

Hack for Humanity 2022

Resource Guide

Global Climate Change: Exploring Scalable
Solutions to Climate Induced Disasters



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Table of Contents.

Introduction:	3
Section 1: Research and Brainstorming	4
1.1 Understanding the Humanitarian Ecosystem:	4
1.2 Understanding the Operating Context:	6
1.3 Problem Identification and Current solutions: Finding the Gaps.	7
Section 2: Principles and the Current State of Humanitarian Innovation.	9
2.1 Principles of Social Innovation	9
2.2 Themes in Humanitarian Innovation	11
2.3 Case Studies, Institutions, and Actors in Humanitarian innovation	12
Section 3: Project Conceptualization and Formulation	13
3.1 Conceptualizing a Solution	13
3.2 Research and Logistics Planning	14
3.3 Organizational/Team structure	15
3.4 How to Pitch.	16
Section 4: Project Development	17
4.1 Networking and Partnerships	17
4.2 Community Engagement	18
4.3 Ethics of Innovation and Project Implementation	19
4.4 Monitoring and Evaluation	20
4.5 Funding (beyond Hack for Humanity)	21
4.6 Conclusion	22
Section 5: Climate Change Sub-Topics	
5.1 Overview	22
5.2 Disaster Preparedness	22
5.2 Human Security and Health	23
5.3 Climate Displacement	25
5.4 Greening Humanitarianism	26
5.5 Cross-Cutting Issues	27
Section 6: Key Terms	27
Bibliography	28

Acronyms:

UN : United Nations.

ICRC: International Red Cross/Red Crescent Movement.

IFRC: International Federation of Red Cross and Red Crescent Societies.

MSF: Médecins Sans Frontières. (Doctors Without Borders).

NGO: Non Governmental Organization

INGO: International Governmental Organization.

ALNAP: Active Learning Network for Accountability and Performance

ELRHA: Enhanced Learning and Research for Humanitarian Assistance

UNOCHA: The United Nations Office for the Coordination of Humanitarian Affairs

IPCC: Intergovernmental Panel on Climate Change

Introduction:

Climate change is one of the foremost challenges facing our world today. Its impact invades every aspect of our lives, and our solutions need to be equally comprehensive. From rising sea levels and global temperatures to more intense storms, droughts, and wildfires, our planet is already beginning to feel the devastating effects of climate change. Unless swift action is taken, these effects will only get worse, imperiling the lives of people everywhere. Mitigating climate change requires collaboration across disciplines and sectors. From human health to economic security to the humanitarian system itself, the effects of climate change are pervasive. We must seek new and innovative solutions to better prepare for and respond to the impacts of climate change on societies across the globe.

Hack for Humanity 2022 will be centered around exploring scalable solutions to climate induced disasters. Students will have the unique opportunity to create and pitch their proposed solutions within the Hackathon event, and should they win, go on to develop their innovation. This resource guide serves to help students along those paths with a variety of resources relating to each step in the project development process.

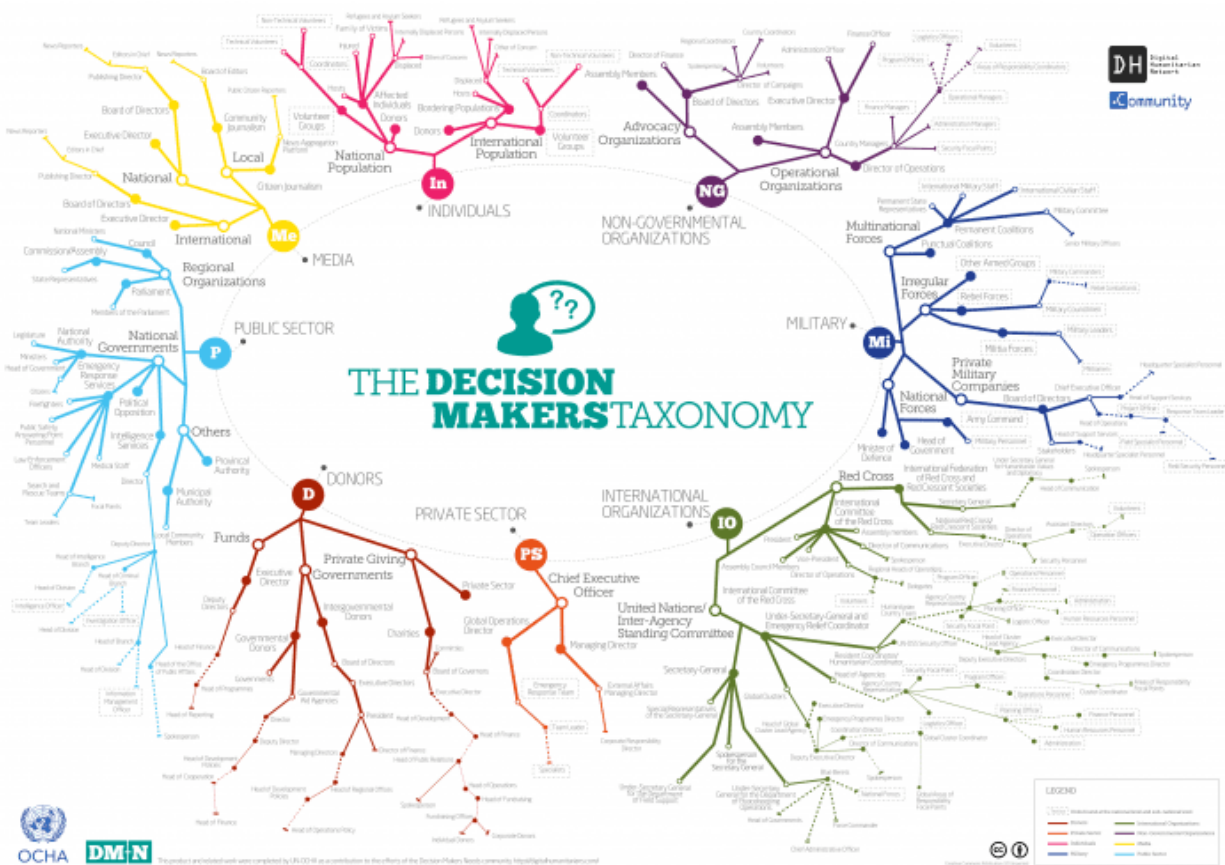
The guide consists of an overview of the humanitarian innovation process (with referenced resources) and a full bibliography which lists relevant resources regarding each step/section in the innovation process. The overview includes short paragraphs which introduce and orient the reader to the larger context/concepts of each section, and has further reading linked below each passage. At the end of this document there is a complete bibliography containing citations of all reference readings. All linked superscripts will lead to the bibliography, where students can then scroll to find the relevant cited source. The guide also includes a list of sub-topics, relevant case studies, and key terms relating to climate induced disasters (see Sections 5 & 6).

