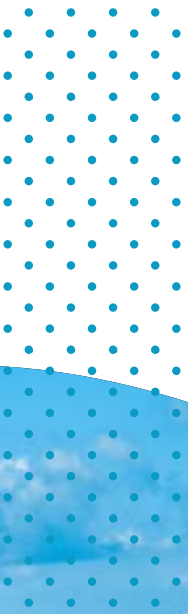




# URBAN OCEAN

— TOOLKIT —



# FOREWORD

Cities are the beating heart of the modern world. Billions of people flock to metropolises around the globe for the dynamism and diversity found only in urban areas. While they offer unparalleled opportunities, the sheer concentration of people creates its own challenges, including in waste management and pollution prevention. Poorly managed municipal waste inevitably finds its way into rivers, the ocean, and other waterways, which can cause irreparable damage to our natural environment and local economies.

The mission of Urban Ocean was already ambitious given the complexity of the plastics crisis and our eagerness to deliver replicable solutions to a global community. When faced with the COVID-19 pandemic, our objectives further brought the interconnected nature of complex city systems into the spotlight. Cities around the world were hit with unprecedented and simultaneous health, economic, and social shocks; and while the main focus has been on saving lives, the pandemic has had impacts far beyond human health. The environmental impact of COVID-19 has been severe: at the height of the pandemic, the world was using 129 billion face masks and 65 billion gloves **each month**.<sup>1</sup> In cities around the world, these items were escaping into the environment as waste management services went into lockdown.

The pandemic laid bare the need for comprehensive fixes to the interconnected problems that cities face. By harnessing the energy and creativity of cities, Urban Ocean aims to foster holistic solutions that address city priorities and generate multiple benefits.

After launching the program in 2019 and announcing our first cohort of cities in 2020, Urban Ocean was forced to get creative in the face of a global pandemic. Unable to travel, we instead deepened our local connections by recruiting talented implementing partners to conduct field work in each of our six “learning cities” that have committed to improving waste management. This allowed us to further increase local knowledge and expand the network of supporters in each learning city. Meetings intended to take place in person became digital, and the project teams developed new strategies and materials to support city offices and local partners. These adapted program elements can now be accessed at any time.

Over the past year, we have developed a rich body of information and tools to support Urban Ocean cities and we have been continually impressed with their determination to pursue this work even in the midst of the pandemic. We are delighted to bring these materials to a broader audience with this interactive toolkit. It is our hope that this will help additional communities build clean healthy cities for clean, healthy seas.



*Chever Vofftmer*

*Plastics Initiative Director*

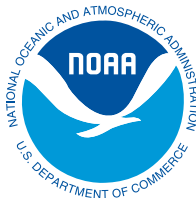


# ACKNOWLEDGMENTS

Ocean Conservancy is working to protect the ocean from today's greatest global challenges. Together with our partners, we create science-based solutions for a healthy ocean and the wildlife and communities that depend on it. Since the formation of the International Coastal Cleanup in 1986, Ocean Conservancy has mobilized millions of volunteers to remove trash from beaches and waterways around the world while pioneering upstream solutions to the growing ocean plastics crisis. Ocean Conservancy invests in cutting-edge scientific research, implements on-the-ground projects, and works with conservationists, scientists, governments, the private sector, and members of the public to change the plastics paradigm. To learn more about our Trash Free Seas® program, visit [oceanconservancy.org/trashfreeseas](https://oceanconservancy.org/trashfreeseas), and follow Ocean Conservancy on [Facebook](#), [Twitter](#) and [Instagram](#).

We would like to once again commend our Urban Ocean cities for their unwavering commitment to the program despite the challenges presented by the COVID-19 pandemic and for their willingness to adapt in order to advance sustainable solutions in their respective regions.

This toolkit was commissioned by the National Oceanic and Atmospheric Administration (NOAA) with support from the [Trash Free Seas Alliance](#)® (TFSA). We would like to acknowledge the contributions we received from NOAA and TFSA, as well as from our partner organizations, knowledge partners, collaborators, local implementation partners, and the Ocean Conservancy project team.



## KNOWLEDGE PARTNERS

University of Georgia  
New Materials Institute and  
Jambeck Research Group  
Circularity Informatics Lab

- Dr. Jenna Jambeck
- Taylor Maddalene

We also acknowledge that several of the resources provided in this toolkit were collected through open source research. We would like to provide a special thank you to our fellow practitioners, ocean advocates, and all those dedicated to building clean, healthy cities for clean, healthy seas.



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- Global Ghost Gear Initiative®
- University of Toronto
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- India Center for Environment Education, India

# EXPLORING THE TOOLKIT

[FOR BEST EXPERIENCE, VIEW THIS DOCUMENT ON DESKTOP.]

We want this toolkit to be an easy-to-navigate, go-to resource, so we've made it interactive! Keep an eye out for these icons throughout the document.



## BACK TO NAVIGATION

At the end of each section you have the ability click this icon and return to the table of contents to easily access the sections that most interest you.

## NOTE YOUR THOUGHTS

Throughout the toolkit you will be prompted to reflect on what you have learned and record your ideas.



## SAVE YOUR NOTES

Don't forget click save! If you decide to take notes, we recommend saving a copy of the toolkit now to your device and saving again throughout your learning journey so you can reference your thoughts later.

## INTERACTIVE ELEMENTS

There is more than meets the eye when you see this icon, hover over or click on the the graphics for more information.





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# ABOUT URBAN OCEAN AND THE TOOLKIT

Scientists estimate that approximately **11 million metric tons of plastic** flow into the ocean from land annually.<sup>2</sup>

One of the main ways to reduce the flow of ocean plastic is to improve waste collection and recycling systems.

Cities generally have a leading role in building and maintaining water, sanitation and waste management systems, so they are a natural partner to develop solutions in this area. Cities are also key actors in other areas critical for solving the marine plastic waste problem, including citizen education and awareness.

At the same time, cities have interconnected policy concerns that could lead them to prioritize investments in waste management. These interconnected concerns include public health, economic growth, and job creation. A multi-pronged approach that embeds the reduction of marine plastic waste into other core city priorities, with a range of co-benefits or “resilience dividends,” offers the best chance of sustainable solutions.

[Urban Ocean](#), through its coordinating organizations Ocean Conservancy, Resilient Cities Network, The Circulate Initiative, and the Trash Free Seas Alliance®, brings together civil society actors, leading academics, financial institutions, and private sector leaders to develop, share and scale solutions to the ocean plastic problem that cut across silos and achieve multiple benefits.

# PROGRAM PARTNERS

Ocean Conservancy is joined by partners Resilient Cities Network and The Circulate Initiative.



[Resilient Cities Network](#) (R-Cities) consists of member cities and chief resilience officers from the former 100 Resilient Cities organization—pioneered by The Rockefeller Foundation program—sharing a common lens for holistic urban resilience. Resilient Cities Network, in partnership with its global community of practitioners, continues to deliver urban resilience through knowledge sharing, collaboration, and creative action; and it seeks to inspire, foster, and build holistic urban resilience around the world.



[The Circulate Initiative](#) is a non-profit organization committed to solving the ocean plastic pollution challenge by supporting the incubation of circular, inclusive, and investible waste management and recycling systems in South and Southeast Asia. The Circulate Initiative achieves this by collaborating with key stakeholders across the sector, and by producing insights to support and accelerate investment and scale across the plastic consumption and waste management value chain. The Circulate Initiative works in close collaboration with [SecondMuse](#), an international impact and innovation company. Both organizations partner on [The Incubation Network](#) initiative, which focuses on sourcing and scaling holistic innovative solutions to strengthen entrepreneurial ecosystems that advance the circular economy.

## Specific programming includes three primary areas of action:

- 1** Building public-private partnerships between cities, businesses, and financing organizations to help fund waste management and recycling systems.
- 2** Encouraging waste reduction and consumer recycling through education.
- 3** Developing model policies and sharing best practices through peer networking and exchanges.

Together with our partners, we work to create city-led solutions that can be easily deployed and replicated, so that policies or systems that work in Melaka or Milan can be shared and adapted quickly elsewhere.

