

#FrameworksForSocialGood

Scrum Gathering Austin 2019

Oceans of Plastics



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Summary

At the 2019 Global Scrum Gathering, hundreds of attendees joined Applied Frameworks in Austin, Texas to participate in a real-time, collaboration exercise to tackle the challenging social and environmental problem of plastics in our world's oceans. The goal of this collaboration was to raise awareness of this problem, encourage conference attendees to examine their own use of plastic and inspire action through civic engagement.

The main results from this study were:

1. People want to “do the right thing” with respect to cleaning up the world's oceans of plastic and reducing their own use of plastic.
2. Plastic has become thoroughly embedded into our modern life, so changing habits and using alternative materials will be extremely difficult for most consumers.
3. Solutions which encourage personal responsibility to use less plastic and clean-up the environment now are more popular than large-scale policy changes by government and private industry.

Why We Are Doing This?

Data shows that our oceans are becoming clogged with plastic detritus and debris. According to recent statistics, approximately eight million metric tons of plastic will be dumped in our oceans in the next year. That is the equivalent to one dump truck of plastic being dumped into the oceans every minute of every day! At Applied Frameworks we believe something needs to be done about this complex global problem because the status quo is untenable. If we do nothing, and continue along our current (mis)use of plastic, the oceans are going to become a plastic soup.

How Does It Work?

The process of engaging with frameworks is specifically designed to create deep thinking around difficult problems and build consensus in a group setting through collaboration. At the conference, we presented three frameworks on three different days. Below is a step-by-step summary of the experience.

Day #1 - Understanding the Problem

On May 20th, Global Scrum Gathering attendees were introduced to the *What Lies Beneath* framework. Our goal on the first day was to introduce the conference attendees to the problem of Oceans of Plastic, to begin the process of examining this

difficult problem from multiple perspectives and develop alignment among the Scrum Alliance community members about the scope and nature of the problem.

The question we asked participants for this framework was, “How do we significantly reduce plastics in the ocean by 2050?” Using this framing question, we then asked participants to consider about any intermediate goals that would show we are on track, recognize any strengths we can apply to solving this problem and identify what impediments stand in our way of meeting this goal.

Figure 1 shows an example of this framework in action at the conference. All raw data collected from this framework can be found in Appendix I.

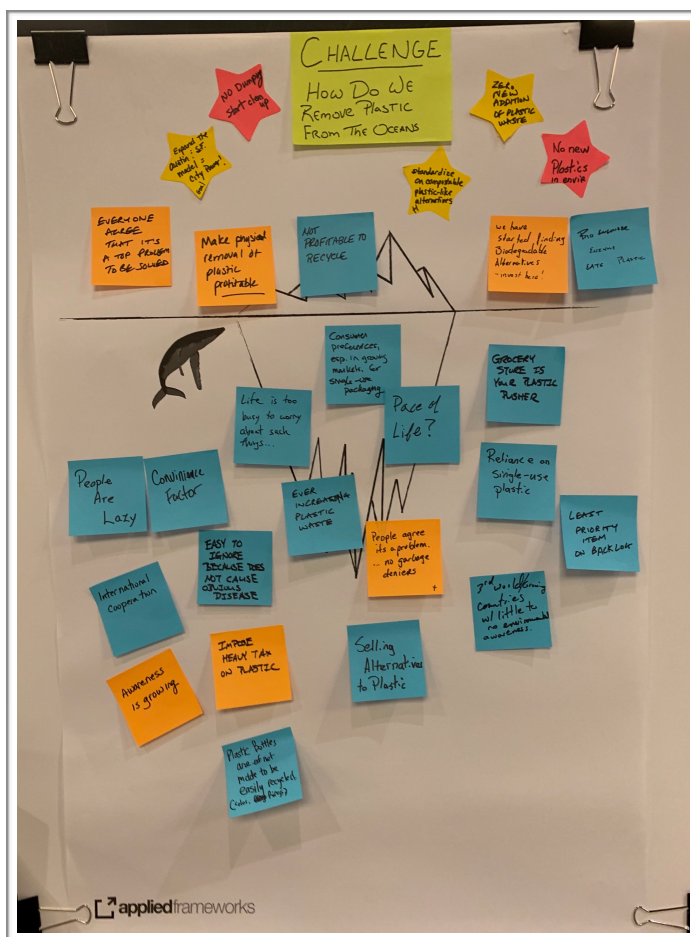


Figure 1: example of raw data collected at the Scrum Gathering Austin from the What Lies Beneath framework.