Section 1: Research and Brainstorming

1.1 Understanding the Humanitarian Ecosystem:

Before beginning to approach innovation in the humanitarian ecosystem, a thorough understanding of the actors, approaches, and guiding principles of humanitarianism is necessary. To begin, humanitarianism is guided by 4 basic principles: **Humanity, impartiality, neutrality, and independence**. Humanity is what guides the purpose of humanitarianism, in that respect for human life should be held above all else. By not taking sides in hostilities and giving aid based on need alone, humanitarians abide by the principles of neutrality and impartiality. Finally, the principle of independence separates humanitarians from economic, political, or military objectives, allowing aid workers to carry on their mission based on their own principles rather than by the agendas of other parties. Additionally, many humanitarian organizations have added their own guiding principles to these original four, such as the International Red Cross and Red Crescent Movement. These principles are adhered to by many humanitarian actors, though often each organization takes a slightly different interpretation.

The humanitarian ecosystem, despite abiding by the same guiding principles, contains a diverse range of organizations and actors with different priorities and skill sets. This includes NGOs, International non-governmental organizations, governments, private actors, donors, community based organizations, and more as shown in the infographic of actors in the Humanitarian Ecosystem below (as derived from the [UNOCHA Decision Makers Taxonomy^{\[29\]}](#)):



These actors work together and collaborate in a variety of ways, however, in humanitarian emergencies these actors are largely coordinated through the UN cluster system. Through this system, organizations can coordinate each response based on which cluster they are a part of, based on the main sectors of a humanitarian response (ex: Water, health, shelter). Understanding this system is key to understanding where there may be gaps in a particular response plan. For more information, visit humanitarianresponse.info to see the cluster responses globally and for each particular emergency setting^[53].

Finally, there have been many standards set which dictate the standard level of care an organization must provide when responding to an emergency. These standards vary by sector, but are largely contained in the SPHERE standards handbook^[25]. The SPHERE standards and handbook set voluntary guidelines which promote equitable and accountable humanitarian responses by organizations. Understanding the standards for a specific cluster response is useful for brainstorming innovative solutions within that sector.

For more resources regarding the humanitarian ecosystem and humanitarian responses, see below:

- [UNOCHA: What are Humanitarian Principles](#)^[4]
- [What is the Cluster Approach? | HumanitarianResponse](#)^[88]
- [SPHERE: Core Humanitarian Standards](#)^[25]
- [Humanitarianresponse.info](#)^[53]
- [UNOCHA Decision Makers Taxonomy](#)^[29]
- [The Disaster Management Cycle: 5 Key Stages](#)^[30]
- [The State of the Humanitarian System 2018 - Summary | SOHS](#)^[18]
- [ICRC: The Future of Humanitarian Action](#)^[8]
- [Video outlining Humanitarian Principles](#)^[51]
- [Kaya](#) provides many free courses regarding humanitarian standards, history, and the humanitarian sector as a whole.^[60]
- [Certification in Understanding the Humanitarian Ecosystem \(UHE\)](#)^[16]

1.2 Understanding the Operating Context:

Before conceptualizing an innovative response, it is important to understand both the factors contributing to the crisis along with the major aspects of the current response. This contextual analysis may include a historical background of the region, the demographic characteristics of beneficiaries, a list of actors engaged in the current crisis (if applicable), and/or a thorough understanding of the host countries culture, politics, and plans for the given humanitarian response. Much of this information is available through internet sources and through talking with experts from the region, though it is crucial that students are skeptical of sources which may be biased.

In terms of understanding the humanitarian response, it is important to research the humanitarian actors and approaches being used. Understand which clusters are involved in the response and to what extent, who is leading the response, and any factors which may be inhibiting the response. This information can be found through a variety of sources. As part of its duty to share information, the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) has several useful resources. [Humanitarianresponse.info](#) contains regularly updated information about the cluster response in any applicable emergency, including quantitative data, maps, and lists of actors working in a given cluster^[53]. Additionally, UNOCHA also is responsible for [Reliefweb.int](#), a website which contains a variety of publications, including NGO reports, UN resolutions, and humanitarian response plans for any given context^[54]. Finally, the [Humanitarian Data Exchange](#) (also run by UNOCHA) contains a variety of datasets pertaining to humanitarian responses around the globe^[48].

Other resources which can be useful for understanding the operating environment in a response are the [ALNAP Humanitarian Evaluation, Learning, and](#)

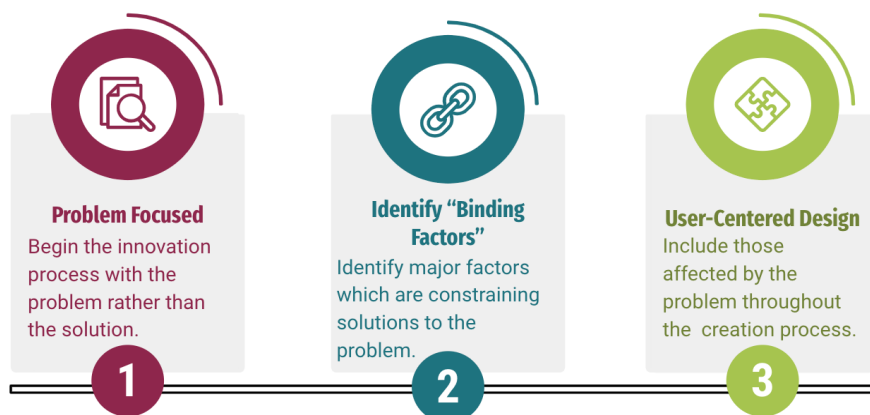
[Performance library](#) and the [ICRC Resource Center](#)^[42,78]. Both contain many publications related to accountability and NGO conduct in response settings. The [Aid Worker Security Database](#) has updated statistics regarding the security situation for humanitarian workers, something which should be considered when conceptualizing the response^[2].

