and/or jury to follow.

What should the lawyers you are working with do to help you prepare?

It is important to understand that the lawyers you work with as an expert witness **do not represent you**. But there are a variety of things these lawyers are generally expected to do to assist and support you in your role as an expert witness to ensure you are properly prepared at all stages of the process. **Before agreeing to become an expert witness, discuss the types and levels of involvement the lawyer or lawyers you will be working with plan to have with you.** This will ensure you are adequately prepared and understand the time and travel commitments that are expected of you.

Preparation of your expert report. You are the independent author of your report. However, the lawyers you are working with should help you understand the issues they are seeking to address and their relevance to the case. They should talk with you about the goals of your expert report and how they hope it will help further the case. In addition, depending on the situation and your comfort, the lawyers you are working with may provide feedback on the report for clarity, typos, etc.

Preparation for your deposition. The lawyers you are working with should prepare you for your deposition by helping you review relevant expert reports other documents. They should make sure you are fully briefed on the issues in the case and where your report fits in.

They should also help you understand where the opposing lawyers are likely to focus in their questioning and how they may attempt to attack your credibility as an expert or your report itself. They should then help you plan the best way to respond to these sorts of questions. This typically involves one or more mock deposition sessions where the lawyers take on the role of the opposing attorneys.

At least one of the lawyers you are working with should be present at your deposition, doing what is known as "defending" the deposition. This means the lawyer is there to ensure the opposing lawyers follow appropriate procedures and frame their questions properly. If they do not, the lawyers you are working with should object. They will also be available for you to consult with during breaks if you have any questions.

Preparation for hearing or trial testimony. The lawyers you are working with should practice your testimony with you before trial to help you understand what the questions will be, so you have a clear idea of the goals of your testimony in advancing the case. Similar to preparing for your deposition, they should help you prepare for both the direct and the cross examinations. They will likely do mock sessions to help you understand what kinds of questions the opposing attorneys are likely to ask you and help you prepare to respond.

If the attorneys in the case do not commit to, or fail to follow through on these tasks, you should seriously reconsider serving as an expert witness. While it is unlikely that an attorney would engage an expert witness and then fail to prepare that witness, it can happen. The professional and personal repercussions for testifying unprepared can be sizable, ranging from reputational harm to perjury.