The What Lies Beneath framework has four elements.

1. **People:** who are the various people that can help us reach our goal?

2. **Stars:** what are some intermediate goals that will help guide us and ensure we stay on track? (red and yellow star shaped post-it notes)
3. **Wind:** what strengths do we have that will help us deliver on our goal? (orange post-it notes)
4. **Impediments:** what are the obvious and non-obvious impediments to our success? (blue post-it notes)

A summary of the key insights, in no particular order, from the *What Lies Beneath* framework interactions can be found in Table 1.

Stars (intermediate goals)	Description
Standardize on compostable plastic alternatives	Signals the shift away from the use of disposable plastics.
No more dumping directly into the ocean	Signals the recognition that the global community sees this as a problem.
Wind (strengths)	Description
Growing awareness	There is clear data on this problem and global awareness is growing about the severity of this issue. There are no plastic deniers.
Alternatives to plastic exist	Metal straws, clay cups, edible cutlery and reusable grocery bags and simple examples of people finding ways to reduce their plastic consumption.
Selling products made from recycled ocean plastic	Today people can buy clothing, packaging, shoes, rugs and jewelry made specifically from recycled ocean plastic.
Impediments (obstacles)	Description
Lack of awareness\empathy	Many adults simply do not care about this issue it is the least priority item in their backlog.
Convenience factor	Single-use plastics are everywhere and plastic is part of every high-tech product.
International cooperation is needed	This problem is too big and too complex for a single person to solve on their own.

Not profitable to recycle	It costs more to collect and recycle the plastic than it does to simply throw it away.
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Table 1: a summary of the key insights from *What Lies Beneath*.

Day #2 - Reflecting on Personal Impact

On May 21st, we brought the Oceans of Plastic problem closer to home by asking the conference participants to consider their own personal relationship with plastics with the *Pains-Gains Map*. In this framework, we asked the conference attendees to identify how using less plastic would inconvenience them (as “pains”) and what benefits they might realize (as “gains”) if they had less plastic in their lives.

Figure 2 shows an example of this framework in action at the conference. All raw data collected from this framework can be found in Appendix I.

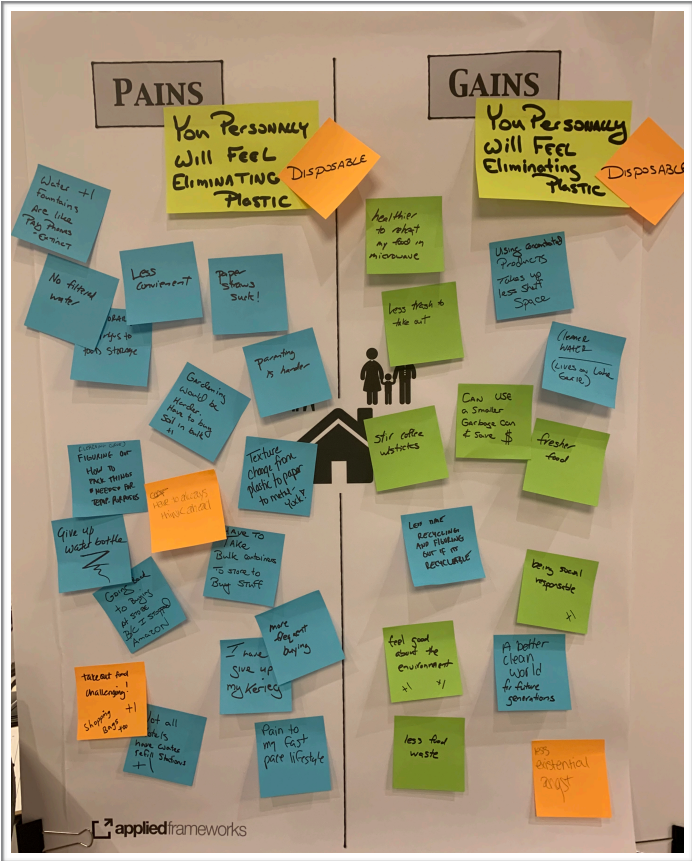


Figure 2: example of raw data collected at the Scrum Gathering Austin from the *Pains-Gains Map* framework.

