Photo conversations about climate

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Photo conversations about climate:
Engaging teachers and policymakers
through photography and narrative

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Art direction: Jean Miller
Publication and cover design: Zaira Arredondo

Authors' Welcome

This manual emerged from a September 2008 workshop we designed as graduate researchers in the Department of Communication at the University of Washington and then enacted in collaboration with school teachers and environmental policy professionals. *Photo conversations about climate: Engaging teachers and policymakers through photography and narrative* used the visual impact of photographs together with the power of written and spoken narratives to encourage dialogue between two groups of people who strive to communicate effectively about climate issues.

The method we used—Photovoice—is a technique where people are given cameras and asked to capture images of events, problems, or concerns in their community to encourage dialogue and promote change. As communication researchers, we had specific interest in this method as a tool for social change and political engagement. We conducted our project in order to test the utility of this method for two specific groups of communicators. There are a number of other types of Photovoice projects focused on different types of political change or spread over longer periods of time.

This manual is meant to be a guide for participants as well as others who may be interested in using the Photovoice technique as an educational or community engagement tool. The following sections describe the Photovoice method and some ways it can be used. Throughout we draw on examples from our project and its conversations about climate, environmental issues, sustainable living, and green-collar jobs. However, Photovoice can be used to encourage conversations about any issue of concern to a community. Think of this manual as a start to a broader discussion that begins with "photo conversations about…" and ends with the issue of most importance you, your organization, and your community.

We also include information on how you might develop your own Photovoice project: choosing and recruiting participants, discussing and analyzing outcomes, selecting equipment, photo tips, ethics, and additional resources. Throughout, we aim to present generalizable information first, and illustrate it through concrete examples from our project. We have included supporting information and examples in the appendices. The sections can either be read chronologically or selectively depending on your particular interests and needs.

We offer this manual to your community or organization as a tool for political engagement. We hope that you find the Photovoice method as interesting and useful as we have. We encourage you to collaborate by sharing your Photovoice projects with others through your online and offline communities.

Best Regards,
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Acknowledgments

This project began in a graduate course on public scholarship at the University of Washington's Department of Communication taught by Dr. David Domke. We want to thank him, first and foremost, as well as our UW colleagues, mentors, undergraduate researchers, volunteers, and the community members listed below. We could not have done this work without all of these people who helped this project throughout its development. We also want to thank the workshop participants—the teachers and the policy advocates—who gave two evenings and more to the project, in addition to their valuable photographs and words. Participants included Amy Brown, Eva Foster, Andy Grow, Laura Hauswald, Visala Hohlbein, Susan Kingsbury, Phil Mitchell, Katharine Overhauser, Stacey Panek, Michelle Salgado, L.K. Smith, Alisan Tucker-Giesy, Brandon Wood, and those who asked to remain anonymous.

Anna Fahey, communication strategist for Sightline Institute, provided an ongoing commitment to developing the best practices in messaging sustainability policy for policymakers and allied organizations. She shared ideas, edited workshop designs, recruited participants, and took ethnographic field notes during the workshops. The Sightline Institute provided a connection to policy makers and policy communicators. The organization supported the project through a grant that provided digital cameras, printed photographs, and workshop packets. Miriam Bartha, assistant director of the Walter Chapin Simpson Center for the Humanities, provided interdisciplinary focus for the project. The Simpson Center supported the project through a generous grant for food at both workshops.

Doctoral students Tabitha Hart and Jamie Moshin contributed to the initial project proposals and framework. Nikolaj Lasbo, volunteered at times out of sheer love for the Photovoice concept and offered research, photojournalism and blogging expertise. Our other undergraduate researchers contributed energy, intellect, and enthusiasm: Laura Pierson provided teaching insight, and Garrett Kellogg brought a passion for photography. Other volunteers contributed their time and energy to set up, document, and assist in the Photovoice project. These included Peg Achterman, Zoe Al-Sumait, Carol Coe, Paul Ford, Katie Johnston-Goodstar, Eric Hess, Tanya Matthews, Jean Miller, and Gustav Moore. Production of this manual included the contributions of Jean Miller, who served as art director, and Zaira Arredondo, who designed the cover and publicaton layout.

Sponsors

Sightline Institute is a non-profit, non-partisan research and communication center based in Seattle. Its mission is to bring about sustainability—a healthy, lasting prosperity grounded in place—with a focus on the Pacific Northwest.

The Walter Chapin Simpson Center for the Humanities is a part of the University of Washington's College of Arts and Sciences. The center is funded through endowments and has a mission to support interdisciplinary activities in the humanities.

Salvaged doors anyone? This business specializes in re-selling construction material left over from a building demolition.
— Brandon Wood

Photovoice at a Glance

Photovoice is an action-research technique where people are given cameras and asked to capture images of events, problems, or concerns in their community in ways that can encourage dialogue and promote social change. Photovoice has been used with rural women in China, homeless people in Michigan, and families in California—to name just a few of its previous applications.[1]

The basic idea of the Photovoice method is to empower people by helping them give voice to any topic of public or community interest. Those using the technique or method set out with a goal of enabling social change.

They assume that power dynamics are usually unequal between the people within a community who are experiencing a social problem and the policy makers who can do something about that problem. The resulting images and the stories participants associate with those images can become empowering and powerful tools as they spur discussions (in a group or as a community), focus attention around important topics, and reveal aspects of people's lived experiences. If displayed or distributed publicly, the images themselves or images and narratives together can also be another powerful form of expression for a community.

Purpose and goals

Photovoice is considered a participatory-action method because it involves the collective creation of data in a community with the intent of promoting action and possibilities for change. It is often used to achieve the following three goals:

GOAL 1: To produce knowledge or actions about the specific lives and communities of a group of people and to work with their expertise to find opportunities to improve their lives. The method aims to provide more power to people and communities who are often outside of traditional decision-making structures.

GOAL 2: To get people who are part of a community to do two things: (1) identify and think about their personal and community problems that are of greatest concern to them, and (2) to act to change the historical, institutional, social, and political conditions that contribute to these problems.

GOAL 3: To gain decision makers' attention or influence advocates through visual imagery in ways that traditional written or verbal messages may not be capable.

[1]For more information on Photovoice method see Tamara Baker and Caroline Wang. 2006. "Photovoice: Use of a Participatory Action Research Method to Explore the Chronic Pain Experience in Older Adults." *Qualitative Health Research* 16, 10: 1405–13; Virginia C. Li, Wang Shaoxian, Wu Kunyi, Zhang Wentao, Opal Buchthal, Glenn C.Wong, and Mary Ann Burris. 2001. "Capacity Building to Improve Women's Health in Rural China." *Social Science & Medicine* 52, 2: 279–92; and Caroline Wang, Susan Morrel-Samuels, Peter Hutchinson, Lee Bell, and Robert Pestronk. 2004. "Flint Photovoice: Community Building Among Youths, Adults, and Policymakers." *American Journal of Public Health* 94, 6: 911–13.