For more useful resources pertaining to understanding the operating context, see below:

- [United Nations Digital Library](#)^[90]
- [The New Humanitarian](#)^[91]
- [UNICEF Research and Reports](#)^[92]
- [Humanitarian Practice Network](#)^[93]
- [Humanitarianresponse.info](#)^[53]
- [Reliefweb.int](#)^[54]
- [ICRC Resource Center](#)^[78]
- [ALNAP Humanitarian Evaluation, Learning, and Performance library](#)^[42]
- [Humanitarian Data Exchange](#)^[48]
- [Aid Worker Security Database](#)^[2]

1.3 Problem Identification and Current solutions: Finding the Gaps.

In order to create an innovative and effective solution, students must first identify the specific problem they are trying to address. Often this process of narrowing down a problem will change multiple times through the research and project formulation stages, as students gain a more nuanced understanding of the problems at hand. In this process, it is important to keep three key things in mind:



First, begin the innovation process with the problem rather than the solution. Though preconceived solutions are useful, it is important to keep sight of the issue you seek to solve. Second, identify the major factor which is constraining solutions to the problem. Understand the complex factors which contribute to the problem and make sure these factors are included in your planning process. Finally, include those affected by the problem in the creation process. A user-centered approach is best and humanitarian responses which do not include this are more likely to fail. These principles have been outlined by Aleem Walj of the World Bank, and can be found [here](#)^[19].

When starting to narrow down a particular problem, be sure that you have a thorough understanding of the issues relating to your assigned context. Then, determine the sector or area in which you would like to focus your efforts. Once you have decided the context and area of response, begin researching the specific sectoral responses and problems. The goal of this stage is to identify gaps between the needs of the affected population and the responses or capabilities of various actors, until you have identified a problem which you would like to address. Identified problems can be found outside of the traditional sectors of response as well. For instance, innovations in NGO management and staff training can involve work across sectors.

One major resource for this section is [humanitarianresponse.info](#) and the [Humanitarian Data Exchange](#), as explained in the previous section. Both of these websites provide detailed information about cluster responses in each area, along with accounts of which actors are involved in the response (the 3w/4w infographics are an especially good source of this information). Another valuable resource for understanding what innovative approaches are being used is the [Global Innovation Exchange](#), supported by partners such as USAID and the Bill and Melinda Gates Foundation, which acts as a database for innovators, donors, and researchers in the realm of social innovation^[39].

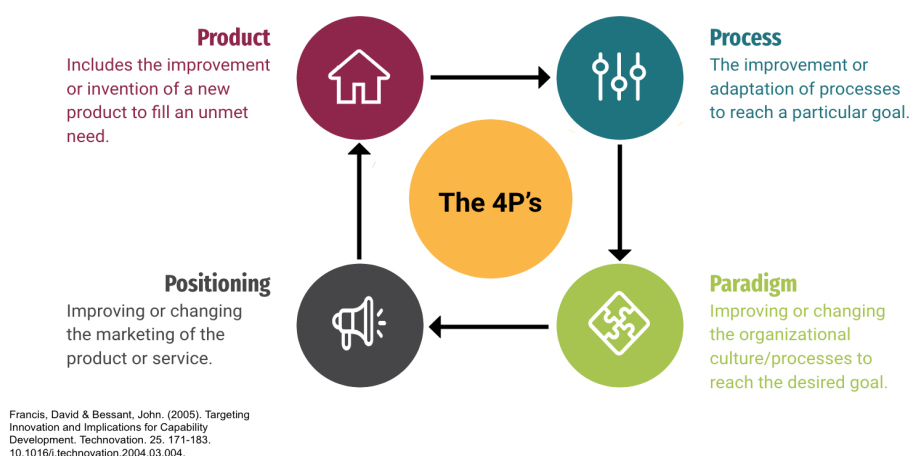
Resources:

- [Humanitarianresponse.info](#)^[53]
- [Reliefweb](#)^[54]
- [Humanitarian Data Exchange](#)^[48]
- [Global Innovation Exchange](#)^[39]
- Principles of problem centered thinking: [For Successful Social Innovation, Start With The Problem, Not The Solution](#)^[19]
- [How Entrepreneurs Can Find the Right Problem to Solve](#) (Focused on for-profit businesses, though same methods apply)^[45].

Section 2: Principles and the Current State of Humanitarian Innovation.

2.1 Principles of Social Innovation

According to the [ELRHA Innovation Toolkit](#), innovation is “an iterative process that identifies, adjusts and diffuses ideas for improving humanitarian action^[50].” Though this definition is tailored for the humanitarian field, innovation can be seen in all sectors in many ways. In the business world, creating new products to fit the needs of customers often determines the success of the company. In the nonprofit sector, creating the most effective processes is important for the efficient use of resources. Though defining innovation is often difficult, innovations are often found in 4 major areas or the ‘4 Ps’ as outlined by [Francis and Bessant \(2005\)](#) as shown below^[35].



Though these categories are useful for identifying areas of potential innovation, these categories are by no means exhaustive.

Though the bulk of literature on innovation is centered around the private for-profit sector, there is a burgeoning field of social innovation which seeks to use these principles of innovation in response to complex social issues. Within the past 10 years, there has been a focus on creating organizational cultures which prioritize innovation, to help better address pressing social problems. Additionally, within social innovation the role of the customer/user changes to reflect their active role in the innovation process. This movement is apparent in the humanitarian sector, with the focus on humanitarian innovation growing in response to the complex issues currently faced. The next section will outline the principles of humanitarian innovation and examples of humanitarian innovation.

Below are resources related to Social Innovation and Principles:

- [The Discipline of Innovation \(hbr.org\)](#)^[31]
- [Is Your Nonprofit Built for Sustained Innovation? \(SSIR\)](#)^[80]
- [Leading a Global Team Through Crisis Means Focusing on Local Details](#)^[74]
- [An Introduction to Social Innovation for NGOs](#)^[58]
- [ELRHA Innovation Toolkit](#)^[50]
- Example of an innovation in the humanitarian field: [Project Field Ready: Making humanitarian supplies in the field](#)^[34]
- The 4 Ps: [\(PDF\) Targeting Innovation and Implications for Capability Development](#)^[35]

2.2 Themes in Humanitarian Innovation

Innovation in the humanitarian ecosystem has been present throughout all of its history. Working in new contexts to solve new challenges depends on a certain level of adaptability, something which the humanitarian community prioritizes. However, as humanitarians have found better, evidence-based methods of responding to crisis and as the community has become more systematic, innovation within the sector has in turn shifted from a reactive measure to an ingrained, intentional phenomenon. This shift has brought great improvements in the quality of response used in humanitarian emergencies.