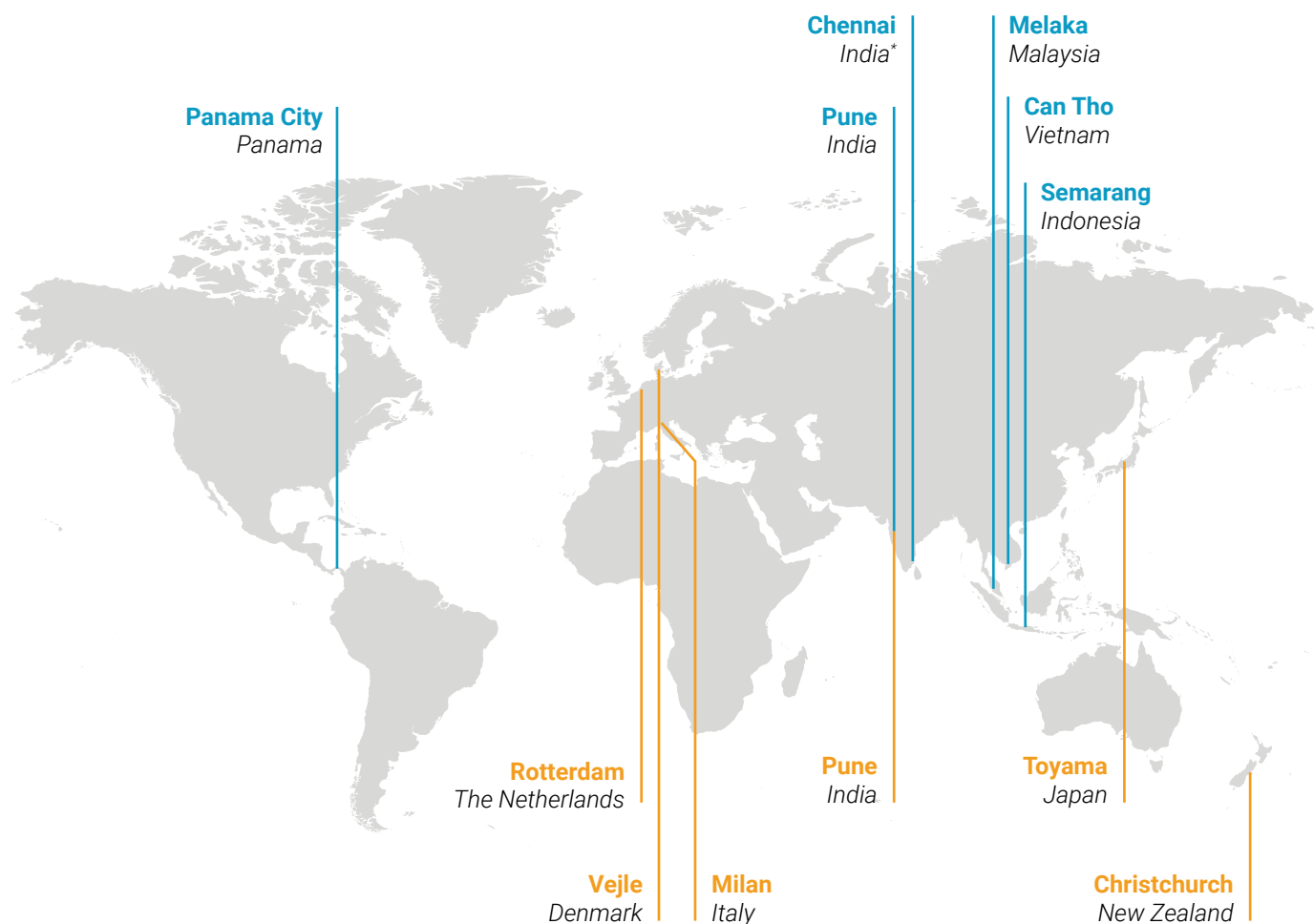
# 2020 CITY COHORT

## LEARNING CITIES

"Learning Cities" are selected because of their commitment to improving waste management and creating circular systems as part of resilience-building efforts, and because of their outsized potential to provide solutions in regions with high waste leakage rates.

## MENTOR CITIES

"Mentor Cities" are selected because of their proven track record implementing circular economy strategies, and because of their work in the fight against river and ocean plastics. Pune is both a learning city and a mentor city due to its breadth of community-led engagement experience.



*\*We are pleased to announce that during the drafting of this toolkit, we welcomed an additional city to our first Urban Ocean cohort, **Chennai, India**! Chennai will begin implementation in August and work through an accelerated program in order to join the other cities at the Urban Ocean Accelerator Summit in the first quarter of 2022.*

***Pune, India** was selected as both a learning and mentor city because of its significant work to date with the informal waste sector, the front line in collecting trash in many parts of the world*



## DIVE DEEPER

[NOAA Helps Ocean Conservancy Bring the Fight Against Ocean Plastic to the Big City](#)

[Urban Ocean Announces First Cohort of Cities](#)

[The Importance of Marine Debris Networks to Prevent and Reduce Ocean Plastic Pollution](#)



This toolkit collates the resources developed over the course of the first program iteration and also includes several additional resources that will support cities as they strive towards cleaner, healthier communities and cleaner, healthier seas.

We hope you will use this toolkit as a reference and dive deeper into the topics that interest you. At the end of each section, there are questions to prompt your thinking. **You can save a version of this interactive PDF to your device so you can take notes to reference later.**

Thank you for your commitment  
to building **clean, healthy cities**  
for **clean, healthy seas.**



**BACK TO NAVIGATION**



# THE PLASTICS PROBLEM





Approximately **11 million** tons of plastic waste enter our oceans each year, according to [Breaking the Plastic Wave](#).<sup>2</sup> In September 2020, Ocean Conservancy scientists contributed to a report that also found that plastic pollution inputs into rivers, lakes, and the ocean could increase to as much as 53 million metric tons annually by 2030 even if current plastic reduction commitments are met.<sup>3</sup> This increased figure is equivalent to about **one cargo ships' worth of plastics, by weight**, entering aquatic ecosystems every single day.


### DIVE DEEPER

[No Silver Bullet Solution to Plastic Pollution](#)

[3 Ways to Push Back Against Plastic Pollution](#)

[The World is on Track to Triple Ocean Plastic Pollution by 2040](#)

Here, we discuss types of plastic pollution you might not be as familiar with and the most recent science around the issue.


**11m**   
metric tons of plastic waste enter the ocean each year

**250 million**  
tons of plastic waste could **accumulate in the ocean by 2025** in a BAU scenario

Over **80 PERCENT** of ocean plastic comes from land-based sources

**20 PERCENT** originates from ocean-based sources like fisheries and vessels

Among leakage that comes from land-based sources

**75 PERCENT** comes from waste that remains uncollected  **25 PERCENT** leaks into the ocean after it's been collected

**\$1.3billion**  
in lost annual revenues to the tourism, fishing and shipping industries as a result of growing amounts of ocean plastic

**800**   
species impacted by ocean plastic



Ocean Conservancy®

# MICROPLASTICS

Unlike organic materials, which eventually decompose into their basic ingredients, plastic never fully breaks down. Instead, when everyday plastic items in the environment are subjected to heat, light, and environmental forces such as wind, waves, UV rays, and biological and mechanical disturbances, they break down into microplastics (plastic pieces less than 5 millimeters in size) and nanoplastics (less than 0.1 micrometer in size). Microplastics that have degraded from larger pieces are known as secondary microplastics, while intentionally manufactured microplastics are known as primary microplastics. Microplastics exist in different forms as fragments, pellets, filaments, films, fibers, fiber bundles, or other shapes.<sup>5</sup> Researchers estimate that more than one million metric tons of microplastics enter the global ocean each year.<sup>5</sup> This contributes to the various types of plastics impacting more than 800 marine species through direct ingestion or entanglement in lost fishing gear.<sup>2</sup>

Easy to consume and transport, microplastics can be found across terrestrial, aquatic, and marine ecosystems as well as in living organisms. Tire wear particles and microfibers are among the most prevalent microplastics in the coastal environment and global ocean as a result of road runoff; wastewater, gray water, and stormwater inputs; and atmospheric dispersion. Once waterborne, microplastics are ingested by marine and aquatic organisms that mistake them for food. Documented impacts of microplastic exposure on organisms are wide-ranging and significant.

Microplastics, as well as their associated additives and contaminants, have been shown to threaten the health of wildlife, the environment, and potentially human health as well.<sup>6,7</sup> Recent studies have found that humans are exposed to microplastics not only through food and beverages—such as seafood, beer, honey, and salt—but also from drinking water and even breathing air.<sup>8,9,10</sup> The impact of microplastics on the ocean is expected to increase ten-fold by 2100.<sup>11</sup> Many questions remain regarding the prevalence, transport and impacts of microplastics. However, minimizing the transmission of microplastics through technological, regulatory, or other solutions is critical, and steps must be taken now to prevent further harm.



## DIVE DEEPER

[Microplastics Are Found at the Earth's Deepest Trough and the Highest Peak](#)

[Shedding New Light on Microfiber Pollution](#)

[Are we Underestimating the Impacts of Microfibers?](#)





## GHOST GEAR

Abandoned, lost or otherwise discarded fishing gear (ALDFG), better known as ghost gear, is any fishing gear that is abandoned, lost or discarded in marine environments. This includes fishing nets, long lines, fish traps, lobster pots, or any other human-made device used to catch marine animals. Fishing gear is designed to trap marine organisms, and it can continue to do so long after the gear is lost or discarded in the ocean. When lost fishing gear keeps catching fish after its intended lifespan, it is called ghost fishing.

Ghost gear can enter the water in a number of ways, including getting snagged on rocks or coral, being accidentally cut loose by other marine traffic, and being swept away and lost during storms. Ghost gear can also be intentionally discarded by illegal fishers to hide evidence of illegal, unregulated, and unreported (IUU) fishing activity or because the fishers were denied entry to port. Despite the source, the effect of all ghost gear is the same: it pollutes the ocean, impacts the sustainability of our fisheries, and threatens marine animals and the ecosystems they depend on.