After identifying and recruiting participants who have a stake in an issue, you will take some time to train them on the Photovoice method and applications.
— Illustration by Jean Miller

How it works

Photovoice has six major steps:

1. Identify potential participants (community members and decision makers) who have a stake in a given issue or problem
2. Recruit local facilitators and photographers
3. Train participants in the method and applications
4. Send participants to collect images that reflect the project's goals and to write a few sentences (a narrative) about each image they photographed and why
5. Bring participants together to discuss outcomes and formulate communication strategies
6. Work together to implement the chosen strategy

Required resources

Photovoice requires the following resources:

- Access to a given community (contact information, recruitment materials, etc.)
- Meeting locations for the training and sharing
- Cameras (disposable, digital, film, etc.)
- The ability to share images (prints, online forums, etc.)

Outcomes

Besides accomplishing the goals of identifying problems and acting to change those problems, using this method can also generate the following types of data:

- Problems identified and prioritized by community members
- Visual and textual data about how community members identify problems and solutions
- Insight into how community members interpret their visual and textual data

Turning the abstract into dialogue

A Photovoice topic might be the issue of environmental "sustainability," for example, which is a difficult term for even the most well-versed advocate to explain. This topic can be broken down into something more concrete that can be photographed, such as "pollution" or "recycling."

After receiving preliminary Photovoice training, community members can go into their neighborhoods and take photographs of images that address these issues.

These community members would write a few sentences to accompany each photograph in which they explained why they took that picture and what they were thinking about (related to pollution for example) when they took it.

continued on page 11

This stairway leads to the depths of Ross Dam so an adjacent floating dock can be easily accessed as it rises and falls with the level of Ross Lake. Our ability to store water to produce electricity may be drastically curtailed if weather patterns are altered due to climate change.
— *Amy Brown*

Whitewater kayakers on the Nooksack River. It's unknown what flows will be like on this river in 50 or 100 years due to the effects of climate change.
— *Amy Brown*

Intergenerational learning, along with mixing students and teachers from different socioeconomic backgrounds and ethnicities, has been shown to increase the effectiveness of environmental education. Here, North Cascades Wild students and their parents are about to tour Ross Lake with National Park Service employees. The students all spent 12 days exploring and learning about the area earlier in the summer.
— *Amy Brown*

While whitewater kayaking is not necessarily the most environmentally friendly sport, just being able to get to beautiful local rivers and play in them inspires me to live more sustainable in every aspect of my life. Immersing myself in these places through this sport helps me feel closer to the place I call home. This closeness is key to maintaining my conservation ethic and preventing me from becoming a complete cynic.
— *Amy Brown*

The images themselves would then be used to stimulate dialogue and discussion among the participants. The most compelling ones could be displayed in the community, used in public service or media campaigns, sent to policymakers along with specific policy suggestions, or used for educational purposes in a given population. In addition to empowering the photographers, the technique has the potential to identify and communicate a collective message about problems, solutions, and desired actions.

OUR PROJECT Photovoice used for *Photo conversations about climate*

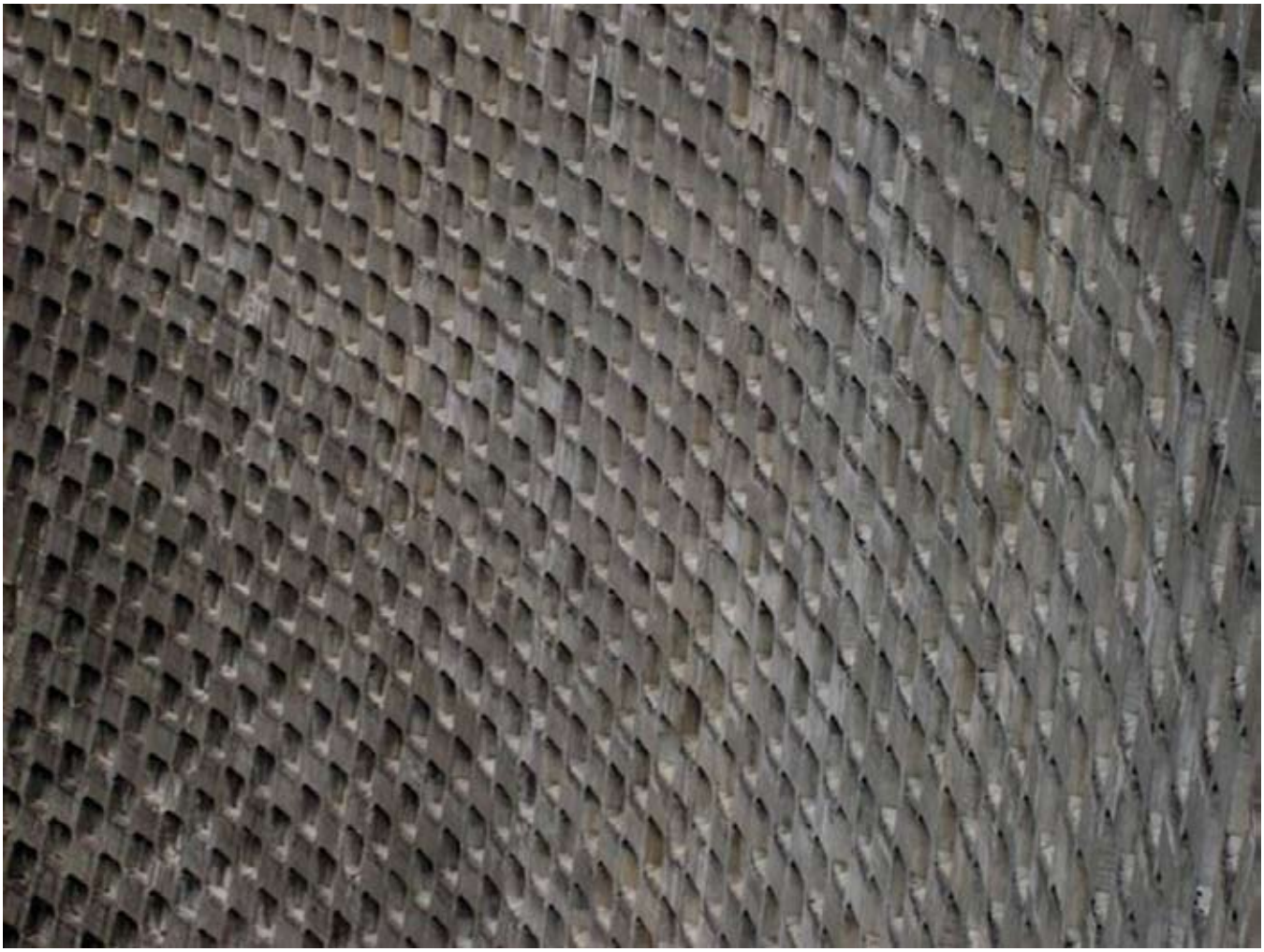
This project used photography to encourage conversations between two groups of people who strive to communicate effectively about climate issues. The words chosen for this manual—"photo" and "conversations"—describe a type of dialogue that combines the visual impact of photographs with the power of written and spoken narratives. The words "conversations" and "climate" together describe the discussions about environmental issues, including climate change, environmental issues, sustainable living, and green-collar jobs, that the two groups of people had together in the Photovoice workshops as well as separately in the teaching and communication work they do.