Though humanitarian innovation has only recently been defined as a field of practice, there is an extensive body of literature from organizations like ELRHA and ALNAP outlining the successes, failures, and principles of innovation in the humanitarian field. Below are 7 crucial principles that determine the success of innovations in humanitarianism, as outlined by the [ELRHA Humanitarian Innovation Fund Progress Report 2015](#)^[49]:

1. *Design with and for end users*: Those closest to the problem you wish to solve will likely have the best understanding of needs and opportunities for innovation. Engaging collaboratively with end users will influence the success of your innovation. This principle will be explored in detail in further sections about bottom-up innovation and stakeholder engagement.
2. *Collaborate strategically*: Due to the many actors operating within the humanitarian ecosystem, collaboration between organizations is the key to efficient innovations and responses.
3. *Remain problem focused and develop targeted solutions*: The problem should be the center of all of your activities, rather than the developed solution. Students

often become too committed to brainstormed solutions and may lose the ability to adapt as the problem changes.

4. *Prioritize the flexibility to test, learn, and iterate solutions:* The contexts in which humanitarian work often changes quickly. Any successful innovation process must be able to adapt with the context.
5. *Rapidly build evidence, sharing what works and what doesn't:* Disseminating research to other organizations can help better inform the humanitarian community and spark innovation elsewhere.
6. *Employ a systems approach, understanding the environment and its effect:* Innovation does not exist in a vacuum. Understanding the systems which influence both the response and the problem is crucial, as your innovation likely will have to operate within those systems.
7. *Build business models for sustainability at scale:* Understand the costs of the solution you've outlined and plan accordingly in all facets of your plan.

Working within these principles will help students work through the process of humanitarian innovation, with the hope of successful implementation. Moving along the process of problem identification, invention, development of potential solutions, and implementation is often a rocky process, but gaining an understanding of the factors which have helped guide successful humanitarian innovations is a great place for students to start.

Below are several resources outlining principles of innovation, traits of successful innovations, and descriptions of the field:

- [Humanitarian Innovation Fund Progress Report 2015^{\[49\]}](#)
 - As referenced above. See pages 11-15 for a detailed explanation of the principles above.
- [ELRHA: More Than Just Luck: Innovation in Humanitarian Action^{\[71\]}](#)
- [UNHCR: The Two Worlds of Humanitarian Innovation^{\[11\]}](#)
 - Outlines the importance of bottom-up innovation and the current state of humanitarian innovation.
- [Humanitarian Innovation and the Art of the Possible^{\[81\]}](#)
 - Editorial on history of humanitarian innovation and challenges to the field today.
- [UNOCHA Humanitarian Innovation^{\[9\]}](#)
- [Components of the Humanitarian Innovation Ecosystem^{\[79\]}](#)

2.3 Case Studies, Institutions, and Actors in Humanitarian innovation

Though many organizations are involved in humanitarian innovation (whether on an organizational level or through programming), two organizations are especially important to building the evidence base for humanitarian innovations. These organizations are the [Active Learning Network for Accountability and Performance in Humanitarian Action \(ALNAP\)](#) and the organization [ELRHA \(Enhancing Learning and Research for Humanitarian Assistance\)](#) through its Humanitarian Innovation Fund. These two organizations, through partnerships and funding, have supported humanitarian innovations in all areas of the sector and have contributed many publications to supporting and informing aspects of the innovation process. Students interested in researching the evidence bases for potential innovations can find many resources through the ELRHA publications as well as the extensive [ALNAP Humanitarian Evaluation, Learning, and Performance library](#) on the ALNAP website.

Additional resources which can help students understand the evidence bases and backgrounds of potential innovations, include the resources listed in [section 1.2](#) from OCHA and ICRC, as well as the [Global Innovation Exchange](#), [Response Innovation Lab](#), [Global Humanitarian Lab](#), and [MIT Humanitarian Innovation D-Lab](#). These resources often have great case studies and reports available to consider when designing potential solutions. These resources (along with several additional publications) are listed below:

- [Marketplace – Response Innovation Lab](#)^[55]
- [Global Innovation Exchange](#)^[39]
- [Global Humanitarian Lab](#)^[56]
- [MIT D-Lab Humanitarian Innovation](#)^[64]
- [Humanitarian innovation and refugee protection](#)^[10]
- [Mapping the humanitarian innovation ecosystem](#)^[63]
- [RISE: Response Innovations for Somalia Emergencies](#)^[14]
- [Active Learning Network for Accountability and Performance in Humanitarian Action \(ALNAP\)](#)^[42]
- [ELRHA \(Enhancing Learning and Research for Humanitarian Assistance\)](#)^[27]
- [ALNAP Humanitarian Evaluation, Learning, and Performance library](#)^[42]

Section 3: Project Conceptualization and Formulation

(This section is meant for students with a solution in mind and will help develop the project to a place where students are ready to pitch).

3.1 Conceptualizing a Solution

_____ When conceptualizing potential solutions it is important to develop a specific problem statement. A problem statement serves to focus the problem you wish to solve (and becomes especially useful when pitching potential projects). Of course, it is important to periodically confirm that your problem (as defined in the statement) is still relevant and has not been solved by other means, to ensure that you are truly creating an innovative solution. Examples of problem statements can be found in the resources below.

The next steps in the conceptualization process are to create a mission statement and vision statement, which articulate the justification for your proposed solution. Mission statements often include the values or principles that guide the reasons for any proposed solution, whereas vision statements largely articulate the future which you wish to create using your proposed innovation. Examples of these statements can be found in the resources below, along with brainstorming activities for generating these statements. Though these statements may seem trivial, they are crucial for maintaining a clear purpose and plan throughout the development process (and are especially useful when pitching ideas to grant organizations). Resources for this section are below:

- [The Roles of Mission, Vision, and Values – Principles of Management^{\[89\]}](#)
- [How To Define A Problem Statement: Your Guide To The Second Step In The Design Thinking Process^{\[85\]}](#)
- [Effective Problem Statement Examples^{\[61\]}](#)
- [How to Write a Vision Statement^{\[72\]}](#)

3.2 Research and Logistics Planning

_____ In preparation for the pitch presentation, doing preliminary research into the logistics of aid delivery may be useful for presenting a thorough plan of action. For example, identifying appropriate locations for program delivery, establishing routes to deliver aid in conflict zones, or even identifying how many people are a part of the target population can establish that your solution has appropriately factored in contextual challenges in a pitch presentation. Working with the UNOCHA resources outlined in [section 1.2](#) can help inform these logistical questions.