The *Pains-Gains Map* framework has two elements:

1. **Pains:** how might the proposed solution inconvenience you? How does the proposed solution make your life more difficult?
2. **Gains:** how might the proposed solution provide you personal benefits? How does the proposed solution make your life easier or more pleasant?

A summary of the key insights, in no particular order, from the *Pains-Gains Map* framework interactions can be found in Table 2.

Pains	Description
Personal inconvenience	Over-and-over again, participants gave specific examples of how less plastic makes their day-to-day life experiences harder.
Domestic life is harder	Personal chores (shopping, gardening, child rearing, etc) all become harder with less plastic.
Unintended consequences	If we make a switch from plastics to alternative materials, then demand for those materials will increase and perhaps may cause new environmental problems.
Gains	Description
Less guilt	People will feel socially responsible and they are making the world better for their children.
Less trash & less waste	With less plastic, we have less trash in our streets and recycling will be simplified.
Durable items	Using less plastic encourages us to think about durability and reusability of items rather than convenience alone.

Table 2: a summary of the key insights from *Pains-Gains Map*.

Day #3 - Moving to Action

May 22nd was about moving the conference attendees from generating ideas to taking action. We used the *Buy a Feature* framework to enable attendees to collaboratively “buy” potential solutions to the Oceans of Plastic problem (see

Appendix II). Our goal with *Buy A Feature* was to discover which of the solutions were compelling enough for people to put their money where their mouth was.

The *Buy A Feature* framework has two elements:

1. **Potential Solutions:** a simple spreadsheet identifying solutions, potential benefits of the solution with pricing.
2. **Fictitious Money:** each participant is given a fixed amount of money used to register their interest in a potential solution.

Each attendee was given \$1500 in fake money, a relatively small amount compared to the amount needed to purchase all the solutions. This scarcity encouraged conference participants to negotiate with each other, explain their choices and build consensus for winning solutions. When ready to make a purchase, participants were asked to pin their money directly onto a grid of available solutions. When the posted price for a solution was reached, it was then considered "purchased".

Figure 3 shows an example of this framework in action at the conference.

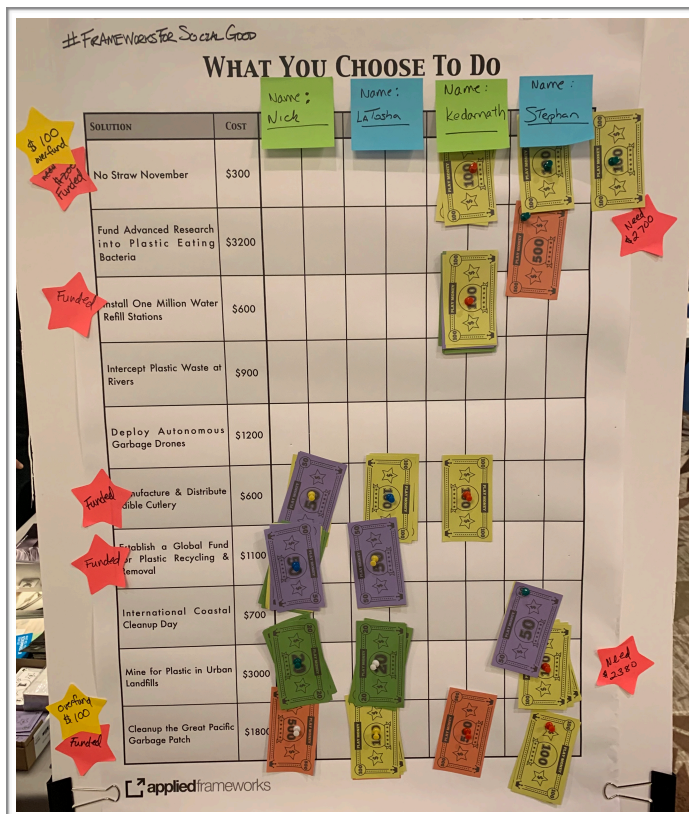


Figure 3: example of raw data collected at the Scrum Gathering Austin from the *Buy a Feature* framework.

A summary of the purchases from the *Buy A Feature* framework interactions can be found in Table 3 and a summary of the key insights derived from these purchases, in no particular order, can be found in Table 4.