We have put together a brief summary of our 2008 Photovoice project to provide you with an example of what your own project might look like. Our project was a non-commercial research experiment led by communication graduate researchers. It was co-funded by a non-profit, non-partisan research and communication center based in Seattle (Sightline Institute) and a university center with a goal of fostering research and teaching in the humanities, as well as to establish public programs to promote civic engagement (the Walter Chapin Simpson Center for the Humanities).

The project took shape around the idea of using Photovoice to identify effective communication strategies generated by teachers in the local area around climate and sustainability. We wanted something that could potentially benefit everyone involved: us as researchers, Sightline as policy experts, and teacher as educators. We hoped it would help teachers express their concerns to environmental decision makers while learning an innovative teaching tool they could introduce to their classrooms. And we hoped it would help policy experts gain insight into environmental communication while learning an innovative tool for the workplace

We recruited people teaching environmental topics in K-12 and had them attend two workshops (one to train and one to discuss outcomes). They had a week in between workshops to take photos related to issues of: (1) climate change, (2) sustainable living, and (3) green-collar jobs.

continued on page 13



The waffle pattern on the face of Ross Dam is evidence that it was never actually finished. Dam builders were originally planning a final phase to raise its height another 120 feet. Conservationists in the United States and Canada, which would have been flooded for 20 miles up the Skagit River, won a fierce battle to halt this final step, at least for the time being.
— Amy Brown

The photos were taken with digital cameras so they could be shared online. Participants were instructed to follow these four steps as they took the photos:

1. Take photos—take as many photos as you like and then download these photographs onto your computer during the week between the two workshops
2. Describe photos—upload at least 12 photographs to the project's online photo sharing site and then add labels and narratives to each
3. Select photos—choose three photographs that you feel best communicate one or all of the three issues
4. Share photos—move these best three photographs onto the online shared space and then take time to look at what other people shared

The photos were then used in the second workshop to create a dialogue between teachers and policy representatives about these issues. Participants also provided information about which images had the most potential for teaching environmental topics to different audiences in schools or in the broader community. The process and outcomes of this project were then collected into this manual so others might learn from our experience as they use Photovoice for their own projects. A final outcome was to compile the visual and narrative communication research data for future analysis.

Once the topics have been identified, you can use Photovoice to uncover differences in how participants understand a shared concern and identify the potential of community-created images that can promote dialogue and activate change.
— Illustration by Jean Miller

Aligning Your Project's Objectives

In this section we discuss some of the general considerations for creating alignment between your goals and the activities of the participants. In particular, we outline how to go about choosing topics in a way that balances participant choices and the workshop structure. We use examples of topics from our workshop as an illustration. However, the principles discussed here can apply to any issue of shared concern.

Choosing topics

The first step in any Photovoice project is to determine the issues of concern. This should be a topic or problem that people are familiar with, concerned about, affected by, and able to illustrate using photographic images. As mentioned earlier, we chose topics of climate change, sustainable living, and green-collar jobs for this project (see pages 17 and 19 for definitions and questions provided to participants). The topics were of interest to the teachers who addressed these issues in their classrooms, to the policy professionals who addressed these issues in their policy communication, and to our primary sponsor. We assumed "the environment" was an issue shared by all participants. But "the environment" is a concern that people—whether citizens, policy experts or advocates—envision differently. The idea was that Photovoice might be useful in uncovering these possible differences and identifying the potential of community-created images to promote dialogue and activate change.

Once the topics have been identified, it is important to consider how to create alignment with everyone's needs and then produce outcomes that benefit everyone as much as possible. By approaching the project with these various outcomes in mind, you can then identify the best strategies for moving forward. The diagram on page 17 exemplifies our process for creating alignment.

OUR PROJECT What we needed to figure out

WORKSHOPS...
- How can we create maximum benefit for everyone involved?
- Where can we host our workshop?
- Can participants generate sufficient data with the available time and resources?

RECRUITMENT...
- Who are the target participants?
- How do we reach them?
- How can we get balanced representation from this group?

RESOURCES...
- What do we have and what do we need?
- Can we provide organization, incentives, cameras, printing or other materials?

This is a photograph of my compost bin next to my house. I love that I can use my garbage for something living. The compost turns it into soil for the environment.
— *Michelle Salgado*

This running air conditioner struck me as odd this morning on my way to work. It's the coldest morning that I've experienced in a long time and yet this air conditioner was running and the window it's in is wide open. I understand ventilation, but this seemed to me as a waste of energy. A fan could probably do the work and with a much smaller footprint.
— *Anonymous*

Tubs, tubs, tubs. Will they ever provide a Calgon moment for someone again? You will have to wait to find out on the next episode of...
— *Laura Hauswald*

Concrete is everywhere. We need more green. My favorite quote is one from Chief Sealth's granddaughter. She said something like: When I see grass coming out of the cracks in the concrete it gives me reason to celebrate. It reminds me that the earth is still there, strong and alive.
— *Alisan Tucker-Giesy*

OUR PROJECT Who are we bringing together? What possible outcomes can we consider?

OUR PROJECT Environmental topics

Once we identified and contacted our participants and secured the needed resources, we then formalized our topics. These included climate change, in general, and more specifically sustainable living and green-collar jobs. To help participants, we gave them a set of questions and suggestions related to the topics to focus on as they took photos from their daily lives and communities.[2]

1. Climate change: described as the recent heating of the planet accelerated largely by green house gas emissions.
   - When out on a walk, where do you see the damaging effects of climate change?
   - What is one solution you or your neighborhood is working on to address the causes or effects of climate change?
   - Can you locate a place where climate change is discussed in ways that do or do not have real impacts in the community? Can you reflect this through photography?

continued on page 19

[2] We provided in-depth, one-paragraph descriptions of each of the three in a footnote for participants who might be unfamiliar with the terms. We adapted these definitions from the Climate Solutions website and the Center for Ecoliteracy, and then we provided links to the sites that made more information available.

A classroom garden designed to educate fifth graders about the importance of agriculture and what it entails to go “organic.” Carrots, onions, and lettuce are on tomorrow’s menu.
— *Brandon Wood*

— *Guy Lawrence*

A professor once told me that the more lichens a tree has, the cleaner the air around the tree. The tree outside my apartment is covered with lichens. That’s some good news.
— *Alisan Tucker-Giesy*

This is Jason’s backyard. Not in the picture is our beautiful garden that we water with these rain water tanks. Urban sustainable living.
— *Anonymous*

2. Sustainable living: described as daily practices and habits that deplete fewer natural resources, cause less pollution or waste, and reduce environmental impacts.
   - What do you see on your commute to work that depletes the earth's resources? What do you see on that same commute that might replenish those resources?
   - How might you show how our lives have become more environmentally sustainable or continue to be unsustainable?
   - Can you photograph personal-level decisions that reduce waste or lessen other environmental impacts?
   - What can you show in your community that supports or discourages walking? What about other environmentally friendly options such as local food markets or urban gardens?

3. Green-collar jobs: described as jobs in new industries supplying green products and services, such as construction, weatherization, organic farming, green-cars, bicycle repair, or renewable energy like bio-fuels and solar.
   - Can you photograph one kind of green-collar job in your daily life or community?
   - What evidence of green construction or other locally produced practices can you safely and easily photograph?
   - What relationships can you show between economic hardship and the environment? Are they interrelated? Does one take precedence in your community in ways you can show?