Conservative estimates suggest 640,000 to 800,000 tons of fishing gear is lost annually worldwide, which could account for at least 10% of all plastic pollution.<sup>12</sup>

In a study about the infamous North Pacific Gyre (also known as the Great Pacific Garbage Patch), nearly half of all large plastic debris (measured by weight) found at the surface was ghost gear. Ocean Conservancy research shows that ghost gear is the single most deadly form of marine debris to ocean life.<sup>13</sup> This has staggering implications for food security, fisheries sustainability, tourism and, ultimately, the bottom line of the fishing industry. Globally, an estimated 90% of species caught in lost gear are of commercial value,<sup>14</sup> and some fish stocks have reportedly suffered up to a 30% decline due to damage from ghost gear.<sup>15</sup>

Learn more about ghost gear best practices and city-led engagement opportunities [below](#).



### DIVE DEEPER

[Developing Local Solutions to Ghost Gear, In and Out of the Water](#)

[How can Governments and Economies Prevent Ghost Gear?](#)



# WHAT THE MOST RECENT SCIENCE REVEALS

The urgency is clear: the global community must come together to stem the tide of ocean plastic pollution. Recent scientific reports have only further confirmed the magnitude of the plastic issue. Globally, we are on track to add 53 million tons of plastic into the ocean every year by 2030 if action is not taken now.<sup>16</sup>

The pandemic prompted a major shift in plastic consumption habits and, in turn, plastic pollution trends. The pandemic immensely exacerbated plastic pollution due to the need for personal protective equipment (PPE). A 2020 study found that 129 billion masks and 65 billion gloves were used *monthly* during early months of the pandemic. That's nearly 3 million face masks per minute.<sup>1</sup> Ocean Conservancy addresses the pervasiveness of masks and other protective equipment in its recent report, [Pandemic Pollution: The Rising Tide of Plastic PPE](#).

It is imperative to acknowledge that plastic pollution impacts various communities differently and often inequitably, and that everyone has a unique part to play in the solution to this problem. As a U.S.-based organization, we acknowledge [the outsized role that the U.S. has played in the plastics crisis](#) and we hope that this toolkit can help bring about sustainable solutions.

This is just a brief overview of the scientific community's latest findings, which demonstrate the need for rapid and vigorous action from our global community to solve the plastics crisis.

If you would like to learn more about the plastics crisis and the role cities can play, check out UN ESCAP's recent eLearning course, ["Cities and Marine Plastic Pollution: Building a Circular Economy"](#). Ocean Conservancy was a key contributor and several of the modules feature Urban Ocean and the work of our partners.





## REFLECTIONS

What did you learn that you didn't know before?

Has this information changed the way you perceive your own plastic consumption?

What concerns you the most about the crisis?

What other areas do you think the plastics crisis affects in your city?

We encourage you to save your notes to your device and revisit them in the future.



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# ASSESSING & PRIORITIZING NEEDS



Plastic pollution is a complex problem. Cities can best understand their role in addressing the crisis by investing in research and data collection to assess and prioritize their needs, while creating a baseline to measure future success.

Through the Urban Ocean **GAP Assessment**, cities analyze shortcomings and opportunities within their respective waste management systems by using two proprietary tools:

1

The “Circularity Assessment Protocol (CAP),” which is deployed by the University of Georgia’s New Materials Institute (NMI) and Dr. Jenna Jambeck’s Circularity Informatics Lab to create baseline data for a city’s material flow.

2

The “Opportunity Assessment Tool” delivered by Resilient Cities Network (R-Cities) as an adaptation of its Systems Studio tool, focused on scoping and prioritizing project opportunities based on the CAP findings to enhance each city’s waste management systems. Below, we provide more detail about each tool.

#### CITY SPOTLIGHT

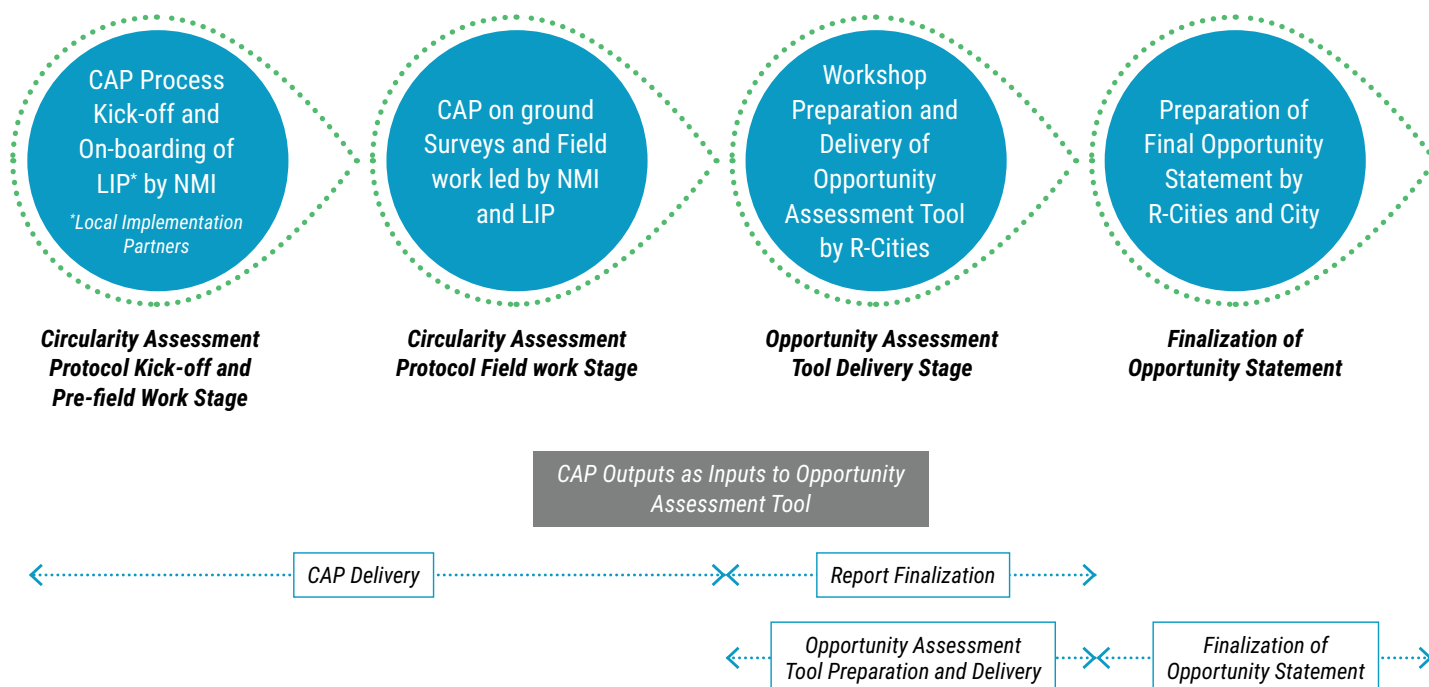
**Toyama’s Eco-Town** has a waste recycling education center, attracting around

**8,000 visitors**

every year. Environmental education is also a part of **60% of schools** so far.

[Learn more here!](#)