Potential Solution	# Times Purchased
Install One Million Water Refill Stations	7
No Straw November	6
Manufacture & Distribute Edible Cutlery	6
Intercept Plastic Waste at Rivers	5
Cleanup the Great Pacific Garbage Patch	5
Establish a Global Fund for Plastic Recycling & Removal	4
Fund Advanced Research into Plastic Eating Bacteria	3
Deploy Autonomous Garbage Drones	2
International Coastal Cleanup Day	2
Mine for Plastic in Urban Landfills	0

Table 3: a summary of the purchases from *Buy A Feature* prioritized from the most popular to least popular.

Insight	Description
Ability to personal take action important to participants	The top items purchased gave individuals a strong sense they were in control of their contribution to solving this problem.
Reduce and remove plastic from the ocean	While more plastics are in landfills than in the ocean, the solutions purchased focused on preventing new plastic waste entering the oceans or removing existing waste.
Avoid unintended consequences	Feelings around plastic eating bacteria was cautious, even among those who purchased it. The fear of unintended consequences was high with this solution.

Table 4: a summary of the key insights from *Buy A Feature*.

What We Learned

The results from *What Lies Beneath* and *Pains-Gains Maps* suggests that reducing plastic consumption is a highly personal issue. Specifically, the impediments and pains associated with reducing plastic consumption collide directly with personal conveniences many associate with modern living. In addition, there is a perception that reduced plastic consumption will mean higher costs for the average consumer.

However, if the barrier to change is lowered, the awareness and desire to “do the right thing” is steadily growing among the participants at the Scrum Gathering Austin. Many of the gains identified in the *Pains-Gains Map* exercise could be leveraged if changes were enacted by governments and private enterprise. In the case of governments, policy changes in the form of taxation, improved infrastructure and/or new mandates for recycled materials. In the case of private enterprise, innovation in the form of alternative materials and/or new products made of durable materials.

When examined, the results of the *Buy A Feature* revealed the top purchased items were solutions that ranked high for individual impact, but were low on their ability to impact the problem, ie. reduce or remove plastic waste from the world’s oceans. Examining this and the interpersonal feedback we received from the participants during the conference we believe that people want to be part of the solution at the individual level while craving a holistic solution that would truly address the multiple root causes of this complex issue.

Here are some additional interesting insights from the *Buy A Feature* results:

- Mining landfill was not purchased even once during the event. It was just not compelling enough solution for people to buy.
- Even though it was purchased twice, participants expressed wariness over the solution to fund further research into bacteria that can metabolize plastic. While it may be a fully viable solution, the potential unintended consequences were unknown.

Conclusions

Just cleaning up the plastics in the ocean today will not be a long-term solution if we do not reduce our own personal plastic consumption. If our collective use of plastics continue on their current pace, the volume of plastics that can make their way into the oceans will only increase.

Our results show that people want to “do the right thing” with respect to reducing the amount of plastic in the oceans and leave the world a better place for their children. This is a powerful motivator for many participants at the Scrum Gathering Austin. Yet,

plastic has become embedded in our modern lives and offers everyone a great deal of convenience that were not present prior to World War Two (when plastic was first adopted in the Western societies). Overcoming this friction and adopting new habits will be hard for most consumers.

As for potential solutions outlined in Appendix 1, there are many solutions to this complex problem and it is likely that the final solution will be a combination of one, or more, of the solutions presented here. Our research shows the most popular solutions for Scrum Gathering attendees focus on reducing plastic consumption by consumers (Install One Million Water Refill Stations and No Straw November) as well as cleaning up the oceans (Intercept Plastic Waste at Rivers and Cleanup the Pacific Garbage Patch). We feel these solutions satisfy the community members's need to make a personal investment in helping fix this problem while improving the environment for their own families.

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Acknowledgements

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Appendix I

Raw Data

Raw Data Collected from What Lies Beneath

Item	Description	Type
No Dumping, Start Clean Up		Goal
Standardize on compostable plastic alternatives		Goal
No new plastic in the environment		Goal
Zero new addition of plastic waste		Goal
Not profitable to recycle		Impediment
Consumer preferences for single use plastic	Especially in growing markets	Impediment
Pace of life		Impediment
Life is too busy to worry about such things		Impediment
People are lazy		Impediment
Convenience factor		Impediment
Ever increasing plastic waste		Impediment
Grocery store is your plastic pusher		Impediment
Reliance on single-use plastic		Impediment
Least priority item on the backlog		Impediment
International Cooperation		Impediment
Easy to ignore because it does not cause obvious disease		Impediment
Plastic water bottles are not made to be easily recyclable	Colored bottles and the ring from the plastic lid are reportedly not recyclable	Impediment
3rd World/ Growing countries with little to no environmental awareness		Impediment
Lack of awareness		Impediment
People do not care		Impediment
Not recycling our plastics		Impediment