Food scraps are tossed into the sink before being placed in the back yard compost bin.
— *Susan Kingsbury*

I do not know how long these wind turbines have been in the middle of Washington State. But boy, I am happy to see these in Washington! The turbines are truly an eye-catching sight and give me hope for the future for renenewable energy.
— *Katharine Overhauser*

A green roof and a cement ground await us here. What happens to the basketball when it gets lost in the meadow?
— *Laura Hauswald*

In this case bigger is better. The big container is for recyclables, the smaller for trash. As we think of new ways to reuse our garbage, perhaps we won't need the "trashcan" in the near future...
— *Brandon Wood*

Choosing and Recruiting Your Participants

There are many issues to consider when deciding who to include in a Photovoice project. In this section, we talk about two possible recruitment pools. The first is in the classroom and the second is in the community. No matter what participants you recruit, it will be up to you to prepare clear instructions and materials for recruiting them. These materials should include consent forms for participation, directions for taking photographs, directions for group meetings and discussions, and additional resources relevant to the project. Details for all these materials are included in the sections that follow. And because recruiting might require funding, we outline some ideas about where to get support for a Photovoice project.

In the classroom

For those of you who teach, your classrooms may be the first place you turn to when looking for participants. There are a number of reasons why students can be good candidates for a Photovoice project: the method helps empower them to express their personal concerns, it provides an opportunity for them to learn about civic engagement in their communities, it engages them through visual forms of communication, and it appeals to their eagerness and energy to learn.

If you decide to work with students, however, you will need to address some specific concerns. Issues of privacy and ethics are paramount. It might be necessary to obtain parental consent for students under age 18. Additionally, you might find students need to be properly coached to ensure they respect people's privacy and identities.

To get the most out of the project with students, you will need to make a realistic assessment of the project goals. While your purpose is primarily educational, the Photovoice method also includes an explicit goal of creating change or influencing policy. Students could be disappointed if they expect to create change that might not be possible within the scope of your project. In determining the goal of the project, be realistic about what kind of change you hope to create. Spending the majority of your time collecting and discussing photographs will manifest different change than spending the majority of your time meeting with the mayor or city councilperson. Attempting to influence policy takes time, but doing so can bring great rewards and lasting lessons for everyone involved. It is best to align expectations, goals, and outcomes closely.

A bounty of goodness awaits these gardeners. Keeping the world a little greener and squashier.
— *Laura Hauswald*

This family has five chickens, which provide all the eggs the family can eat, and more. Not only do they get fresh food, but they save on air quality by not buying eggs that are transported.
— *Susan Kingsbury*

Do you know how much these yummy cherry tomatoes cost in the grocery store? Too much! But a co-worker was ever so nice to share these tomatoes with me from her own garden. Small gardens at home are a great step towards sustainable living.
— *Katharine Overhauser*

Less than one mile from downtown Seattle, these low-income housing units have a small field of corn growing in the resident's back yard.
— *Eva Foster*

In the community

If there is a particular issue you wish to focus on with Photovoice, the first step is to identify all community members who are concerned with that issue. To be successful, it is important that they have a personal stake in the project's outcome. Those closest to the subject have valuable opinions worth sharing and should benefit from social change. Community-based Photovoice projects allow for a wider range of social issues than might be possible in a K-12 classroom because there are fewer restrictions about age and topic. However, more work might be needed to recruit and retain community members than for a classroom of students.

Once a particular community has been identified, look for organizations, associations, and other existing groups to which people might belong. You can use a recruitment technique called "snowball sampling" where you ask people you know to reach people you don't know. To be successful at this, you should find people (known as gatekeepers) who can help by introducing your project to community members. People are more likely to do this when you clearly explain the benefits for them and the larger community—so make sure you include benefit information in your recruitment materials. Since most people do not know about Photovoice, you will need to explain it. Sometimes the benefits of the method are not enough to get people involved. If that is the case, we recommend offering additional incentives. For example, we offered participants a digital camera, and this greatly increased our response rate. However, we had to find grant money to pay for these and our participant pool was limited by the cost of this resource. However you decide to contact people, make sure you spend sufficient time preparing your recruitment materials. As a reference, we included a revised copy of a recruitment letter that we sent through school principals and educational email lists. This can be found in Appendix A "Recruitment Letter."

What to say

The information you include in your recruitment materials is crucial to generating interest. In our introductory materials we briefly described who we were, what we were doing, and who we were looking for. We had a short description of the technique and that we intended to apply it to an environmental project which was sponsored by a local environmental think-tank and the University of Washington. We told the email recipients that the project would include two meetings, that no photography experience or other skills were needed, and that we wanted people who taught about the environment, civic engagement, visual arts, or other related topics. Everyone was told they would leave the workshop with a digital camera, photography training, knowledge of Photovoice, and the promise that this manual would be developed based on their workshop experiences so they could bring the technique into their classrooms for other innovative projects.

An old piano has been turned inside out and transformed into a planter for native and exotic plants alike. This local landmark is ‘instrumental’ in bringing members of the community together for snacks and conversation.
— Brandon Wood

Funding

With enough time and energy you are likely to find various institutions or organizations that share your goals and may contribute resources (financial, organizational, recruitment, etc,). Some places to look include:

- Local community centers and organizations
- Local schools and universities
- City or state community projects
- Special interest groups
- Think-tanks or research institutions
- Local businesses
- Religious or civil society groups
- Nonprofit organizations

OUR PROJECT
Funding sources to support our project

We sought funding from two sponsors—Sightline Institute and the UW Simpson Center for the Humanities—to cover workshop costs, food, and more. Because of the critical nature of participatory-action research, it was important that the funding complement the project's goals. For example, Sightline's grant paid for 15 cameras, which were given to participants as an incentive. Sightline also helped recruit environmental experts for the sessions.

While many projects will not require these types of sponsorships, the point we wish to make is that funding and other resources may be available to help with various aspects of your anticipated project.

As a reference, we included a revised copy of our request for support in Appendix B "Grant Writing."

Small-group conversations can help your participants develop their own “voice” before entering into other conversations.
— *Illustration by Jean Miller*

Sharing and Discussing

Having set up your objectives and identified your participants, the next step is to determine how to run the project. In this section we outline three important considerations for this: facilitating discussions, sharing photos in the group, and sharing outcomes beyond the group. The first two considerations are applicable to any Photovoice project, while the third is most relevant to those with a policy orientation.

Unequal and balanced power

Photovoice assumes that power dynamics are usually unequal between the community experiencing a social problem and the policy makers who can do something about that problem. Participatory-action research sets out with a goal of enabling social change. Part of facilitating this change requires being sensitive to the unequal power experienced by participants and allowing people to identify and express their concerns in peer-related groups. For example, based on our research and experience with Photovoice we decided to use the first workshop session for participants to develop their own "voice" before beginning a conversation with the environmental specialists (who deal with our topics daily and work to influence policy).