#### GAP ASSESSMENT PROCESS

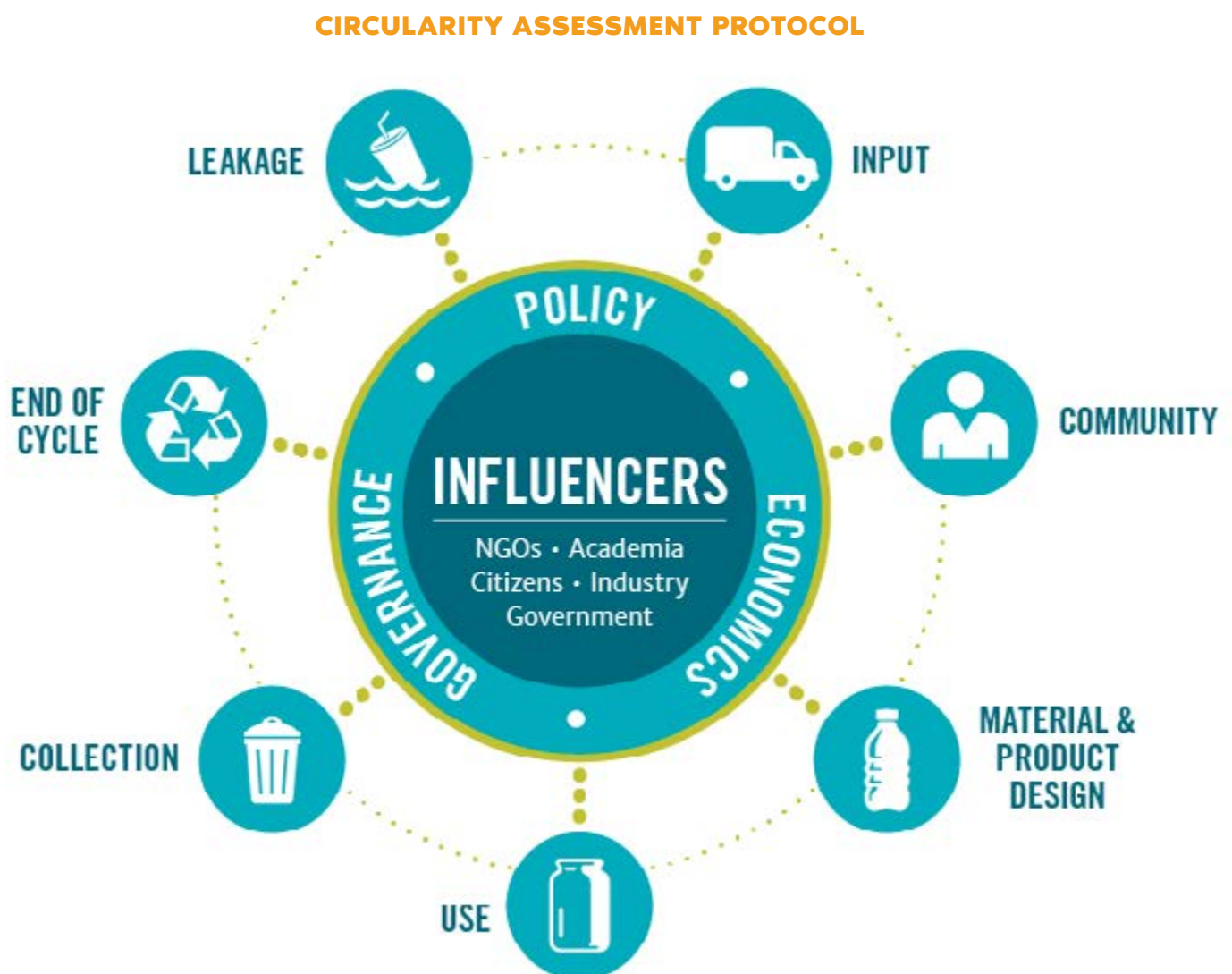


Urban Ocean advocates for place-based, community-driven interventions, and calls for an integrated approach of various interventions along the value chain, including context-sensitive situations for different geographies.

To respond to this need, Dr. Jambeck and her team developed the **Circularity Assessment Protocol (CAP)**. The protocol is a seven-phase model that builds a snapshot of a city's circular materials management and recycling systems. The model can provide data for local, regional, or national decision-making to reduce leakage of waste (e.g., single-use plastic) into the environment and increase circular materials management.



[HOVER ON THE ICONS BELOW FOR ADDITIONAL INFORMATION.]





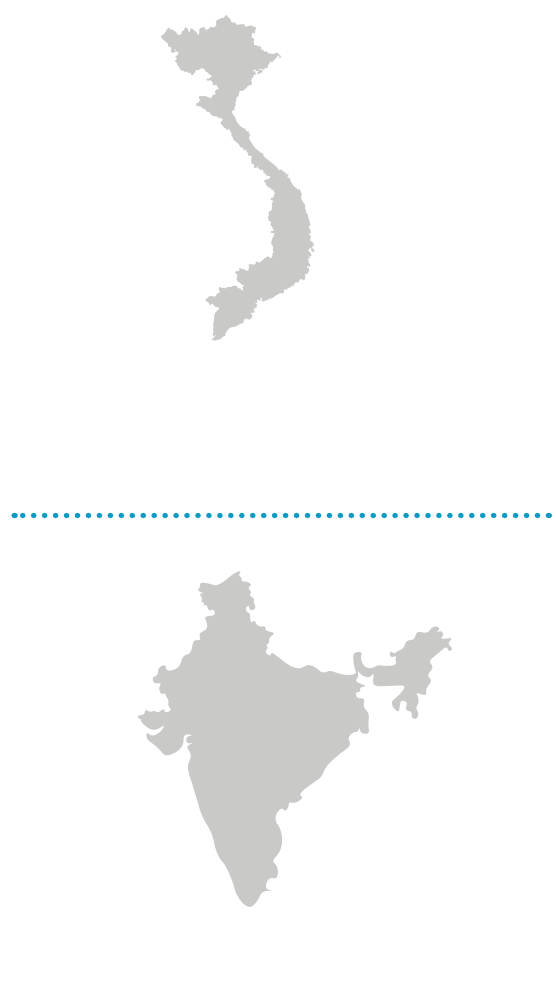
# URBAN OCEAN CITY CAP REPORTS

Despite the challenges presented by the pandemic, Dr. Jambeck's lab was able to implement the CAP in all five of the original Urban Ocean learning cities with the assistance of local implementation partners and the determination of each city's resilience office.

Watch our learning cities react to their experience implementing the CAP in their communities [here](#). All data collected can be viewed through the public access [Marine Debris Tracker](#) and the final [City CAP Reports](#).



[CLICK THE BUTTONS BELOW FOR ADDITIONAL INFORMATION.]



## CITY SPOTLIGHT

In **Semarang, Indonesia**, communities are reliant on

**waste banks.**

The **Polaman Resik Sejahtera bank** attracts customers and encourages recycling by offering household participants low interest loans.

Learn more [here!](#)

# URBAN OCEAN CAP KEY FINDINGS

Below are the high-level results from the first cohort of five\* Urban Ocean cities.



Many cities have small but enthusiastic groups that support refill and reuse stations, bulk stores, alternative delivery of products, etc., which should be cultivated and invested in to avoid waste generation.



There is interest in community awareness campaigns about how to properly sort and handle waste according to local protocols. However, these campaigns cannot operate in a vacuum. Policies and enforcement need to complement these initiatives.



There is demand for programs to attract young and tech-savvy locals into the waste sector, as well as demand for new technology that can support the recycling and informal sectors.



There is a consistent need to increase and optimize infrastructure that is context-sensitive to maximize collection, transport, sorting, and disposal of waste in communities.



Consistently, the most common litter items were categorized as tobacco products (mainly cigarettes) or food packaging products such as multilayer plastic food wrappers, straws, utensils, and to-go containers.



Solutions should be developed to address problematic items such as multilayer film packaging and tobacco products, after reduction and alternative reuse options have been implemented.

We all have something to learn. We discovered through the Urban Ocean CAPs that cities in emerging economies have a lot to share with more developed economies and the global community. Based on what we observed, opportunities to be more circular are much more attainable in developing economies because systems are generally more localized. Many places where we have collaborated already have the infrastructure in place to be more circular, creating the opportunity for an advanced infrastructure transition that many 'developed' economies lack. In addition, emerging economies have more autonomy to improve their waste management systems, which can simultaneously improve public health and safety along with the natural environment.

\* CAP results for the sixth Urban Ocean learning city – Chennai, India – will be finalized by the end of 2021.

Based on the challenges and opportunities encountered, there are several ways that cities can partner with the private sector to realize their common circular economy goals.

Here are a several ideas for how cities and the private sector can partner to co-develop solutions:

- Design infrastructure to maximize collection, transport, and sorting of waste
- Develop community awareness campaigns around how to properly handle waste given the local context and regulations
- Create programs to engage young and tech-savvy locals in the waste sector
- Invest in refill and reuse stations where possible
- Create alternatives and solutions for problematic items– such as multilayer film packaging and tobacco products. This could also be used as an opportunity to develop Extended Producer Responsibility (EPR) guidelines, call for pledges to collect back items for proper recycling or proper disposal, and/or integrate recycled content standards

In the [“Ecosystem of Solutions”](#) section, we include technology solutions to address specific needs of cities.

If you aren’t ready to commit to the CAP in your city, Dr. Jambeck’s team has developed additional, *free resources* through the National Geographic [Sea to Source Methods Toolkit](#) that you can use to assess waste flows in your community.

#### CITY SPOTLIGHT

**Rotterdam, The Netherlands**  
has developed an  
underground temporary

### waste container system

to address public health,  
working condition for waste  
workers, and protect the  
beauty of public spaces.

Learn more [here!](#)



### CITY SPOTLIGHT

Milan avoided

720,000  
kg of plastic waste

in school canteens by distributing tap water and replacing plastic utensils. They also **reduced food waste by 17%** by providing fruit as a mid-morning snack instead of at the end of lunch for students at 57 schools.

[Learn more here!](#)

The **Opportunity Assessment Tool**, which is the second phase of the GAP Assessment, was implemented by Resilient Cities Network (R-Cities), an Urban Ocean partner organization.

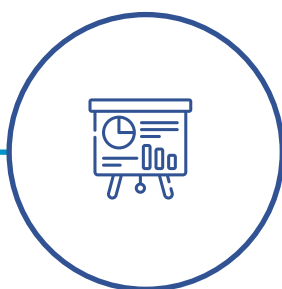
The Opportunity Assessment Tool offers municipalities a practical tool to apply systems-thinking to urban challenges and unlock new solutions. R-Cities, which draws on more than six years of experience exploring methods to support strategic planning with local authorities, adapted its Systems Studio methodology as part of Urban Ocean in the wake of the pandemic. The tool supports cities in prioritizing key actions and in addressing the interrelated challenges of urban development and ocean plastic, while generating multiple co-benefits for the cities.