Item	Description	Type
Adults don't understand or care about the problem		Impediment
Hard for a (single) person to make a difference		Impediment
What happened to glass bottles?		Impediment
Too far away to see	I don't live near the ocean	Impediment
Long transition from plastic to no plastic		Impediment
Items made from recycled materials are not affordable		Impediment
Hard to ID all the stakeholders		Impediment
Lack of empathy	Convenience, ease of use	Impediment
We have started finding bio alternatives to plastics		Strength
Bio Enzyme Eats plastics		Strength
People agree it's a problem, no garbage deniers		Strength
Awareness is growing		Strength
Selling alternatives to plastics		Strength
Make economic cost	Make it more expensive to see disposable plastic	Strength
We have city examples to use as templates		Strength
We have data on the problem. We know how bad it is		Strength
Provide incentives to companies to effectively recycle		Strength
Alternate options- Clay		Strength
Addidas is making shoes from recycled ocean plastics		Strength

Item	Description	Type
Ecoalf- Spanish company making clothes from recycled ocean plastics		Strength
Make recycling profitable		Suggestion
Everyone agree it is a top problem		Suggestion
Expand the Austin / SF model: City Power		Suggestion
Impose heavy tax on plastics		Suggestion
Develop product to meet human behavior	Ease of use	Suggestion
Stop producing plastic, stop buy plastics	Examples: Food containers, Trader Joe's	Suggestion
Teach kids about the problem because they care		Suggestion

Raw Data Collected from Pains-Gains Map

Item	Description	Type
I forget to bring my reusable bag to the store	Can't shop because i have no bag	Pain
We stress our other material sources	If we cut out all disposable plastics we will put more weight on other resources. What happens to our alluminium resources?	Pain
I have no trash can at my desk, have to walk to kitchen to throw things away	Happening now in my company. We only have recylce at our desk and are discouraged to generate waste	Pain
I can't carry my groceries	If I don't remember my reusable bag, I can't carry groceries	Pain
Paper Straws Suck!	I hate paper straws, they melt and don't work	Pain
Less convienance	Disposable plastic makes things easy	Pain
Going back to buying in stores because I stopped using Amazon		Pain
Gardening would be harder	Have to buy soil in bulk	Pain
High tech items that have plastic components		Pain
No straws or BYO straw		Pain
Higer costs	Non-disposable items will cost more	Pain
Paper bags for leaves suck		Pain
More water is used to clean dishes	Disposable plastics are thrown away or recycled	Pain
More dishes to wash		Pain
Food storage becomes harder		Pain

Item	Description	Type
Pain to my fast pace lifestyle	less convenient	Pain
Takeout food challenging		Pain
Not a lot of hotels have water refill stations		Pain
I have to give up my Keurig Coffee Maker		Pain
Have to take bulk containers to the food store		Pain
Texture from plastic to paper to metal, yuck		Pain
Figuring out how to pack things needed for temporary purposes		Pain
Parenting is harder	Diapers, single use food containers, etc.	Pain
No filtered water		Pain
Lots of happy animals	Less plastic in the oceans leads to healthier wildlife	Gain
No BPA in my food	Even BPA free plastic can shed BPA under high heat such as water bottles left in a hot car.	Gain
Less trash		Gain
Life would be more natural and organic	Without plastic we would move back to fresher foods, farm to table.	Gain
I can breathe		Gain
More durable items means less replacement	I'd save money and my things would last longer in a non-disposable society	Gain
Less Guilt		Gain