OUR PROJECT Workshop agenda

The first workshop included the following agenda:

- Pre-survey and discussion (to assess the baseline attitudes and perceptions of participants)
- Introductory presentation about the project, technique, and taking photos
- A working break for the teachers, policy people, and facilitators to eat and socialize
- Small-group conversations about applying the technique (with teachers and policy people in separate groups)
- Whole-room discussion to share ideas about integrating Photovoice and teaching

This picture represents many different facets of the school lunchroom: 1. Reusable Lunch Trays, 2. Environmentally Friendly Garbage Liners, 3. Compost Bin Pail. Our school's new student-led club, Eco-Explorers, are now in charge of monitoring the orange bucket and emptying it into the compost bin for our red wiggler worms.
— *Michelle Salgado*

At my elementary school in Yelm, we do not have recycling for plastic. Therefore, students and staff throw away their recyclable containers into the garbage.
— *Katharine Overhauser*

I took this picture not because of the contents of the bag but because of what they represent. One of my students got her snack that morning and she was so excited to show me her apple because she had (all on her own) cut up the apple at home and brought the core with her to compost in our school compost bin. "I feel good about myself" she said as she bit into her snack. I felt good as well...
— *Michelle Salgado*

A student in the lunchroom ran to show me something. I turned and looked at this simple apple core and banana peel. I was amazed that in only a couple of weeks teachers had begun to create systems for composting class snacks.
— *Michelle Salgado*

OUR PROJECT
Electronic sharing & photo blogging

Once participants were trained in the technique and had the opportunity to express their own ideas for applying it, they were supplied with the tools (ideas, instructions, cameras, and consent forms) to begin. During the period between our two sessions, we asked participants to then share their photos electronically and utilize a free photo blogging resource called Flicker©. In our project, the photo blogging simply entailed posting the photos and adding short narratives. There were tools on the site allowing others to post questions and comments. The idea was to help people inspire one another by viewing each others' work and carrying on their conversation beyond the limited time in the workshop meetings. Even for projects that span a longer period of time, using web sites for photo sharing and commenting could be a valuable function for enhancing the group dialogue and sharing resources and ideas among your selected community. We have included a revised copy of our photo blogging instructions in Appendix C "Photo Blogging."

Catching the rain water from above makes sense is a such a rainy city. I don't think I have ever seen a catchment here before. Have you?
— *Laura Hauswald*

Selecting Cameras

In most cases, what type of cameras you use is determined by what is immediately available to you or your participants. If you do not have cameras at the beginning of your project, people can use their own cameras or you need to purchase cameras. If you purchase cameras, you need to decide between digital or film. This section briefly describes some of the pros and cons of each.

Digital cameras

The benefits of digital cameras are that they allow users to see images immediately after taking a photo, they can capture a high volume of photos without extra cost, and the electronic photos are easy to store or edit for quality. Also, most digital cameras are fully automatic and offer a number of additional controls that help create better images (zoom, flash, environmental settings, black and white or color images, etc.). Digital cameras have an added bonus of being more environmentally friendly than their disposable counterparts. Drawbacks are their relatively high initial expense, their fragility, and the fact they require additional knowledge of computers in order to download and share the images. Some also require special software which participants may be hesitant to use.

Film cameras

The benefits of disposable, film cameras are that they are relatively cheap to purchase, they are easy to replace if damaged, they are widely available, they are simple to operate, and they are easy to carry around. Drawbacks are that they might not offer much control for the photographer (zoom, flash, etc.) and most are not recyclable. Drawbacks to film cameras, in general, include extra costs to print or make duplicate and enlarged images. Also, users cannot see the photographs until they are developed and thus might miss important opportunities if their photos do not turn out well.

Costs

The costs of digital or disposable cameras change regularly and vary from location to location. For that reason, we offer these indications as a rough guide. When we did our project, one basic digital camera with a high enough resolution to print clear large images (at a size of 5x7 or 8x10) cost a little more than $50. We found refurbished or older models were available at a heavy discount on websites (such as Amazon.com or Newegg.com). However, supplies might be limited and the quality may be questionable. We found disposable, film cameras under $15. The cost of development is additional. There are a number of drugstores, department stores, and online facilities for developing these, so it is best to shop around for a good price if you intend to develop a high volume of prints.

Learning about the water cycle can hopefully create a future where people value fresh, clean water and work to protect this natural resource.
— *Alisan Tucker-Giesy*

These lighting fixtures were taken out of renovated buildings and are being resold.
— *Brandon Wood*

A comfy seat for a fuel-efficient rider in Seattle.
— *Laura Hauswald*

Surrounded by smaller non-native trees, this decaying stump is evidence of the past glory of a tree whose hillside, dripline, and trunk base was paved and altered to make living undesirable from the inside out.
— *Eva Foster*

Photo Tips

Photovoice requires teaching participants photography techniques. This is important, as part of the power of Photovoice lies in participants' ability to capture compelling images that help communicate in ways that words alone can not. For that reason, we suggest conducting a small session to share some basic photography advice with your participants. The following section addresses some of the basic photo tips you might share with your participants.

Basic advice and ethics

Some suggested tips include:

- Take your camera everywhere you go. Keeping it handy will help you capture concerns from your everyday life.
- Take more photos of things than you may need and multiple photos of the same subject. This will give you plenty of options to choose from later.
- Download photos into a computer at the end of each day. Since the cameras have limited memory, this frees up space and allows you to see the quality of your images.
- Ask permission when photographing a person or a personal belonging. Identify where your subject is on the public/private axis (see ethics section on page 41). If the subject is within the shaded area, a consent form might be required.
- Photograph children only if they are your own or if you have permission.
- Be considerate of your position in space. Use common sense. Don't become the paparazzi.
- Begin to think about how viewers may interpret your photos.

Composition

How a photograph is composed matters in its interpretation. Providing your participants some tips for composition is part of teaching them photography techniques. A little information can go a long way. We suggest that with composition, the very act of deciding where you point your camera is a decision about what you want to include in the picture. Encourage participants to spend time thinking about the composition before firing away. Remind them also that in this project, their photos are an important part of their message. So encourage them to compose their photos as a means to communicate. Suggest that they try to evoke feelings in their anticipated audience. Here are some suggestions for framing, angle, lighting, lines, and patterns.

Framing — *Fahed Al-Sumait*

Angle — *Fahed Al-Sumait*

Lighting — *Fahed Al-Sumait*

Lighting zones — *Nikolaj Lasbo*

Lines — *Fahed Al-Sumait*

Patterns — *Fahed Al-Sumait*

Rule of thirds — *Fahed Al-Sumait*

Rule of thirds — *Nikolaj Lasbo*

Framing

- Without the luxury of post-production cropping (removing outer parts of a picture to change the framing), you need to start by framing while taking the picture. Think about how you want the end product to look. Pay attention to everything in your viewfinder's boundaries.
- Think about where you should place your subject within the frame for maximum effect. See the rule-of-thirds information below as one suggestion.
- You want attention drawn to your subject. Avoid images around your subject that create an unwanted distraction. Include natural borders to serve as frames, including doorways, windows, and gaps in trees.
- Instead of putting a subject in the middle of the frame, you can offset it to create a more pleasing sense of balance. Divide your camera's viewfinder into an imaginary grid of thirds by using two horizontal and two vertical lines. Place your subject on or near any of the four intersection points created by those lines. The rule of thirds can also be used to help you position the horizon. It's tempting to stick it across the center of the frame. A much better approach is to place the horizon one third from the top or the bottom of the frame.