## THE URBAN OCEAN IMPLEMENTATION PLAN AND OPPORTUNITY ASSESSMENT TOOL



### Preparation Forum

- Sessions related to Resilience, Plastic Policy, Sciences-based solutions, Finance and Circularity IncubatorsInnovation Dialogues with the private sector
- Innovation Dialogues with the private sector



### Gap Assessment

- Circulatory Assessment Protocol (CAP)
- Framing Session
- Participatory Session
- Solutioning Tool

**OPPORTUNITY  
ASSESSMENT**



### Project Design

- Pairing with mentor cities and technical assistance for project design
- Project proposal development



### Accelerator Summit

- Matching between donors/private sector and projects
- Project pitch

# ADDRESSING CO-BENEFITS

“Resilience is the capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience.”<sup>17</sup>

– JUDITH RODIN

## URBAN OCEAN CITY CASE STUDIES

Select a case study to learn more.



Con Son



Milan



Panama City



Pune



Rotterdam



Semarang



Toyama City

Building off author Judith Rodin's definition, the concept of urban resilience sheds light on the interconnectedness of urban systems—such as transportation, waste management, housing, etc. —and how more adaptive urban systems can not only bounce back more effectively from disruptions but also can help lead to transformative results that yield multiple benefits to societies and economies. This idea of co-benefits, as intended or unintended benefits from a policy action, has echoed throughout the globe during the pandemic as local and national leaders demand that every dollar invested in recovery serves multiple purposes and/or deals with multiple crises, such as the climate crisis.

Urban resilience principles can also be applied to the interrelated challenges of the ocean and urban areas. For instance, actions to improve waste management and other urban systems can provide holistic, resilient, and sustainable solutions that not only reduce ocean plastic pollution, but also address key city priorities such as improving public health, promoting innovation, supporting economic development and job growth, and reducing greenhouse gas emissions. The Urban Ocean case studies show the breadth of drivers for resilient city waste management while highlighting possible co-benefits to communities and economies. Possible co-benefits include bolstering the rights of informal waste workers, educating youth on the 3R concept (reduce, reuse, recycle), developing community waste banks, optimizing collection systems with community engagement, reducing food waste, and promoting eco-friendly packaging materials. Ideally, projects can be designed to include co-benefits as an essential aspect of project development. For example, river and waterway catchment equipment is traditionally designed to address pollution. However, a case study from Panama City demonstrates the potential to use this technology to also engage communities, address gender equality, and provide data to support studies and evidence-based policies for waste management in the city.

Continue reading to learn about the ecosystem of solutions and innovations that you can promote in your city.

## DIVE DEEPER

Urban Ocean Webinar:  
[Circularity Beyond Plastics](#)

Video: R-Cities Waste  
Management Community on  
[Waste Management in Crisis  
and Recovery](#)







# REFLECTIONS

What are your top three reasons for addressing plastic pollution? Why?

What are the resilience co-benefits that your city can attain by addressing these priorities?

For Urban Ocean Cities, what are your city's strengths and weaknesses? Have your priorities changed after participating in the CAP and Opportunity Assessment Tool? If so, how?





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# **THE ECOSYSTEM OF SOLUTIONS**



There are several types of solutions that your city can deploy to curb plastic waste and foster a more circular economy.

In this section, we cover the ecosystem of different solutions that are available and we encourage you to consider a well-rounded approach that brings together policy, infrastructure and technology, outreach and training, and civil society engagement.

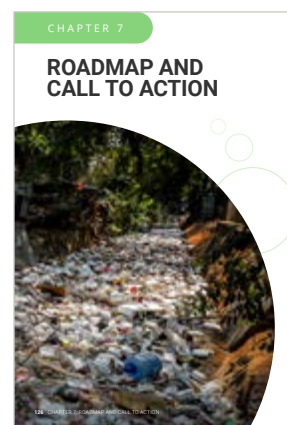
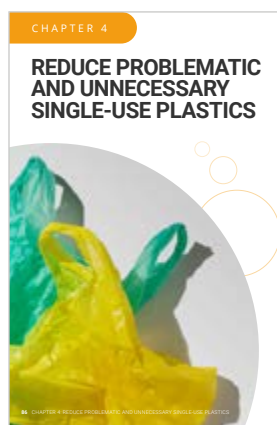
**PLEASE NOTE:** *The companies and solutions described here are examples of approaches that a city can take. What works in one city may not work in another. Techniques and devices highlighted in this toolkit are not necessarily endorsed by Urban Ocean or Urban Ocean's partner organizations.*

## PLASTICS POLICIES

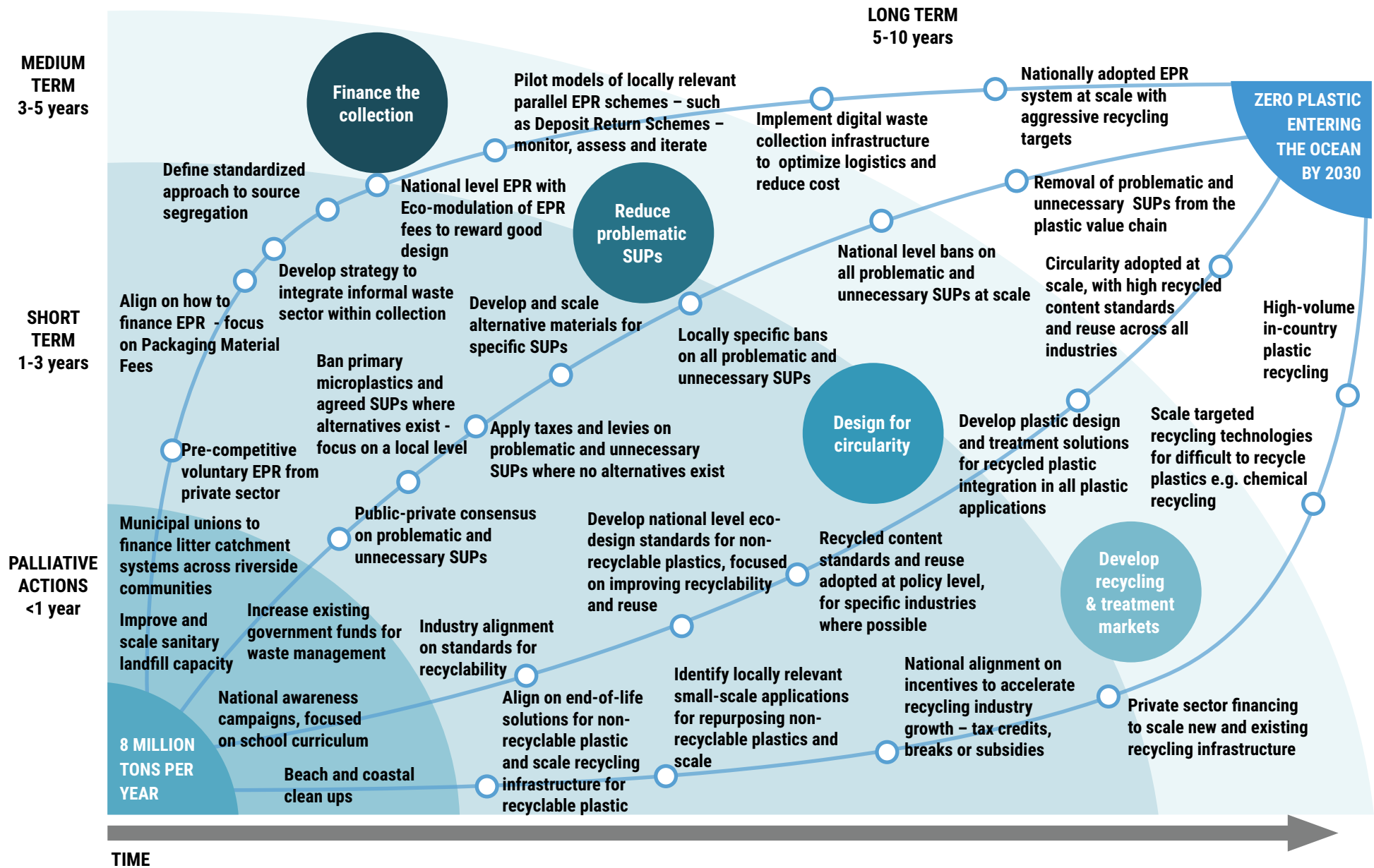
- [Plastics Policy Playbook: Strategies for a Plastic-Free Ocean](#) – The Plastics Policy Playbook is a first-of-its-kind manual that outlines various policy interventions available to prevent plastic waste from entering our ocean.