Additionally, it is important to plan out the research methods which will help inform the project or solution. Traditional research methods still form the core of humanitarian research. However, whether conducting an original research project, or conducting implementation research to fit your established program, there are many limitations which require context specific solutions. For instance, establishing population baseline estimates, finding the appropriate infrastructure to conduct research, working in insecure contexts, and ensuring ethical research practices can all be challenges to aspiring researchers. A thorough understanding of the context you will be operating in will be useful for anticipating these challenges and finding suitable plans. Reviewing previous research from the context where you will be operating may be useful for understanding research plans which have been successful in the given context.

One particular method of research which may be an asset is community based participatory research. This method engages the affected community in a variety of ways, centering the community as active participants and partners in the research process. This is sometimes referred to in the context of bottom-up research or lean research, in which the experiences of affected communities are at the center of the research process. The [MIT DLab](#) has many fantastic resources regarding lean research, including workshops, resource guides, and interview skill guides^[64].

For resources relating to logistics, research methods, and community based research, see the websites below:

- [RESEARCH METHODOLOGIES IN HUMANITARIAN CRISES](#)^[94]
- [Ethical challenges in conducting research in humanitarian crisis situations](#)^[65]
- [Conducting Rigorous Research in Humanitarian Contexts \(PDF\)](#)^[22]
- [Global Innovation Exchange](#)^[39]
- [Humanitarian Programme Cycle](#)^[52]
- [MIT DLab](#)^[64]
- [Community-based/participatory approach](#)^[21]
- [Implementing Community-Based Participatory Research with Communities Affected by Humanitarian Crises: The Potential to Recalibrate Equity and Power in Vulnerable Contexts](#) (available through the Brown University Library). ^[1]
- [Danny Warshay The Entrepreneurial Process: Bottom-Up Research](#)^[87]

3.3 Organizational/Team structure

_____The next and final step before the pitch presentation is to determine the way you would like to structure the rollout of your solution. This means determining whether you and your team would like to work as an independent organization/team or in conjunction with existing partners. Whether your proposed solution is a product, research project, or policy change, having a concise strategy or business model will be crucial for convincing organizations to fund your project.

When deciding whether to work with existing organizations as part of the initial launch, consider first whether or not your solution would be successful within the approaches currently underway in the areas you wish to work. Research becomes crucial at this step, as any potential partners must work well as part of your vision and mission for the solution. Partnering with local organizations may be especially helpful when researching the feasibility of a solution, as it provides an existing network of knowledgeable people with whom you can engage with. When pitching, identify organizations you want to partner with and explain how a partnership would be beneficial for the rollout of your proposed solution. See [section 4.1](#) for more information on creating professional networks and partnerships.

Should you decide to work as an independent group or organization, determining where funding for your organization will come from will help decide which type of business model is logical. If funding largely comes from donors or grant money, a nonprofit structure is likely the most appropriate business structure. If funding may come partially or fully from traditional business sources (ex: selling a product or service), a for-profit organization or a social enterprise organization may be the most appropriate. A plan for how your organization will raise funds is initially the most important factor, as funding is crucial for the sustainability and implementation of any potential solution.

Resources below can help students determine the organizational structure of their venture as well as the strategies for identifying potential partners.

- [Using the Business Model Canvas for Social Enterprise Design^{\[15\]}](#)
- [5 Tips for Nonprofit Collaborations | National Council of Nonprofits^{\[17\]}](#)
- [Get Funding for Your Project: Tools and Tips^{\[37\]}](#)
- [Edesia: An RI based social enterprise working in humanitarian aid.^{\[32\]}](#)

3.4 How to Pitch.

Below is the rubric for Hack for Humanity:

Hack for Humanity Evaluation Framework	
1. Originality	Provides a fresh approach to the challenge or utilizes innovative methods.
2. Respect for individuals/communities	Aimed at addressing needs as defined by the people who are most impacted, and protects the privacy and rights of individuals.
3. Context	Leverages existing local resources and knowledge. Respects indigenous material and improvised solutions and either builds upon those or considers them in design.
4. Feasibility	Considers logistics of delivery and access, including political, cultural, technological, educational, and infrastructure requirements for delivery and use.
5. Impact	Has the potential to make a significant difference in people's lives. Also considers questions of cost vs benefits, i.e. resources required to produce and deliver solution vs. benefits to individuals.
6. Sustainability	Respects relevant time frame for the context, matching the duration of solution to the likely duration of the need.
7. Partnerships	Considers relevant stakeholders and partners, including local and international as well as private and public. Considers how relevant organizations would be involved in use or delivery.

The main purpose of a pitch presentation is to show your proposed solution as an innovative, feasible project. Working along each of the components of the rubric is the key to having a successful pitch, though students may structure their presentation in any way that is appropriate. For the originality and impact sections, presenting the problem statements and mission statements to show the necessity of the project is often a useful task. Additionally, through research students can find specific data regarding the impact and feasibility of the project, including cost projections, existing infrastructure, and/or necessary technology for the proposed solution. Thoroughly covering each of the sections in the rubric is key to a successful pitch in this event, and supersedes the resources below.

Below are resources on how to structure successful pitch presentations, as well as resources regarding several sections of the rubric:

- [10 steps to structuring your funding pitch](#)^[24]
- [How to Pitch your Startup in 3 Minutes](#)^[46]
- [Startup Pitch Video: How to Create a Pitch Deck for Investors](#)^[84]
- [Context analysis Tools In Humanitarian Response](#)^[23]
- [As Local as Possible, as International as Necessary: Understanding Capacity and Complementarity in Humanitarian Action](#)^[5]
- [The Two Worlds of Humanitarian Innovation](#)^[11]

Section 4: Project Development

(This is largely meant to be for students working after Hack for Humanity.)