Angle

- If you are not getting the framing you like, try moving and changing the angle of view. A different perspective can completely change the image and message.
- Your subjects will most likely be three-dimensional. Try capturing this. Instead of taking a picture of a house from the front, where it appears two-dimensional, try taking a photo from a corner to add perspective.
- Taking a picture from a low angle gives a subject enormity. Taking it from above can make it seem smaller.

Lighting

- Photography is about capturing light reflecting off objects at a moment in time. Be constantly aware of the lighting with which you are working.
- If it is too dark, there will not be enough light captured to produce a clear image. Only parts of the picture may be visible. If this is not your desired effect, then try using flash to expose more of the image.
- If it is too bright, you will not be able to discern different parts of your picture because it will become washed out. If you can move a subject to a situation with better lighting, do so. Or try taking the picture at a different time of day. Midday light is harshest. Morning and evening light hits objects at an angle, softens the light, adds definition, and produces rich colors.
- Keep in mind the source of light. Colored lighting sources (such as halogen bulbs) may color objects. This may be desired. But if not, then try using a flash or natural light (e.g. opening curtains or blinds).
- The type of weather plays a role. We often think that the best photos are taken on sunny days. However, clouds can diffuse light and make close-up shots well balanced.

These flowers are planted at the corner of an intersection that lies just a few 100 yards away from the noise and pollution of I-5.
— *Michelle Salgado*

Lines

- You can use lines in a setting to draw attention to a centrally framed subject. This strategy is sometimes called leading lines, because the lines lead the eye to your subject. You will see lines everywhere that can be used for this effect, including roads, rivers, railings, trees, telephone poles, and railway tracks.
- The direction and orientation of a line can imply particular feelings. Horizontal lines can imply tranquility and rest; they divide the scene in layers by echoing the horizon. Vertical lines can imply power and strength; they can add tension. Diagonal lines can imply movement, action, and change. Converging lines that are created by roads, crop rows, avenues of trees, or railway lines are ideal for adding a strong sense of depth.

Patterns

- Repeating pattern elements can provide unity and structure, or convey monotony.
- Breaking a pattern can draw attention to the break and make an object stand out. This might evoke individuality and imperfection.

Additional Resources

Here are some links that might be helpful for your planning and your participants:

- General information: http://photoinf.com/
- Framing techniques: http://digital-photography-school.com/blog/ framing-your-shots-photography-composition-technique/
- Angle: http://www.wedpix.com/articles/009/working-the-camera-angles/
- Lighting: http://www.essortment.com/all/photographyli_rawq.htm
- Lines: http://www.betterphoto.com/gallery/dynoGall2.asp?catID=361
- Patterns: http://digital-photography-school.com/blog/ using-repetition-and-patterns-in-photography/
- Ethics: http://commfaculty.fullerton.edu/lester/writings/photoethics.html and http://www.Flickr.com/groups/ethics/

Solar energy. This parking meter is solar powered—one example of renewable energy (sustainable living) here in the city. This is an example of what's being done (and working!).
— *Anonymous*

Organizing and Storing Photographs

Before collecting photos from your participants, make sure you have clearly identified how they will be used. These decisions include questions of where the photographs will be shown, who has ownership rights, what format they will be presented in (electronic, print, large, small, etc.), and how consent for all of this will be obtained. You also need to consider how you will organize and store the images for electronic or print formats.

Electronic storage

Working with photographs electronically is an easy format for storing and sharing the images. Keeping track of files can sometimes get complicated, so we recommend deciding early how you will name, file, and store the files. You may have a primary computer on which you store copies of all the images (usually one used by the project coordinator). Copies of the images may be stored in several locations—in people's cameras, on their home computers, on an online site, as a printed copy—so you will want to address all of these uses.

Film storage

If you use film cameras, you will need to decide how many prints to make of each photograph, who will get copies, and who will keep the original negatives. The negatives are the best way to make additional copies (although prints can be scanned and reprinted). However, the participants might expect to keep their own negatives unless this is agreed upon beforehand. Since not all images on the role of film will be used in the project, you might consider making a complete set of prints and letting participants keep all but those select images you wish to use in the discussion or Photovoice display.

OUR PROJECT Storing photographs

We used a system to track which participant took what photos. We did this by naming the specific folders into which the participants uploaded their photographs on the shared website. We also copied the narrative text that accompanied each participant photo and saved that in a text document (the photographs and narratives on the manual's even numbered pages include examples of what the participants produced). We kept these in the same electronic folders as the images (using the same coding/labeling system). We recommend if you store any information online, as we have, you keep backup copies—printed and/or electronic—in a separate location from the primary storage computer. This will help you prevent loss of valuable information and help you maintain your project objectives.

— *Guy Lawrence*

Olympia has compost containers! On my way home from Yelm, I noticed these compost containers. Most homes had these sitting outside to be picked up. On a sad note, Yelm also was having garbage and recycling pickup that day. But no compost containers sat outside any homes.
— *Katharine Overhauser*

Anyone who plants a garden between the sidewalk and street believes that every square inch of ground is meant for growing, for sending up its nutrients in the form of edible evidence.
— *Eva Foster*

Every morning on my way to work, I pass this homeless encampment next to the freeway. Not a day goes by that I don't see rats running over and around the folks who are sleeping there. All the combined sad reasons that lead to folks losing a stable place to live are everyone's concern. We are all connected.
— *Visala Hohlbein*

Ethics

When training participants on how to do Photovoice and take photos, it is important to discuss ethics. These ethics come from you, as well as your hosting institution or organization. In most cases, photographs of people under age 18 should not be taken without receiving parental consent. We recommend using consent forms for both the participants and for the subjects in the photographs. Consent forms should explain your project, how the image will be used, and the rights of those who are pictured.

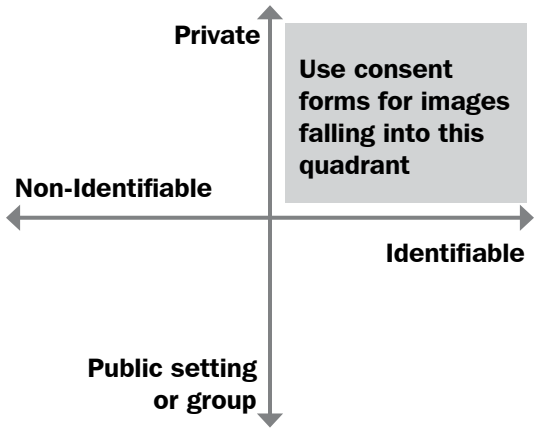
Consent forms

Some of the information to consider including in your consent forms include: (1) documentation for the participants who are sharing and discussing their photographs and narratives in your project, (2) documentation for the people whose pictures are taken by your participants (especially see the information below about identifiable and private cases), and (3) documentation about how you and your participants will use the photographs and narratives from the project, which includes if participants get named in anything published. It is especially important to consider if the photos used in your project will be shared publicly.

