

Integrating the modules into a paper

1. Formulate the key question that your paper is going to answer
 - *The answer is your thesis statement*
2. Identify the elements involved in answering your key question
 - *Which aspects of the multi-disciplinary analysis are you going to present?*
 - *You'll feel more comfortable with some topics than others*
3. Identify the issues that merit further investigation
 - *What are the interesting issues related to your key question that the paper doesn't address?*

Fthenakis et al. Emissions from Photovoltaic Life Cycles
Environ. Sci. Technol. **2008**, 42, 2168–2174

Based on PV production data of 2004–2006, this study presents the life-cycle greenhouse gas emissions, criteria pollutant emissions, and heavy metal emissions from four types of major commercial PV systems: multicrystalline silicon, monocrystalline silicon, ribbon silicon, and thin-film cadmium telluride.

- *What are the emissions of GHGs and pollutants from the production, use and end-of-life of the major photovoltaic technologies in use today?*

Jacobson. Global Warming, air pollution, and energy security. *Energy Environ. Sci.*, 2009, 2, 148–173

This paper reviews and ranks major proposed energy-related solutions to global warming, air pollution mortality, and energy security while considering other impacts of the proposed solutions, such as on water supply, land use, wildlife, resource availability, thermal pollution, water chemical pollution, nuclear proliferation, and undernutrition. Nine electric power sources and two liquid fuel options are considered.

- *How do emerging clean energy technologies rank in terms of their ability to address global warming, air pollution and energy security? What impact do they have on health and environmental indicators?*

1. Formulate the key question that your paper is going to answer

The answer is your thesis statement

- Each person writes a key question (5 minutes)
- Discuss as a group (10 minutes)

2. Identify the elements involved in answering your key question (20 minutes)

-- Which aspects of the multi-disciplinary analysis are you going to present?

-- You'll feel more comfortable with some topics than others

On Monday:

Present your group's key question & how you'll answer it

Speed dating– topical consultations with instructors