4.1 Networking and Partnerships

To begin developing a proposed solution, it is important to call upon any potential resources you may have. Students may have professional contacts which can provide them with expert advice, guidance, or mentoring to help launch any potential startup. Within the Brown and RISD community, faculty often have experience and are willing to meet with students regarding potential projects. Additionally, within the [Nelson Center for Entrepreneurship](#) and [Swearer Center for Public Service](#) there are many resources available for developing startups and social ventures, such as the B-Lab at the Nelson Center^[70.86]. The Providence community has several social impact organizations as well, including the [Social Enterprise Greenhouse \(SEG\)](#)^[43]. SEG has many resources for social ventures, including the Impact Accelerator program and SEG Incubator program. Networking within professional networks is especially important as well, and reaching out to colleagues during jobs, volunteer work, or internships is a valuable way to gain knowledge about the humanitarian sector in an informal way. Networking is a great way to help bring a venture off of the ground and into the piloting stage.

On an organizational level, creating partnerships between organizations is a crucial way to share resources and expertise. Find organizations with a shared purpose and a complementary skillset to partner with if necessary, to constructively build towards your collective vision. Additionally, when creating mutually beneficial partnerships, it is advised that humanitarians follow the [Principles of Partnerships](#) as endorsed by the Global Humanitarian Platform:

1. Equality: Partner organizations should stress equality in the relationship and hold a mutual respect for one another. This is especially important when organizations differ in levels of power or funding.
2. Transparency: Prioritizing open communication between partner organizations.
3. Result Oriented Approach: Working to achieve better results should be the goal of any partnership, rather than simply a show of goodwill.
4. Responsibility: Organizations hold the responsibility of fulfilling their commitments within the partnership.
5. Complementarity: Organizations must build on the relevant skills of one another, and recognize the complementary strength of differing organizations. This is especially crucial when working with local organizations.

Working within these principles and ensuring the appropriate documentation is in place between partners is important for creating mutually beneficial partnerships in the humanitarian sector. Though the need for partnerships may come at different times in the development process for some startups, being able to build professional partnerships is a critical skill for aspiring humanitarian innovators.

Below are resources regarding resources at Brown and RISD, as well as resources outlining ways to build professional partnerships with humanitarian organizations:

- [Collaboration and Partnership in Humanitarian Action^{\[59\]}](#)
- [Humanitarian Exchange Publication on Humanitarian Partnerships^{\[44\]}](#)
- [Principles of Partnerships^{\[95\]}](#)
- [Nelson Center for Entrepreneurship^{\[70\]}](#)
- [Swearer Center for Public Service at Brown University^{\[86\]}](#)
- [Social Enterprise Greenhouse: Home^{\[43\]}](#)

4.2 Community Engagement

Engagement with crisis-affected communities will be integral to the success and acceptance of your proposed project. Along every stage of the project, the community you are wishing to serve should be involved in a meaningful way. ALNAP has identified several factors which constitute meaningful community engagement (found [here^{\[12\]}](#)):

1. Participation: This means creating opportunities for community members to meaningfully and constructively engage with and influence your program development process.
2. Accountability: Your program and actions should be accountable to the community you wish to serve. This involves creating feedback and reporting systems accessible by served populations and taking corrective action when prompted.
3. Communication: Creating open dialogues between your program and the crisis-affected communities you serve will allow for more effective and consistent communication.

One concept which defines the levels of community engagement effectively is the [IAP2 Spectrum of Public Participation^{\[26\]}](#). This spectrum ranges from merely informing the affected communities of the program you wish to enact to empowering the community through shared decision making structures and leadership. Working towards empowerment is the key to a community-centered, sustainable approach.

Resources on community engagement are below:

- [IAP2 Spectrum of Public Participation](#)^[26]
- [Community Engagement Matters \(Now More Than Ever\)](#)^[6]
- [From Design to Dissemination: Implementing Community-Based Participatory Research in Postdisaster Communities](#)^[62]
- [UNOCHA: Community Engagement](#)^[20]
- [Engagement of Crisis-Affected People in Humanitarian Action](#)^[12]

4.3 Ethics of Innovation and Project Implementation

When implementing your proposed innovation, it is important that your project abides by the appropriate ethical guidelines. If your proposed solution includes a research component, it may need to be approved by the Ethical Review processes of whichever country or region you wish to work in. Abide by the humanitarian principles and principles of innovation, along with any and all humanitarian guidelines relevant to your sector of relief (See [SPHERE: Core Humanitarian Standards](#)^[25]). Additionally, regarding any piloting or implementation phase of the project, ensure that you are respecting the local community and human dignity. This may be done through a number of ways, including through rigorous information security standards to protect those participating in the project or through open communication with stakeholders and participants.

Below are resources involving ethics in program implementation, including several ethical guidelines used by current humanitarian organizations:

- [A Médecins Sans Frontières Ethics Framework for Humanitarian Innovation](#)^[82]
- [MSF Research Ethics Framework - Guidance Document](#)^[69]
- [Five Ethical Principles for Humanitarian Innovation](#)^[7]
- [Research Ethics Review in Humanitarian Contexts: The Experience of the Independent Ethics Review Board of Médecins Sans Frontières](#)^[83]
- [SPHERE: Core Humanitarian Standards](#)^[25]

4.4 Monitoring and Evaluation

When planning for an initial project launch, mechanisms for monitoring and evaluation of the project should be built into the planning process. Specifically, students should identify points within the piloting of the project where data regarding the effectiveness and/or impact of the project can be gathered and assessed. This data is important for understanding whether your pilot project is having a positive or negative

impact, as well as for assessing points where the proposed solution could be improved. Research methods as explained in previous sections will be especially useful in this process. Planning to collect data on metrics which are referenced in the desired outcomes of the project is a good place to start, though additional metrics may help students gain a greater understanding of potential improvements to their project (For example, the number of monthly students reached, number of bed nets distributed, geographic distribution of participants reached, etc). Additionally, using qualitative or open-ended research methods may be useful for finding data on outcomes not predicted by the researchers.

Creating a plan for data collection and analysis throughout the pilot process is the first step in ensuring that you are properly evaluating the impact of your project. The next step is to report and disseminate your findings to relevant parties and stakeholders. This may include partner organizations, donors, or employees/volunteers in your organization. Utilizing the data you have collected to improve the proposed solution will be useful throughout the development process. Additionally, should your findings come back positive, reporting those findings to the greater humanitarian community may help spur on further research by other parties and/or earn your organization greater partnerships or funding to continue.