**[CLICK THE LINKS BELOW TO NAVIGATE DIRECTLY TO THE AREAS THAT INTEREST YOU]**



# PLASTICS POLICY PLAYBOOK: ROADMAP FOR SUCCESS



PALLIATIVE MEASURES	SHORT TERM	MEDIUM TERM	LONG TERM
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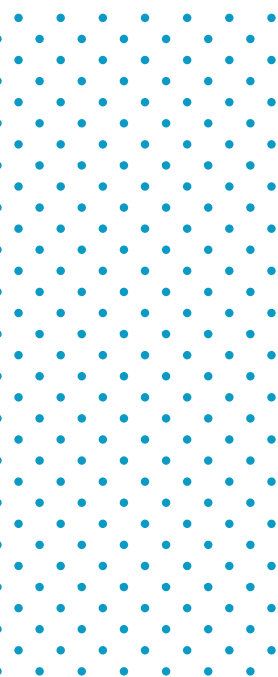


## PLASTICS POLICIES (CONTINUED)

- Urban Ocean Webinar: [Building Smart Plastics Policies in Your City](#) – In this recording, Ocean Conservancy's Plastics Initiative Director, Chever Voltmer, provides an overview of the organization's Plastics Policy Playbook.
- Urban Ocean Resource Page: [Six Ways Cities Can Engage on Ghost Gear](#) – This infographic highlights six opportunities for cities to curb abandoned, lost, or discarded fishing gear.
- [GGGI Best Practices Framework](#) – This guidance document provides clear recommendations for stakeholders—including seafood businesses, the fishing industry, certification bodies, and local and national authorities and governments—on how to effectively address the issue of abandoned, lost, and discarded fishing gear.
- [Ghost Gear Legislation Analysis](#) – This report describes policy approaches for lost fishing gear prevention and mitigation and provides recommendations to guide stakeholders towards building cleaner and safer policies.

## CIRCULAR ECONOMY POLICIES

- Ellen MacArthur Foundation [Universal Circular Economy Policy Goals](#) – This resource details five universal circular economy policy goals, which can provide a framework to build more sustainable cities.
- Urban Ocean Innovation Dialogues Webinar: [Cities and Circularity Beyond Plastics](#) – This panel discusses financing, policy levers, and planning for a future beyond plastics. Speakers, who include engineers, strategic advisors, and senior consultants, examine tangible ways circularity plays a role in other sectors and the role that cities can play in facilitating the circular economy.
- Ellen MacArthur Foundation [Circular Economy in Cities Programme and Resources](#) – This is a compiled suite of online resources that provides a reference for urban policymakers. It includes a framework, fact sheets, policy levers, case studies, and other resources.



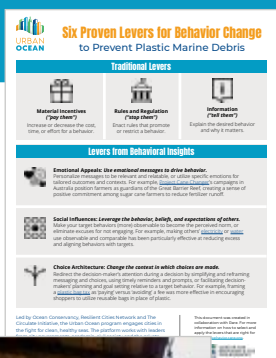




## INNOVATIONS

- Urban Ocean Webinar: [Science-based Solutions to Macro- and Micro- Plastic in Municipal Waterways](#) – In this recording, Dr. Chelsea Rochman outlines the ways cities are impacted by macro- and micro- plastics, and she offers solutions to safeguard your city.
- Urban Ocean Resource Page: [Six Proven Tech Solutions to Prevent Ocean Plastic Pollution](#) – This infographic details various examples of technologies that prevent micro- and macro- plastics from entering waterways before reaching our oceans.
- [Global Assessment of Innovative Solutions to Tackle Marine Litter](#) – This article from *Nature Sustainability* discusses weaknesses in current marine litter solutions and offers recommendations to increase the efficacy of these solutions.

Want to stay up-to-date on emerging solutions and innovations? Follow these contests: The Incubation Network's [Plastics Data Challenge](#) and [Future of Flexibles](#) global innovation challenge, Rare's [Solutions Search](#), Closed Loop Partners' [Beyond the Bag Initiative](#), Sustainable Oceans Alliance's [Oceans Solutions Accelerator](#), and the [Ending Plastic Pollution Innovation Challenge](#)!



## CIVIL SOCIETY ENGAGEMENT AND BEHAVIOR CHANGE

- Urban Ocean Innovation Dialogues Webinar: [Behavior Change and Developing Locally Appropriate Outreach Strategies](#) – This recording highlights successful city-led outreach strategies, recent studies about the return on investment for behavior change, and the often overlooked levers for advancing impactful behavior change interventions.
- Urban Ocean Resource Page: [Six Proven Levers for Behavior Change to Prevent Plastic Marine Debris](#) – This infographic covers three well-known aspects of local outreach strategies, as well as three lesser known behavior change considerations that should be included to make such strategies successful.
- Rare's Center for Behavior & The Environment [Resource Library](#) – This directory allows users to filter resources by behavior-centered design and interest area.
- Rare's [Behavior Change for Nature: A Behavioral Science Toolkit for Practitioners](#) – This report provides an overview of the behavior science behind conservation as well as an overview of behaviorally-informed solutions.



# POTENTIAL SOLUTIONS TO ADDRESS CAP RESULT CITY CHALLENGES

Based on the first cohort outcomes identified in the [Circularity Assessment Protocol](#), we would like to highlight commonalities and offer examples for possible solutions.

## ENCOURAGE REFILL AND REUSE

Many cities have small but enthusiastic groups that support refill and reuse stations, bulk stores, alternative delivery of products, and more; which should be cultivated and invested in. Inspiring examples include:



[Siklus' Refill Stations](#)  
Indonesia



[Algramo's App](#)  
Chile (also taking place in the U.S.)



[Recube's Reusable Cup System](#)  
India

## ENGAGE LOCAL COMMUNITIES

Community awareness campaigns as well as policies and enforcement are needed to ensure proper waste sorting/handling according to local protocols.

- [McKinsey](#) is working to make community-based recycling and composting facilities more accessible, with pilot projects in Argentina and Indonesia.
- [Mr. Trash Wheel](#) is a sustainably-powered trash interceptor that can be placed at the end of a river, stream, or other outfall. The original Trash Wheel is based in Baltimore, Maryland, and is currently integrated in the city's Waterfront Partnership's "Healthy Harbor Plan" and is a social media celebrity in its own right. Other models can be found around the world, including in Panama.
- [Reducing Plastic Pollution: Campaigns That Work](#) is a resource from the United Nations, One Planet, and Stockholm Environment Institute providing recommendations for successful behavior change campaigns.
- This [playbook](#), created by the Indonesian Coordinating Ministry of Maritime and Investment Affairs and the World Bank, uses behavior change theory to create a strategic approach to reducing marine plastic pollution in Indonesia.

### CITY SPOTLIGHT

In 2019, **Panama City**'s new low-tech trash interceptor, Barrera o Basura, collected more than

**70 tons**

of trash over the course of nine months (**roughly the equivalent of 10,000 full garbage bags**).

Learn more [here!](#)

### ATTRACT INNOVATORS AND ACCELERATE INNOVATION

There is demand for programs to attract young and tech-savvy locals to the waste sector, as well as to develop new technologies that can support the recycling and informal sectors. Examples include:

- [PlastX](#) is a research group based at the Institute for Social-Ecological Research in Germany that uses a social-ecological risk perspective to understand plastic use.
- [TrashLucky](#) is a Thai program where participants collect recyclables and have it picked up. They are then entered into a drawing where they can win various prizes.
- The Incubation Network's [Second Annual Innovation Challenge](#) called for participants to rethink the future of flexibles.
- Rare's [Solutions Search](#) is a contest that asks its participants to identify how behavioral science can help solve environmental issues.

### IMPROVE PLASTIC WASTE MANAGEMENT AND RECYCLING INFRASTRUCTURE

There is a consistent need to increase and optimize context-sensitive infrastructure to maximize collection, transport, sorting and disposal of waste in communities.

- The United States Environmental Protection [Agency's Sustainable Materials Management resource hub](#) contains several tools, especially in the field of Sustainable Material Management.
- This [international partnership](#) between Dow, Lucro Plastecycle (an Indian recycling company), and Marico Limited (one of India's leading consumer goods company) is a great example of partnership to design circular flexible plastic packaging as most of it is currently not recycled.





## ADDRESS PROBLEMATIC AND HARD TO RECYCLE ITEMS

Solutions should be developed that address problematic items such as multilayer film packaging and tobacco products – after reduction and alternative reuse options. Examples include:

- [Marinatex](#): Marinatex is a product made of fish scales and skin, an alternative to plastic. It is biodegradable and versatile (early stage development).
- [Novoloop](#): Novoloop makes Oistre, a plastic made of environmentally friendly materials.
- [Ashaya](#): Ashaya is developing recycling processes to treat three types of plastic. They plan to convert the waste into a 3D printed filament (early stage development).
- [ChicoBag](#): ChicoBag eliminates a common pain point for consumers: remembering your reusable bag. Their service enables customers to borrow bags on-site as part of the sharing economy.
- [Sway](#): Sway replaces traditional plastic with a seaweed-derived material. Their bags are bio-based, and designed to be carbon-negative.

Consistently the most common litter items were categorized as tobacco products (mainly cigarettes) or food products, often multilayer plastic food wrappers, straws, utensils, and to-go containers

- [Clearbot](#): Clearbot is a company aiming to clean marine debris through AI powered robots.
- Terracycle's [Cigarette Waste Recycling Program](#) participants can sign up, collect cigarette butts, and then ship their waste to be made into industrial products.
- Let's Do It World's ["2 Million Cigarette Butts" Program](#) had 30 thousand children pick up 1.6 million cigarette butts. Based in Estonia, they specifically aim to raise awareness about how litter impacts the Baltic Sea. The website contains information about how the nonprofit organized this successful campaign.

### Don't forget about ghost gear

Abandoned, lost, or discarded fishing gear—also known as “ghost gear”—is the single deadliest form of ocean plastic to marine life. An estimated 5-30% decline in some fish stocks can be attributed to ghost gear, and with more than three billion people relying on seafood for at least 20% of their protein, ghost gear is a real and present threat to everyone.