OUR PROJECT Ethics

At the University of Washington, the Institutional Review Board oversees research that involves people as subjects. The review board provided us with the following diagram as a guide to distinguish between private versus public settings and non-identifiable and identifiable people in photographs.

It is generally acceptable to use images where people (or their property) are not easily identifiable (such as group settings or in public locations) and are public. However, when a person is easily recognizable and the situation is private, the photographer should obtain his or her consent.



A fellow grocery shopper loads up using some special buckets that were originally used for the oyster trade.
— Alisan Tucker-Giesy

After the Workshops

Thinking through your project goals in advance will help you achieve them during and after the workshop. After defining your goals, you might determine how to measure them. Information that is useful for measurement might include problems identified by community members, visual data created about problems and solutions, interpretations made of narratives and photographs, and the priorities assigned as effective. In order to analyze the outcomes of the Photovoice project, you will create ways to capture this information at different points—before, during, and after—of the project. In this section, we discuss supplemental techniques you can consider to help you assess your project's outcomes. These include the use of pre- and post-workshop surveys, as well as creating anonymous feedback forms.

Pre- and post-project surveys

If you do your preparation and planning well, you will have identified your primary objectives up front (e.g. stimulate policy discussion, aid student learning about a specific topic, or host a public showing of the photos in the impacted community). In addition to these larger outcomes, you might also be interested in refining the process for future projects or finding out more about peoples' experiences and any changes that may have occurred as a result of their participation.

The use of structured surveys before and after the project can be valuable tools in this regard. Such surveys should be designed to capture information you feel is most important to your goals. We recommend using the same questions as much as possible in both a pre- and post-project survey so that you are better able to track changes. If you make these surveys anonymous, you need to create a system to compare pre- and post-project surveys from the same respondent. Asking participants to use the same pseudonyms or self-selected codes on both surveys will ensure that such comparisons are possible without giving away anyone's identity (and often leads to more truthful responses).

OUR PROJECT Feedback forms

We created pre- and post-project surveys and used other feedback forms to assess some of the data from the project. For example, we audio recorded some of the discussions among teacher and policy groups. We also printed a copy of participants' photographs and narratives. We showed these in a slide show at the beginning of the second workshop. The photographs and narratives then served as a visual aid as participants worked in small groups to prioritize the images for effectiveness. Samples of our survey questions from our project are included in Appendix D "Surveys."

These recycling bins struck me as impressive. 1 for garbage, 2 for recycling, 1 for glass, 1 for yard waste / compost. Most apartment buildings on Capitol Hill do not have such a balanced representation of disposing options. This is something we should work toward.
— *Anonymous*

One of my families grow much of their family of five's produce. This is a sample I found in their kitchen when I visited them.
— *Susan Kingsbury*

This urban garden has delectable tomatoes growing. I wanted to highlight folks who are commited to growing the food that they eat.
— *Anonymous*

The good news is that the ginger is organic; the bad news is that it has traveled 4,500 miles from its source to my grocery store.
— *Eva Foster*

Feedback forms

In addition to conducting surveys at the beginning and end of the Photovoice experience, you may also want to gauge progress and concerns throughout the process. Such information can help assess on-going progress, identify potential problems, and locate learning opportunities. This is especially helpful in projects that continue over a longer period of time. There are a range of styles for this type of feedback form, but often simply requesting replies to a few open-ended questions is generally suitable.

By keeping the questions simple and open-ended, you will often get candid insights into peoples' experiences. For example, you can discover much by asking everyone to (anonymously) write answers at the beginning or end of each meeting (if you have more than two) to simple questions, such as: What is working well for you so far? So far, what is not working as well as you like? What would you like to see more (or less) of in future sessions?

Other questions you can consider include:

- Was the information helpful for your understanding of _____? If so, how was it helpful? If not, what would have made the information and exercises more helpful?
- Was there anything we discussed today that you had not previously considered? If so, can you describe it and how it might apply to your own interests?
- Is there information related to this type of research that you would have liked us to discuss in more detail? Please elaborate.
- Do you have any other comments or considerations that might be helpful?

Continued discussion

We encourage you to work with your participants in finding ways that will help them stay connected with one another and the project. The more they can continue the work beyond the Photovoice sessions the better. One way to help them do this is by creating a listserv for all participants. The conversation you help start and the social change you hope will come about through Photovoice can continue beyond the formal days and dates set aside for participants.

In between Moses Lake and George, both in Washington State, a driver can see plenty of farmland. This was not Moo-Moo land, but rather sweet corn. Let us grow more green crops!
— *Katharine Overhauser*

Appendix A Recruitment letter

We used a recruitment letter and a revision of the letter in our recruitment emails to teachers and policy communicators. A revision of that letter, included below, addresses who we are, what Photovoice is, what we want from participants, what we require of participants, what participants will gain through participation, when we meet, who is sponsoring the project, and how we can be contacted. We bolded text that we believed would be of interest and attract our intended audience.

Graduate students at the University of Washington are looking for teachers who might be interested in participating in an action-research project called **Photovoice**. This is a technique where we put cameras in people's hands and ask them to capture images of events, problems, or concerns in their community in ways which encourage change. Participation will only require coming to two meetings during the summer and taking some photos in between. Everyone who attends will receive a manual based on the experience which they might then find useful for their own teaching. The basic idea behind Photovoice is using the impact of visual images to empower participants and stimulate dialogue with strategic "decision-makers."

For this project, we are specifically interested in the issue of **climate change** and want to find **teachers who have an interest in the environment** or who teach issues related to climate change or civic engagement in their classes. No special skills or background is necessary or expected. We will supply everyone with the basic training and equipment needed to collect the images. These will be used in a dialogue with a prominent environmental think-tank called [name of co-sponsor].

There are a number of reasons for involving teachers and [name of one co-sponsor], but in short, we think educators can benefit by learning the Photovoice technique and sharing the outcomes (or the process) with students. The [name of co-sponsor] will benefit from community dialogue that can help inform its polices. We plan to create a **training manual** on Photovoice from this project, so that everyone participating can take the technique with them and apply it in other useful ways.

This process would include **meeting twice** (once for training and once for sharing) in [month of workshop], with 2–3 weeks in-between to take the photographs. We are hoping for about **15 teachers** (administrators are also welcome) and will solidify the time based on collective availability.

If you (even tentatively) might be interested or would like more information, please contact me by telephone [researcher's number] or email [researcher's email] for more details.

[Researcher name, title, department, email, and phone listed here]

Background: [names, titles, and affiliation of researchers followed by names, descriptions, and missions of the project's co-sponsors]

Appendix B Grant writing

Getting financial and institutional help for a Photovoice project might require you to request grants. The following includes the outline of one of our letters that resulted in a grant.

[Date: Month, day, year]

[Name of contact people of potential funder
Organization name
Organization address]

Dear [name or names of contact people of potential funder]

We began our letter with a brief summary of our intention, which was to apply for support for our research project from this particular funder's discretionary fund. We explained the origins of our project, what people would do the work, when we intended to do the workshops, and what contributions we expected the research to make. We thanked our potential funders for considering our proposal.