Resources below outline extensive guidelines and examples of successful monitoring and evaluation projects within the humanitarian community:

- [EHA e-learning course | Unit 1: Introducing Evaluation of Humanitarian Action^{\[33\]}](#)
- [Humanitarian Innovation Fund Monitoring and Evaluation Guidelines^{\[68\]}](#)
- [ALNAP: Monitoring & Evaluation^{\[66\]}](#)
- [IFRC: Project/programme monitoring and evaluation \(M&E\) guide^{\[75\]}](#)
- [Monitoring & Evaluation Plan for NGOs | An Introduction^{\[67\]}](#)

4.5 Funding (beyond Hack for Humanity)

Beyond or before the initial pilot stage, students aiming to launch a startup will most likely be in need of additional funding to sustain operations. As a nonprofit (or certain types of social enterprises), it is most likely that funding will come through grant organizations or private donors. Funding through governments or INGOs is often reserved for more established organizations, which then give money through partnerships or contract work. Working with local organizations, smaller grant organizations, or through partnerships with more established NGOs is likely the best way to approach funding as a pilot program.

Working in the humanitarian innovation space, organizations such as the [Humanitarian Innovation Fund](#) (or a number of other innovation funds housed in larger organizations) is often the best way to approach finding funding as a young organization ^[49]. These donors require extensive planning regarding business plans, monitoring and evaluation, impact assessments, and operational costs as well as a number of other factors. Grant applications and funding applications will require detailed budgets, cost analyses, and detailed plans regarding the use of the given funds. These organizations can be a great way to secure large amounts of funding, however, they often require nonprofits to be legally certified as a nonprofit through the IRS.

Though these large organizations are important, working with existing networks of people and organizations is often a great way to find private donors. Especially in the humanitarian sector, it can be very beneficial to reach out to private companies, individuals, or local organizations looking to make charitable donations. Establishing a presence on social media or in charitable networks is especially important for finding these private donors. These donors may also request funding proposals similar to those in a grant application.

Resources regarding funding at various stages of the development process are given below:

- [10 Funding Resources for Humanitarian Innovators](#)^[73]
- [ELRHA Funding Opportunities](#)^[36]
- [Quick Guide to Finding New Donors](#)^[3]
- [Grants & Funding - Nelson Center for Entrepreneurship](#)^[40]
- [The Brown Venture Prize - Nelson Center for Entrepreneurship](#)^[13]
- [GrantWatch: Grants for Nonprofits](#)^[41]
- [Top Tips and Sources to Find Grants for Your Nonprofit](#)^[77]

4.6 Conclusion

While preparing for a prototype or project launch, be sure to frequently revisit the many principles and guidelines referenced in this document. Recognizing the mission and vision of your organization and remaining problem oriented are essential for remaining true to the purpose of your innovation. Adhering to Humanitarian Principles, Principles of Humanitarian Innovation, and ethical standards should remain your main priority. Remain focused on innovation and improving your startup throughout the process, and stay determined through the many challenges you are likely to face. Innovation is found in the face of pressing social problems, and solving those problems should stay as the force that drives the actions of your organization. The need for continuous revision, improvement, and learning will always remain.

Resources to continually help you throughout this process:

- [Humanitarian Innovation Guide ELRHA^{\[50\]}](#)
- [\(PDF\) Targeting Innovation and Implications for Capability Development^{\[35\]}](#)
- [Humanitarian Innovation Fund Progress Report 2015^{\[49\]}](#)
- [ELRHA: More Than Just Luck: Innovation in Humanitarian Action^{\[71\]}](#)

Section 5: Climate Change Sub-Topics

5.1 Overview

The following list of sub-topics is to help narrow your team's focus. Your team is welcome to focus your efforts on one of these sub-topics or identify another area all together that is applicable to the overarching topic of global climate change. Each of the four sub-topics includes a list of thematic areas and case studies to guide your team. IPCC case study numbers refer to this [document](#) which is also linked down below.

5.2 Disaster Preparedness

- **Early Warning Systems**

- IPCC 9.2.11 - Early Warning Systems: Adapting to Reduce Impacts
 - [Link](#)
 - This case study introduces the strategies of early warning systems and evaluates early warning systems that have been implemented in countries like Bangladesh and the United Kingdom.
- IPCC 9.2.6 - Managing the Adverse Consequences of Floods
 - [Link](#)
 - This case study introduces flood management in Mozambique by analyzing two floods that occurred in 2000 and 2007 and their consequences, as well as the effectiveness of early warning systems created by the government in response.
- Climate ADAPT - Establishment of early warning systems
 - [Link](#)
 - This article introduces early warning systems that deal with different kinds of natural disasters, such as heatwaves, drought, flood and fire.

- **Anticipatory Funding Mechanisms**

- IPCC 9.2.13 – Risk Transfer: The Role of Insurance and Other Instruments in Disaster Risk Management and Climate Change Adaptation in Developing Countries
 - [Link](#)
 - This case study introduces risk transfer mechanisms that are helpful for disaster management in developing countries, such as insurance, micro-insurance and weather derivatives.
- **Adaptation and Resilience Strategies**
 - IPCC 9.2.9 - Small Island Developing States: The Challenge of Adaptation
 - [Link](#)
 - This case study introduces the challenges faced by small island countries when dealing with natural hazards caused by climate change, as well as the actions they have taken. It focuses on the Marshall Islands, Maldives and Grenada.
 - IPCC 9.2.14 - Education, Training, and Public Awareness Initiatives for Disaster Risk Reduction and Adaptation
 - [Link](#)
 - This case study introduces different types of disaster risk reduction education, including primary school education, training programs and awareness-raising campaigns in countries.
 - USA Today - Can Providence's hurricane barrier withstand sea-level rise?
 - [Link](#)
 - This article discusses the effects of sea level rise and increased frequency of severe hurricanes for Providence. Particularly, the article focuses on the durability of Providence's hurricane barrier.

5.3 Human Security and Health

- **Food and Water Security**
 - Global and Planetary Change - Glacier loss and hydro-social risks in the Peruvian Andes
 - [Link](#)
 - This paper explains the impact of climate change on the hydro-social system in the Andes and provides a new conceptual framework for analyzing the risk dynamics across scales.
 - Current History - Climate Adaptation and Water Scarcity in Southern Africa
 - [Link](#)
 - This article discusses diminishing water availability in Southern Africa, particularly its effect on rural livelihoods and the economy.