## REFLECTIONS

After reviewing this section, what solutions would you like to consider for the short term, medium term, and long term?

In order to enable a well-rounded approach to tackling plastic pollution and building a more circular waste management system, do you have a solution or a project that touches on each of the categories below? Feel free leave comments and notes below.

- Policy
- Infrastructure and Technology
- Outreach and Training
- Civil Society Engagement and Behavior Change





# **OTHER IMPORTANT CONSIDERATIONS**

Cities are complex systems, and building solutions to address our common well-being is equally complex.

Below are several other factors that cities should consider when formulating their strategies and programs to build circular economies and resilience and to tackle their waste challenges.

## CLIMATE AND PLASTICS

Each phase of the plastics life cycle results in global greenhouse gas emissions. Learn more about the interconnectedness of plastics and climate impacts below.

- [The Intersection of Climate Investing and Circular Plastics in South and Southeast Asia](#)
- [The Circulate Initiative's Plastic Life Cycle Assessment Calculator for the Environment and Society](#)
- Center for International Environmental Law: [Plastic & Climate: The Hidden Costs of a Plastics Planet](#)

## GENDER AND ENVIRONMENTAL JUSTICE

Plastic pollution has and will continue to have profound effects on the global community, but it won't affect everyone equally. Thus, effective and equitable solutions to plastic waste should also consider the social justice impacts of pollution.

- [The Role of Gender in Waste Management](#)
- United Nations Environment Programme Report: [NEGLECTED: Environmental Justice Impacts of Marine Litter and Plastic Pollution](#)

## PARTNERSHIPS

Thousands of decision-makers, both in the public and private sector, are looking to address plastic pollution and the climate crisis. You can tap into this community by considering partnerships; the Urban Ocean program provides a checklist (linked below) for cities to consider. You can also learn about how cities in Southeast Asia are tackling waste challenges by developing critical partnerships with informal sector waste workers.

- Urban Ocean Resource Page: [Tips for Partnering with the Private Sector](#)
- [Supporting Southeast Asia's Informal Waste Sector](#)
- [The Unsung Heroes of Vietnam's Waste Management Sector](#)

### CITY SPOTLIGHT

Pune's Kagad Kach Patra Kashtakari Panchayat (KKPKP), a trade union for waste-pickers, is made up of

80%  
women

The KKPKP aims to demonstrate the importance of waste pickers' contribution to Pune, and work directly with the Pune Municipal Corporation to **improve their workers' working conditions.**

[Learn more here!](#)

Pune is a leader in engaging local communities for the city's waste management solutions. Learn more about Pune's efforts to engage women from the informal sector [here](#).



## FINANCING

Blended finance can accelerate investment in municipal infrastructure. Below, we have included examples and guidance from an Urban Ocean contributor, [Circulate Capital](#), as well as Ocean Conservancy's most recent assessment on available financial instruments. More financing options are included in the additional resources section at the end of the toolkit.

- Urban Ocean Resource Page: [Five Criteria for Investment in Waste Management and Recycling Businesses](#)
- Circulate Capital: [Request for Proposals](#) example
- Ocean Conservancy: [Survey of Financial Instruments](#)

## MONITORING SUCCESS

What is your definition of success? How will you measure it? Tracking your metrics or key performance indicators should be included in every aspect of your project preparation. Monitoring will allow you to demonstrate your contribution to reaching your city's goals, and it is also a helpful tool to assess which of your projects is working. Below, we have included a list of resources to help you develop your impact strategy to monitor your success. Also included is an example of an impact framework from Circulate Capital. Even though Circulate Capital is a business, several of these indicators can be adapted for city planning.

- [TCI Metrics/Indicator Resources](#)
- Circulate Capital Ocean Fund: [Impact Framework](#)

## CITY SPOTLIGHT

Con Son, a popular tourist destination off the coast of **Can Tho, Vietnam**, launched a local initiative to

### advanced alternative materials

that subsequently reduced consumption of single-use plastics by citizens and tourists alike.

Learn more [here!](#)





# TCI METRICS/INDICATOR RESOURCES

REPORTS, GUIDELINES	SOURCE	TITLE	COUNTRY FOCUS
	International Union for Conservation of Nature (IUCN)	<a href="#">The Marine Plastic Footprint: Towards a Science-based Metric for Measuring Marine Plastic Leakage and Increasing the Materiality and Circularity of Plastic</a>	Global, Denmark, Germany, Poland, Lithuania, Latvia, Estonia, Russia, Finland, Sweden, Belarus, Czech Republic, Slovakia
	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)	<a href="#">Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean</a>	Global
	Quantis and Environmental Action (EA)	<a href="#">Tackling Plastic Pollution: A Pioneering Methodology to Measure Plastic Leakage and Identify its Pathways into the Environment</a>	Global
	Resources, Conservation and Recycling	<a href="#">Assessment of Factors Influencing the Performance of Solid Waste Recycling Programs</a>	Thailand
	United Nations Development Programme (UNDP)	<a href="#">Plastics and Circular Economy: Community Solutions</a>	Burundi, India, Jamaica, Sierra Leone, Gambia, Ghana, Maldives, Afghanistan, Armenia, Bahamas
	Urban Institute and United States Agency for International Development (USAID)	<a href="#">Behavior Change in Local Systems to Mitigate Ocean Plastic Pollution: Case Study of USAID's Municipal Waste Recycling Program in Two Vietnamese Cities</a>	Vietnam
	United Nations Environment Programme	<a href="#">Addressing Marine Plastics. A Roadmap to a Circular Economy</a>	Global
TOOLS & OTHER RESOURCES	Vital Ocean, HasiruDala and TriCiclos	<a href="#">Leave No Trace: Vital lessons from pioneering organisations on the frontline of waste and ocean plastic</a>	Global, India, Indonesia, Brazil, Chile

TOOLS & OTHER RESOURCES	SOURCE	TITLE	COUNTRY FOCUS
	Circular Action Hub	<a href="#">Circular Action Hub Platform</a>	Global
	CounterMEASURE GIS Platform	<a href="#">Promotion of Countermeasures Against Marine Plastic Litter in Southeast Asia and India</a>	Southeast Asia, India
	OceanCycle	<a href="#">OceanCycle Certification</a>	Global
	U.S. Environmental Protection Agency	<a href="#">Solid Waste Emissions Estimation Tool (SWEET) version 3.0</a>	Global
	U.S. Environmental Protection Agency	<a href="#">WARM Model (version 15)</a>	USA
	WIEGO and Global Alliance of Waste Pickers	<a href="#">Reducing Greenhouse Gas Emissions through Inclusive Recycling: Methodology &amp; Calculator Tool</a>	Global



## REFLECTIONS

Which of your solutions do you think will require partnerships? Who would you like to partner with?

Have you considered how your solutions may positively and/or negatively impact marginalized communities? How are you ensuring that marginalized communities participate in the decision-making process?

What will be the makeup of your team? Define roles, responsibilities, and any gaps.

What does impact or success look like to you? How will you track and prove impact/success?



# CONCLUSION

**CONGRATULATIONS!** We applaud you for completing the Urban Ocean toolkit. Below, we have provided additional resources to assist you with your learning journey.

If you are interested in learning more about Urban Ocean or collaborating in the future, please contact **Keri Browder** at [kbrowder@oceanconservancy.org](mailto:kbrowder@oceanconservancy.org).

## WE WANT TO HEAR FROM YOU!

*Be sure share your reflections and resources with the Urban Ocean community.*

**Complete the Survey!**



We encourage you to save your notes to your device and revisit them in the future.

Thank you for your commitment to building **clean, healthy cities** for **clean, healthy seas.**



# ADDITIONAL RESOURCES

## RESOURCE BANKS

1. [The Circulate Initiatives' Knowledge Bank](#) – Resources, research, and tools focused on solutions to address ocean plastics and measures of impact.
2. [Ocean Conservancy's Global Ghost Gear Initiative Resources](#) – Resources and guidance documents, including the best practice framework for the management of fishing gear.
3. [Solid Waste Management Knowledge Silo Breaker](#) – Developed by the Global Platform for Sustainable Cities and updated July 2021. Knowledge hub with several resources, including documents, discussions, and events on waste management for cities.
4. [CDP Sustainable Infrastructure Resources](#) – Includes a toolkit, workbook, case studies, financing menus, project profiles, recommendations, and webinars.