Project description and significance

Here we described the potential contributions of the project to the community, including bringing together members of civil society, academics, and members of the broader community to co-create visual and narrative meanings with the intent of affecting policy. In a few paragraphs, we explained the specifics of our project, including who we would recruit, how many people would participate, the timeline of the project, and then more about Photovoice itself.

Advances the research agenda

Both of our co-sponsors are invested in research. So our letter outlines how the Photovoice project advanced the research agenda for the graduate students leading the work. For us, this included describing how the research has communication-centered implications for scholarship in the theoretical areas of visual communication and Photovoice, semiotics and political communication, and participatory communication methods. We explained how the analysis of workshop data might contribute toward knowledge of visual and textual discourse, nonverbal communication, and the operation of empowerment.

Itemized budget

In asking for funding, we described how we would spend any funding we received and included tables with specific dollar amounts.

Sincerely,

[Researchers' signatures and names]

Appendix C Photo blogging

Using an online sharing site for photographs, which is also called photo blogging, expanded our Photovoice discussion beyond the limited time of the workshops. Additionally, it taught the teachers a tool for Photovoice that many of their students already know and use. Despite their exposure to students who used photo blogging, many of our teachers had not. We provided them with the following instructions and help them via telephone between the workshops. We included the photo blogging information on a poster during the workshop. This allowed participants to get a general idea of what they would do between the workshops. Then, we handed out a worksheet with the information. During the week between our workshops, we told our participants to take these three steps to share their photos. We provided participants with detailed instructions because they had different kinds of cameras and would be downloading and uploading using different kinds of computers. Note that these instructions will change, as cameras and computers change. Use this as a guide for the kind of information you might provide your participants.

"What to do in the week between workshops" poster

1. Take photos—take as many photos as you like and then download these photographs onto your computer during the week between the two workshops.
2. Describe photos—upload at least 12 photographs to the project's online photo sharing site and then add labels and narratives to each.
3. Select photos—choose three photographs that you feel best communicate one or all of the three issues.
4. Share photos—move these best three photographs onto the online shared space and then take time to look at what other people shared.

"After taking the photos" worksheet

First, frequently transfer (download) your new photos to your computer. Second, choose a minimum of 12 photos that are best suited for this project and transfer (upload) these to your Flicker© site. Third, choose which three of these uploaded photos you want to post on the group site by midnight [insert date]. These instructions explain each step. You can also contact [researcher's name and contact] if you have questions or technical problems.

Step 1: Saving photos on your computer

There are many ways to transfer photos once the camera is connected to the computer using the supplied USB cable (the black wire from the camera package) and switched on. Here are some options. You can find other instructions in the camera manual. Note: You do not need to install the enclosed software to download photos. On a PC, a dialogue box may open when you connect the wire between the computer and camera and turn it on. "Cancel" this dialogue box, then right click on the "start" menu (lower left corner of the screen) and choose the "Explore" option. Click on the folder

showing the camera on the left side of the new window (the Kodak will say “C613 zoom digital camera” and the Nikon will show as a “removable disk” then click on the “DCIM” folder and then “100Nikon”). Your photos will then appear on the right. On a Macintosh, your camera will appear on the desktop labeled “no name” or “C613 zoom digital camera.” Click on that folder, and then click on the “DCIM” folder if it shows. Your photos will appear in these folders. Select and drag your photos into a folder on the desktop or other place on the computer (e.g. “My photos” in the “my documents” folder). Wait for transfer to complete and check your new folder for the copied photos. On a Macintosh, eject the camera by dragging the camera icon on the desktop to the trashcan. You can now safely unplug your camera. If you are using a PC and have the Kodak camera, you can unplug the camera from the computer once the transfer is complete. The Nikon requires that you right-click on the “Safely remove hardware” icon in the bottom right tray of your screen and choose remove. Then unplug the wire and delete the photos from your camera manually.

Step 2: Uploading to Flicker©

We are sharing our photos for this project through a free site called Flicker© (a Yahoo! company). You will be able to store any of the photos you choose in the new personal Flicker© account we created for you (but must put at least 12 images). From there, you will transfer only your three “best” photos to our group site. Go to: www.Flickr.com. If you are not already signed in, do so with the user name and password we created for you (such as photovoiceYaz@yahoo.com and password: Yaz01). Click on the link that says, “upload photos” or on the small down arrow next to the link “you” and choose “upload photos and videos.” Click on the link “Choose Photos.” Search for your photos in the browser box that appears. They will be in the same folder that you saved your photos to on your computer. Highlight your picture(s) and click on “select” in the bottom right corner of the browser box. Finish by clicking on the large pink “Upload Photos” button. You can then add narratives by choosing the “Add a description” link.

Step 3: Posting your photos on the group site

You will need to choose your top three photos to share with the group and transfer those to a group site by [time and date]. These photos will be used in the workshop to facilitate our exercises. Do steps 1 and 2 from above to sign in. Click on the link that says “groups” near the top of the page. Next in the Groups page, click the Photovoice Group, either 1 or 2, which you are participating in. Click the “Add photos or video” link near the “Group Pool” heading. If you have already loaded your photos on to your individual Flicker© page, then your photos will appear in the “Upload” box. To finish, choose the photos you want to upload by clicking on them. Then click “Add To Group” in the lower right of the gray box. It will ask for your confirmation. Say “yes” and your photos are loaded.

Appendix D **Surveys**

The following is an example of questions asked in our pre-workshop survey for the teacher participants. These questions were revised for the post-workshop survey. We also asked questions specific to the participants specifically involved with policy.

So we can link this confidential pre-workshop survey to a post-workshop survey you will take, please indicate your name and grade(s) that you teach in the lines below. (You can use a pseudonym, a name you make up, if you prefer.)

What do you hope to gain from the two-day workshop?

Do you use visual tools—such as photography, videos, or displays—to teach your students about environmental topics? (Circle Yes or No)
If you answered ***yes*** to the question above, please briefly answer these questions: Why do you use visual tools to teach about environmental *topics*? How could you use visual tools to integrate environmental *policy* issues in the classroom? If you currently use *photographs* to teach environmental topics, how do you use them? If you answered ***no*** to the question above, please briefly answer these questions: Why don't you use visual tools to teach about environmental *topics*? How could you use non-visual methods to integrate environmental *policy* issues in the classroom? What obstacles do you face in using *photographs* to teach environmental topics?

How confident do you feel about your ability to take photographs? (Circle one of the following—5 to 1, ranging from extremely confident to not confident)

What is your greatest *personal-level* concern about the environment? (A personal-level concern is something *you experience* in your daily life; it is a concern that policy makers *might or might not* address at a local, state, national, and/or international level)

What is your greatest *policy-level* concern about the environment? (A policy-level concern is something you *might not* experience in your daily life; it is a concern that policy makers *can* address at a local, state, national, and/or international level)

How effective do you feel YOU could be at communicating concerns and/or ideas about the environment with policymakers? (Circle one of the following—5 to 1, ranging from extremely confident to not confident)

How effective do you feel your STUDENTS could be at communicating concerns and/or ideas about the environment with policymakers? (Circle one of the following—5 to 1, ranging from extremely confident to not confident)

How would you define/describe/explain these concepts to your students (briefly)? Climate change, sustainable living, and green-collar jobs

Thank you for your participation!