- **Infectious Diseases**

- IPCC 9.2.7 - Disastrous Epidemic Disease: Cholera
 - [Link](#)
 - This case study examines cholera's sensitivity to climate variability and possible interventions.
- IGeneX - Lyme Disease and Climate Change
 - [Link](#)
 - This article discusses how environmental factors, particularly rising global temperatures, affect ticks and the incidence of lyme disease.
- Harvard Medicine - Diseases Take Flight with Climate Change
 - [Link](#)
 - This article examines rising temperatures as an explanation for new trends regarding the prevalence of vector-borne diseases.
- Impact of recent climate extremes on mosquito-borne disease transmission in Kenya - PLOS Neglected Tropical Diseases
 - [Link](#)
 - This study uses data from Kenya to examine the impact of extreme weather events on mosquito abundance and the risk of arboviral infections.
- Climate change could shift disease burden from malaria to arboviruses in Africa - Lancet Planet Health
 - [Link](#)
 - This paper finds that rising global temperatures create a more suitable environment for dengue and other arboviruses while reducing the likelihood of malaria transmission.

- **Mental Health**

- Climate change, mental health and wellbeing - Adapt NSW
 - [Link](#)
 - This article investigates the relationships between negative climate change impacts and emotional wellbeing.
- Global climate change and mental health - Current Opinion in Psychology
 - [Link](#)
 - This paper looks at the effects of three types of climate-related events on mental health, examining both direct and indirect consequences.

5.4 Climate Displacement

● Economic Impacts on Displaced and Host Communities

- Addressing the human cost in a changing climate - Science
 - [Link](#)
 - This article discusses the human cost of displacement, such as the cost to inform humanitarian response and national planning.
- Vulnerability and Climate Change Induced Human Displacement - Consilience: The Journal of Sustainable Development
 - [Link](#) (pages 125 - 130)
 - This paper examines the relationship between vulnerability and climate change induced human displacement by analyzing case studies such as hurricane induced displacement in the US Gulf Coast, cyclone induced displacement in Bangladesh and drought induced displacement in Somalia.

● Access to Housing and Education

- Protecting People Displaced by Weather-Related Disasters and Climate Change: Experience from the Field- Vermont Journal of Environmental Law
 - [Link](#) (pages 818 - 826)
 - This article examines challenges in protecting people displaced within their own countries by the effects of climate change, using examples from developing and conflict-prone nations. The selected excerpt is on floods in Pakistan and Colombia, with a focus on housing and a rights-based approach to disaster response.
- Coastal Megacities: Mumbai - IPCC 9.2.8
 - [Link](#)
 - This case study details the effect of a heavy rainstorm in 2005 on Mumbai's infrastructure.
- The impact of climate displacement on the right to education - UNESCO
 - [Link](#)
 - This article looks at the nexus between climate displaced people and their right to education. Particularly, the article details the barriers that these migrants face in accessing education.
- The climate crisis, migration, and refugees - Brookings Institution
 - [Link](#)
 - This article provides an overview of the effect of climate change on migration, with a focus on scalable solutions and housing.

5.5 Greening Humanitarianism

● Carbon Footprint of the Humanitarian System

- Environmental footprint of humanitarian assistance - scoping review - Groupe URD
 - [Link](#)
 - This article looks at the repeated occurrence of environmental degradation and destruction by the humanitarian aid system. It considers both operational and programmatic approaches to “greening humanitarianism.”
- Clean Energy Challenge: A green solution for humanitarian crises - Geneva Solutions
 - [Link](#)
 - This article discusses the importance of providing sustainable energy to displaced people and reducing the reliance of humanitarian organizations on fossil fuels. It also introduces the Clean Energy Challenge and its implications.

● Utilization of Green Energy Technologies in the Humanitarian Sector

- Energy Security and Humanitarian Action: Key Emerging Trends and Challenges - UN Office for the Coordination of Humanitarian Affairs
 - [Link](#)
 - This article examines the current situation of global energy security and discusses the implications of energy insecurity and volatility for international humanitarian action.
- Transforming into a Green UNHCR - UNHCR
 - [Link](#)
 - This article outlines 5 Greening initiatives that the UNHCR intends to undertake in order to minimize its environmental footprint and enable green solutions.
- The Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement
 - [Link](#)
 - This document provides a framework for integrating sustainable energy solutions into the humanitarian program cycle. It first examines the challenges in the current situation, and then breaks each challenge into small components and offers specific recommendations on how to tackle them.

5.6 Cross-Cutting Issues

As climate change alters global ecosystems, the transformative effects are felt worldwide across all sectors. While climate change affects our planet as a whole, its most negative impacts disproportionately affect vulnerable groups, including but not limited to racial and ethnic minorities, indigenous communities, women, children, and marginalized groups. As such, climate change is not only an environmental, political, and humanitarian issue - but also critical to human rights.

We ask that your team take these following issues into consideration as you work on your project pitch to ensure your solutions are inclusive and reach those that are disproportionately affected by climate change.

Cross-Cutting Issues

Inclusivity of racial and ethnic minorities, indigenous peoples, people with disabilities, elderly, women and children, marginalized groups.

Section 6: Key Terms

- 1.) **Resilience**: The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation
- 2.) **Adaptation**: The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.
- 3.) **Mitigation**: A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs) or other substances which may contribute directly or indirectly to limiting climate change, including, for example, the reduction of particulate matter emissions that can directly alter the radiation balance (e.g., black carbon) or measures that control emissions of carbon monoxide, nitrogen oxides, Volatile Organic Compounds and other pollutants that can alter the concentration of tropospheric ozone which has an indirect effect on the climate.
- 4.) **Maladaptation**: Adaptation that does not succeed in reducing vulnerability but increases it instead. Maladaptation arises not only from inadvertently badly

planned adaptation actions, but also from deliberate decisions where wider considerations place greater emphasis on short-term outcomes ahead of longer-term threats, or that discount, or fail to consider, the full range of interactions arising from the planned actions.

- 5.) **Energy Security:** the uninterrupted availability of energy sources at an affordable price. Energy security has many aspects: long-term energy security mainly deals with timely investments to supply energy in line with economic developments and environmental needs. On the other hand, short-term energy security focuses on the ability of the energy system to react promptly to sudden changes in the supply-demand balance.
- 6.) **Carbon Footprint:** A carbon footprint is the total greenhouse gas (GHG) emissions caused directly and indirectly by an individual, organization, event or product.

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