

Dear _____ team,

You've gathered some useful information for the Background chapter, and there are some well-written sections in this draft. Other sections, though, are more of a "data dump" than a thoughtful review of research findings. This draft will benefit from a better writing process and more attention to formatting, as well as some organizational reworking.

The comments below are intended to help you work toward adopting a more consistent voice throughout the chapter, a more logical organization for your ideas, and a better presentation of your work. Please don't be discouraged; this type of writing is a challenge to master, especially when undertaken by a team. Be sure to ask us if you have any questions, or would like assistance addressing a specific issue.

Argument and Flow

Here are some reactions to this aspect of the various major sections, referred to by the numbering system you employed.

Section 1 needs work. You start out by talking about electricity, as opposed to energy in general—is this because that's what you found data for? There is a lot of energy use that has nothing to do with electricity, including most vehicles and most home heating systems. The story you're telling should be about energy, not just electricity. Consider elaborating more on the points you make in the beginning of the introduction. Give the reader more of a feeling about the upcoming discussion.

The notion of *sustainability* is very important to your project, and the way you use the word suggests that you haven't quite gotten your arms around the concept. Sustainability is not about what it is *possible* to sustain; it is about doing things that simultaneously result in economic prosperity, environmental health, and social justice. Please read up on this and try to get a handle on it. You don't necessarily need to write a lot about it, but you need to understand it to understand the other things you're reading and writing about.

Try to seek out and eliminate use of the passive voice, such as "it is predicted" (say who is predicting) or "one suggestion is" (say who suggested it). There are quite a few statements in this section that prompt the response "says who?". This is not just a matter of writing style; use of passive voice conceals the source and authority behind your claims. Please see the guidelines that we sent you early on about how and when to include sources explicitly in your text. It is not appropriate to present a claim as if it were fact, even if you immediately follow that up with a reference to the source—you should present it as the claim of that source.

In this type of research writing, your status as an objective researcher depends on your ability to persuade without trying to "convince". You shouldn't ever feel as if you need to convince the reader of anything, since the evidence you present should do that for you. Along those lines, employ the power of understatement. A good example of where this could help your writing is in the first sentence of 1.1.3. Rather than saying "In poll after poll, consumers make it clear...", try something like "Opinion polls taken by the Mellman Group and the Gallup Organization suggest that there is widespread public

support in the US for...”. This also applies to the conclusions you draw in the bullet list at the end of the section. You want to direct the readers to the evidence, and let them draw the conclusion. The list of conclusions for the section should be unnecessary if you work on developing those arguments more clearly throughout the section.

Toward the end of Section 1, there is a list of sources; please embed references as needed in the writing and create a reference list to put at the end of the entire report.

Section 2 reads well, and assumes a consistent and appropriate voice. The use of steam power as a parallel example was a bit confusing, though, since its introduction in the first paragraph seems out of context. This section features strong paragraph structures and some very good transitions from topic to topic.

In Section 2.1.1 you describe PV devices. Maybe you should mention conversion efficiency for the hardware? If one Watt of light hits it, how much electrical power is created? Why are they developing new PV hardware? Is the hardware near the theoretical limitations or is there significant room for improvement by engineering the materials and the device construction?

Section 3 comes across as a data dump. It’s nice that you’ve found some relevant information, but it’s your job as writers to figure out what story to extract from it. Much of this section consists of lists that are (we imagine) just cut-and-pasted from other sources. First, you must make *absolutely clear* which material, if any, is verbatim from another source. Second, though, you should *limit* the use of verbatim material to rare, brief, particularly compelling, exciting, or uniquely worded items. In particular, if only part of a list is of interest, read the list, understand it, then write a description of the list, focusing on the part that’s of interest. Other people’s lists usually belong in Appendices (appropriately cited).

Also, some of the paragraphs are merely a single sentence.

That isn't a good idea as it breaks the flow of the document.

The introduction to this section is a great place for you to present a “bridge” that ties in the previous section with this one. Cite evidence that education can play an important role in the promotion of solar PV. Don’t refer to your project, but rather introduce the section in context of the overall chapter. See comments below about organization, as well.

The writing that you have done could use more references to your sources. Avoid making claims when you can identify an authoritative source. A good example of where this is needed can be found in 3.1.3. *Who says* students need to be engaged with questions pertaining to science and technology? You, or some expert in how people learn? The latter would be much more reassuring. Consider how to remove yourself entirely from this, and assume the voice of an objective researcher. In 3.2.1, you are saying that something “is a great tool for our project...” and that the activities are “fun”. There should be no need to make value judgments, nor to refer to your project. Write a

summary of what's known about the topic, and, when judgment is needed, report the judgment of authorities on the topic (whether it's a consensus or a divided view).