Item	Description	Type
I don't have to sort my trash	With no disposable plastic, I don't have to always be asking "is this recyclable" and don't even have to think. One garbage can.	Gain
More shelf space for storage	A lot less big plastic packages	Gain
Easier use of everyday items	Over packaging	Gain
Fresher food		Gain
Recycling is easier	Don't have to decide if it is	Gain
Less plastic in the food I eat		Gain
Continue simplifying my life		Gain
Can use a smaller garbage can and save \$\$		Gain
Teaching my kids a valuable lesson		Gain
Less trash		Gain
Less Trash on the streets		Gain
Less expenses on disposable items		Gain
Sense of doing something good		Gain
Being socially responsible		Gain
Less Garbage to take out		Gain
Less guilt for the world I'm leaving my kids		Gain
Healthier to reheat my food in the microwave	Plastic leaches into food when under high heat.	Gain
Less trash to take out		Gain
Using concentrated products uses less shelf space	I buy concentrated liquids which use less plastic and give me more shelf space	Gain
Cleaner water	Lives on Lake Erie	Gain

Item	Description	Type
Being socially responsible		Gain
Feel good about the environment		Gain
A clean world is better for future generations		Gain
Less food waste	If we don't use disposable plastic, we might make things in smaller batches and throw out less food	Gain

Appendix II

Potential Solutions to the Oceans of Plastic

Solution	Description	Impact	Cost
No Straw November	Most people are unaware of the direct impact of plastic trash in the oceans, so use a ban on plastic straws for a single month to raise awareness of the problem.	An estimated 176 billion plastic straws are used each year. This campaign has the potential to remove 14 billion straws plus reduce plastic consumption by consumers in other areas of their lives.	\$300
Fund Advanced Research into Plastic Eating Bacteria	In 2016, Japanese researchers discovered a naturally occurring bacteria that consumes the type of plastic most commonly found in water bottles.	Isolate, optimize & industrialize the enzyme this organism utilizes to eat plastic. If successful, this solution has the potential to remove one-sixth of the plastic found in the oceans.	\$3200
Install One Million Water Refill Stations	On average, US consumers use over 35 billion plastic water bottles a year, but less than 25% of those are recycled. Encourage the reuse of plastic bottles with new water refill stations.	By making the switch to refillable water bottles, individuals can prevent an average of 156 plastic bottles from making their way into the landfills (and the oceans) each year.	\$600
Intercept Plastic Waste at Rivers	The majority of the world's ocean plastic comes from ten rivers, eight of which are in Asia. Lower a boom at the mouth of the major rivers in this region to intercept trash before it enters the ocean.	4 Oceans, a private enterprise based in Florida, pays local fishermen to collect trash. Expand their operations globally to gather more trash and recycle this trash into trendy bracelets and other products.	\$900
Deploy Autonomous Garbage Drones	Deploy autonomous drones to vacuum up plastic, microplastics and other ocean pollutants. When the drones are full, they bring the garbage back to shore.	RanMarine Technologies has developed a line of networked drones that have the capacity to capture 200 liters of garbage before returning to their home base. Invest to expand upon their successful pilot operations in Rotterdam and Dubai.	\$1200

Solution	Description	Impact	Cost
Manufacture & Distribute Edible Cutlery	In India, 120 billion pieces of plastic cutlery are disposed of annually, most of which end up in landfills or rivers (which eventually lead to the sea).	Bakeys, an Indian startup, has created a brand of biodegradable cutlery that if you do not like the taste will degrade in five days.	\$600
Establish a Global Fund for Plastic Recycling & Removal	Apply a 1¢ tax for every pound of plastic resin manufactured to offset later recycling and cleanup costs.	Raise roughly \$6 billion USD a year that could be used to finance garbage collection systems in developing nations.	\$1100
International Coastal Cleanup Day	Pick up the (plastic) garbage that can be found in rivers and along the coast. While not sexy, this type of local activism has a real impact for local populations.	In 2018, over 13,000 volunteers in Los Angeles County removed over twenty-nine tons of trash in three hours. Expand this operation globally and it could have an oversized local impact.	\$700
Mine for Plastic in Urban Landfills	Since World War II, humans have produced over 8.3 billion tons of plastic. About 75% of that plastic has gone straight into landfills (and the oceans).	Improve the waste collection infrastructure of various Southeast Asian countries so that plastic waste can be collected, i.e. mined, and reincorporated into new products.	\$3000
Cleanup the Great Pacific Garbage Patch	The Pacific Garbage Patch is the most well-known of the five ocean gyres collecting garbage, but the others need to be cleaned-up as well.	Ocean Cleanup, a Dutch engineering company, has developed a passive, wind-driven system that has the potential to remove 50% of the plastic from the Pacific Garbage Patch in less than five years.	\$1800