## TOOLS

1. [U.S. National Oceanic and Atmospheric Administration \(NOAA\) Monitoring Toolbox](#)
2. [U.S. NOAA Marine Debris Project Clearinghouse](#) – An interactive map allowing the user to search for marine debris projects.
3. [Sustainable Infrastructure Tool Navigator](#) – Designed to help users identify the most relevant tools for their needs and goals. You can search the database by keyword or filter by types of tools, sectors, and infrastructure lifecycle phases, amongst other things.
4. [Anthesis' Calculating the Impact of Resources and Waste Policy Change with RAWPIC](#) – This webinar explores the calculator developed to assess the impact of deposit return schemes and extended producer responsibility reform for local authorities.
5. [WBCSD's Circular Transition Indicator](#) – The Circular Transition Indicators (CTI), now in its second edition, is a simple, objective, and quantitative framework that can be applied to businesses of all industries, sizes, value chain positions and geographies.
6. [Global Partnership on Marine Litter Digital Platform](#) – An open-source, multi-stakeholder platform that compiles different resources, connects stakeholders, and integrates data to guide action.
7. [UNOPS' Capacity Assessment Tool for Infrastructure](#) – This tool helps governments identify the gaps or bottlenecks that are inhibiting their ability to deliver sustainable and resilient infrastructure.
8. [The Climate and Ocean Risk Vulnerability Index](#) – This index, CORVI, helps governments quantify climate change impacts, meant especially for coastal cities. It can help both in categorizing risk and designing policy.



## POLICY RECOMMENDATIONS

1. **[Climate Finance and Sustainable Cities](#)** – Developed by the United Nations Framework Convention on Climate Change's Standing Committee on Finance after the 2019 Standing Committee on Finance Forum. Summarizes discussions at the 2019 SCF forum and includes many ideas and suggestions for the cities in terms of climate finance.
2. Ocean Conservancy's **[Navigating Our Way to a Zero-Emission Shipping Industry](#)** – This report details 20 policy actions the U.S. government can take to achieve a national zero-emission ship standard and help achieve zero-emission shipping by 2035.
3. Ocean Conservancy's **[Navigating Our Way to a Zero-Emission Shipping Industry Policy Recommendations](#)** – To complement the report above, this report summarizes environmental justice, clean shipping, solutions, and international action policy recommendations.

## GUIDES

1. **[U.S NOAA Marine Debris Action Plans for U.S States and Regions](#)** – Provides direction for coordinating local response to acute marine debris events.
2. **[Best Practices for Solid Waste Management, A Guide for Decision-Makers in Developing Countries](#)** – Developed by the U.S. Environmental Protection Agency in October 2020. Includes 14 sections on aspects of waste management and also directs readers to other guides.
3. **[Platform for Accelerating the Circular Economy's Circular Economy Action Agenda: Plastics](#)** – Identifies actions needed for a transition to a circular economy for plastics.
4. **[European Investment Bank's Ocean Plastics Reduction Guide](#)** – Outlines key challenges about oceanic plastic accumulation and promotes circular solutions.
5. **[Ocean Conservancy's International Coastal Cleanup](#)** – Information about starting a coastal cleanup or access cleanup reports.
6. **[Ocean Conservancy's Talking Trash and Taking Action](#)** – Resources for youth marine debris education.
7. **[University of Toronto's Trash Team](#)** – Science-based community outreach group. Combines science, education, and community outreach locally to increase waste literacy and reduce plastic pollution globally.

## FUNDS

1. **[City Climate Finance Gap Fund](#)** – Implemented by the World Bank and European Investment Bank in 2020 and still open. This fund is meant for cities from developing and emerging countries (see a list on the website), with climate action potential. The Fund approved its first batch of grants in April 2021, totaling \$1.8 million for nine cities.

2. **The Global Environment Facility Sustainable Cities Program** – Supported by the Global Platform for Sustainable Cities. This program works with 51 cities through \$310 million in grants, expected to benefit 58 million people. Though this specific program doesn't seem to have been updated since 2020, it contains useful resources about the program so far.
3. **Cities Development Initiative for Asia** – Commissioned by the German Federal Ministry for Economic Cooperation and Development. Active from 2007-2018. The CDIA project intended to bridge the gap between planning and financing in terms of sustainable infrastructure for medium-sized cities in Asia. The CDIA supported urban development measures with an investment volume equivalent to \$9.5 billion. Though the initiative is no longer active, the website has numerous resources on its page, including a strategy and business plan, success stories, and various case studies.
4. **Asia Pacific Project Preparation Facility** – Supported by the Asia Development Bank and managed by the Office of Public-Private Partnership. Contact information is on the website. All ADB DMC central and local governments and government agencies are eligible. The fund aims to increase infrastructure development in Asia and the Pacific.
5. **C40 Cities Finance Facility** – Currently accepting applications. Initially open only to C40 member cities that are also on the OECD DAC list. This will be available later to cities in C40 member countries. According to the CFF website, cities can apply for support from the CFF to develop finance-ready projects to reduce emissions and strengthen resilience against the impacts of a warming climate.
6. **Cities and Climate in Sub-Saharan Africa** – Local authorities and governments may apply. From the website: "The CICLIA facility aims to provide support to 20 to 25 cities in sub-Saharan Africa for the preparation of resilient, low-carbon urban projects. In concrete terms, CICLIA finances urban strategies, feasibility studies and technical assistance in all sectors of sustainable cities, to assist local authorities in sub-Saharan Africa in developing projects that contribute to the fight against climate change."
7. **European Local Energy Assistance** – From the website, ELENA "provides technical assistance for energy efficiency and renewable energy investments targeting buildings and innovative urban transport." Local authorities in an EU member state may apply.
8. **Local Climate Adaptive Living Facility** – The facility also known as LoCAL helps local government authorities in developing and least developed countries access the climate finance and capacity-building and technical support that they need to respond and adapt to climate change. Since 2014, LoCAL has undertaken at least 293 local engagements. As of 2021, they are accepting new applicants.
9. **Mobilise Your City** – The program aims to support cities through policy support, capacity building, and advocacy. Cities can submit an application to join the partnership with or without a request for technical assistance, which averages from EUR 100,000-500,000. To begin the application process, contact the secretariat at [contact@mobiliseyourcity.net](mailto:contact@mobiliseyourcity.net).

10. **Tamil Nadu Urban Development Fund** – All corporations, municipalities, and town panchayats of urban local bodies in the states of Tamil Nadu and Chennai Metropolitan Water Supply and Sewerage Board are eligible to apply for financial assistance. Contact [rajendiran@tnuifsl.com](mailto:rajendiran@tnuifsl.com) to begin the application process.
11. **Urban and Municipal Development Fund** – AfDB is a long-standing partner for African cities through selected infrastructure sector investments. UMDf's strategic impact areas are: sustainable urban action planning, project preparation and financing, and securing private investment. Request for support can be found on the website.

## COMMUNITY RESOURCES

1. **Making Cities Resilient 2030** – The website states, "Through delivering a clear 3-stage roadmap to urban resilience, providing tools, access to knowledge and monitoring and reporting tools, MCR2030 will support cities on their journey to reduce risk and build resilience." All subnational local governments are eligible to join [here](#).
2. **Covenant of Mayors in Sub-Saharan Africa** – The website states, "COM-SSA supports cities and local governments to reach their climate and energy goals by providing practical support, technical assistance, and access to partnerships". Apply to join on the website.
3. **European Bank for Reconstruction and Development Green Cities** – The website states, "EBRD Green Cities strives to build a better and more sustainable future for cities and their residents. The program achieves this by identifying, prioritizing and connecting cities' environmental challenges with sustainable infrastructure investments and policy measures." Eligible cities must be in the EBRD regions and have at least a population of 100,000.
4. **Urban Investment Support** – URBIS is an urban investment advisory platform within the European Investment Advisory Hub. URBIS intends to increase awareness, give technical and financial advice, and explore innovative financing. You can apply through filling out the request form on the website.
5. **CDP-ICLEI Unified Reporting System** – This program allows cities to disclose their climate data so that they can receive feedback on their climate action efforts. The platform is free and is currently used by 812 cities.

## OTHER RESOURCES

1. **Ambitious Partnerships on Climate are Taking Root and Bearing Fruit** – This article covers the most pressing climate issues facing the globe and provides examples of several partnerships that are making strides towards sustainable climate solutions.
2. **G20 Report on Actions against Marine Plastic Litter** – This report covers actions by the G20 members, countries, and regions that have shared the Osaka Blue Ocean Vision, as well as by relevant key international organizations.
3. **UNEP's International Good Practice Principles for Sustainable Infrastructure** – This document and its accompanying case studies provide a framework for integrated approaches to sustainable infrastructure. The report presents 10 good practice principles, including backing resource efficiency and circularity, fiscal innovation, and comprehensive lifecycle assessments of sustainability.



4. **Financing Circularity** – This recording sponsored by GreenBiz provides an interview with Morgan Stanley on financing the circular economy transition. While the content is geared mostly towards the business and finance sector, it highlights how investors can help build a more resilient economy that addresses global challenges, creates jobs, and benefits society.
5. **Eastman on the Challenges of Plastic Waste** – This recording sponsored by GreenBiz provides an interview with Eastman Chemical. It discusses emerging technology advancements for both plastic and fossil fuel reductions, and identifies policy and collaborating with policy makers as an important lever for catalyzing advanced recycling solutions.
6. **Waste Is an Environmental Justice Issue** – This webinar sponsored by GreenBiz for its [Circularity21](#) conference highlights the work of community organizer Catherine Coleman Flowers. While the talk is United States-focused, the lessons learned are universal.
7. **How Coca-Cola is Addressing Plastic Waste** – This recording sponsored by GreenBiz articulates the business and environmental case for large corporations to reduce, innovate, and recycle plastics, and also looks at Coke's interest in scaling ambition and partnering with policy makers.



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