The bulk of this section consists of lists and descriptions, and we can't really tell what parts you wrote and what parts are just presentations of things you found. We urge you to think about how to reduce this to a coherent, relevant section that ties in with what came before and what comes afterward. This may require taking specific curriculum guidelines and putting them into context of what experts have recommended elsewhere. Your role as a writer is to interpret, integrate, and especially to add value to what you have found.

The material in 3.4 seems very relevant to our storyline, but you need to think just where it fits in, and how to tie it in with the other material on education. Avoid the references to your report in this section, as well. Most importantly, though, whose website is this? What is the organization's goal? Don't just report things from a webpage without some critical analysis of whether it's a reliable source or just some guy's website. Are the "tips" at the end a verbatim quote? Make it clear.

Section 4 starts out with an unsubstantiated claim as its first sentence. Pay particular attention to the topic sentences of introductory paragraphs. An introductory paragraph should make clear to the reader what the entire section will be about; after reading both the intro and the section in this case, we're still not sure what story will be told in this section. The topic is certainly relevant, but what's here so far seems mostly to be material from a variety of sources pasted together.

The material about adoption of technology probably belongs early on, when you're discussing the big picture of sustainable energy and the need for awareness and education. I like how you've made an attempt in the first paragraph to critically assess what you found on the topic (lack of consensus), but the claim you make there seems somewhat contradicted, or at least weakened by your later comment that Rogers' theory is central to many of the other theories. This is a good subject for you to be aware of, but you may want to boil all this down into one piece of the framing argument early in the chapter.

In general, when discussing an issue at different levels, try to go from the general to the specific, and from the global to the national to the local. Thus, you should be talking about national policy before state policy, and only getting to specific examples from communities after that.

Formatting and Document Design

Presentation of your work matters, and you should pay attention to it from the very first draft. The physical layout of a document greatly influences the reader's experience. This draft could really benefit from more attention to formatting and overall design of the document. We want to encourage you to pay attention to how headings, textual material, graphical material, and white space combine to give your document a certain look.

You are strongly encouraged to use the features of Microsoft Word to create a good-looking document. In particular, you should be using Word's formatting options to

create a single document with chapters, sections, subsections, figures, tables, etc., that are all automatically tracked. This way you will be able to generate a Table of Contents and List of Figures automatically, and everything will be updated when you make changes that affect page and section numbering. The outline you gave does not match the chapter's organization, making it more difficult for us to keep track of where we are and where you're intending to go.

This is the second chapter of your document, so every section and subsection number should start with 2! Do not use 0 in your numbering schemes (the first section should be 2.1), and do not number or give title to the paragraphs that introduce major sections or subsections (Section 2.1 should start after the introductory paragraph). See the example reports we gave you if you have questions.

You should never wind up with two headings without text in between them—if a section is sufficiently long and complex to have multiple subsections, it is sufficiently long and complex to warrant an introduction. Avoid the temptation of using too many sections and subsections. One paragraph is generally not enough to constitute a subsection (and one sentence is generally not enough to constitute a paragraph). You should never have a single section or subsection at any level—when you do, what you present at the lowest level is really all you have. An example of this is 3.3.1; since it is the only subsubsection, you have no subsection on “Integrating PV into University Curricula”, all you have is the one example.

The citation format you're using gives some very ugly results, since Word declines to break up URLs. Please consult the writing manual I gave you and consider a format that's less intrusive to your writing. This may just mean assigning brief labels to on-line sources, or it may mean going to a numbering scheme.

The Writing Process

Our first piece of advice for improving your writing process is that you should all be critically reading and revising each others' writing. The various sections of this chapter were clearly written by different people with different styles and voice; even the method for citing sources is inconsistent. Maybe you should experiment with different roles (writer, editor, integrator) so that you can get a sense of the entire report and how your piece fits in organizationally and stylistically.

Our second piece of advice is that you should all be reading our comments! Some of the writing in this draft is directly contradictory to the advice we gave in response to Sid's questions last week; this can be frustrating to advisors. The chapter is riddled with references to your project, for example, and the first paragraph of the chapter is almost a parody of the example we gave for what not to do (it also consists primarily of something that isn't even a sentence). Please read all our comments carefully and ask if you have any questions about them. We don't expect you to become expert writers overnight, but we do expect you to attempt to learn from our feedback. Don't hesitate to ask for specific assistance when you get stuck.

Profs. Vaz and King