



# Industrial eco-parks: potentials for Port of Aalborg

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<b>13:30-13:40</b>	<b>Welcome</b>
<b>13:40-14:10</b>	LOOP Ports project and SCALER - Helping industries increase efficiency through resource sharing.  Maria Loloni, Maritime Programme Manager, Climate-KIC
<b>14:10-14:35</b>	Port of Aalborg, short introduction to the hinterland development projects. POAL
<b>14:35-15:00</b>	LOOP Ports. Case studies: Creating value through industrial eco-parks. NTU International
<b>15:00-16:00</b>	Discussions. Identifying opportunities for POAL
<b>16:00-16:05</b>	Closing remarks

LOOP-Ports aims to facilitate the transition to a more circular economy in ports through the creation of a **Circular Economy Network** in Ports that will provide an innovation ecosystem around the port activity and stimulate circular economy initiatives in ports.



Climate-KIC is supported by the EIT, a body of the European Union 

[About](#) [Activities](#) [Network of Ports](#) [Circular Economy Tools](#)



[About the program](#) [Areas of Interest](#) [Portfolio](#)

## LOOP-Ports project nominated to win IAPH 2020 World Ports Sustainability Awards

We are pleased to announce that one of the projects led by the Fundación Valenciaport and funded by EIT Climate-KIC has been shortlisted and selected by the IAPH 2020 World Ports Sustainability Awards to compete for the distinction to be the best project in "Climate and Energy" category. Please, we need your support! Vote for

## Materials and CE activities



Metals



Plastics



Construction  
materials



Biomass



Gases



Water



Energy



Dredging

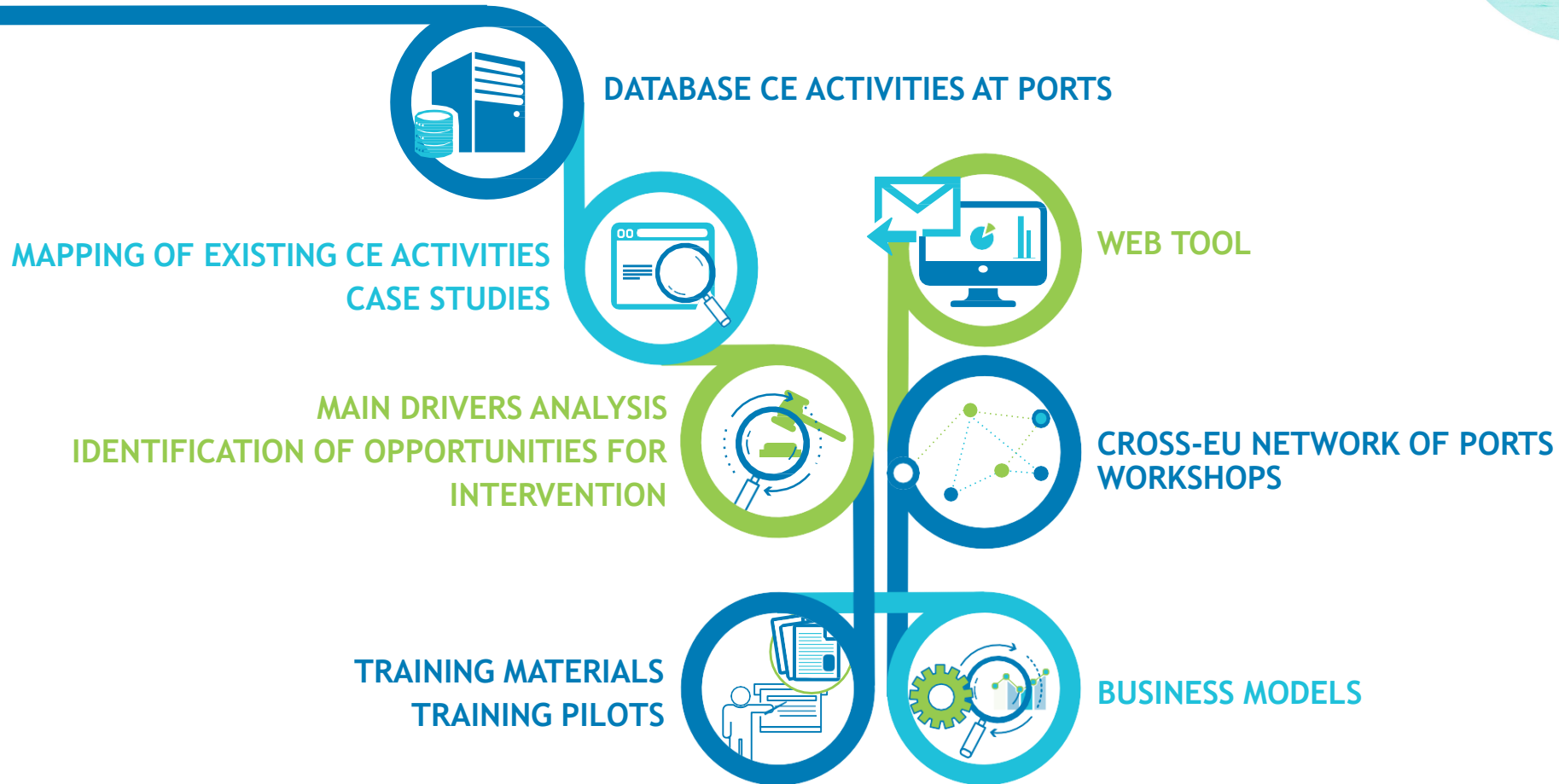


Mixed  
waste



Other

## EXPECTED RESULTS





- Industrial symbiosis in Port of San Francisco
- Synergies in Port of Garibaldi
- Common characteristics
- Tools needed



### Co-location of maritime industrial uses to enable:

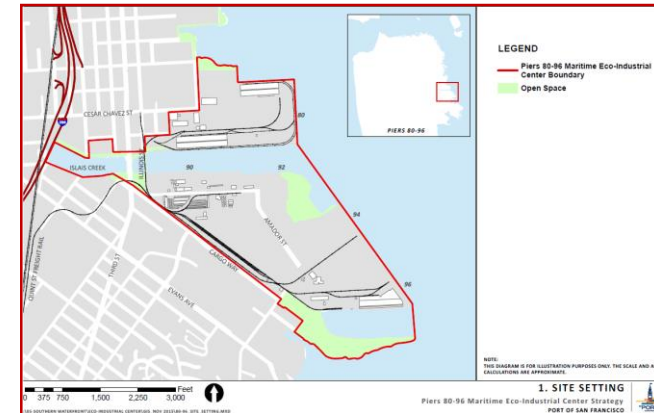
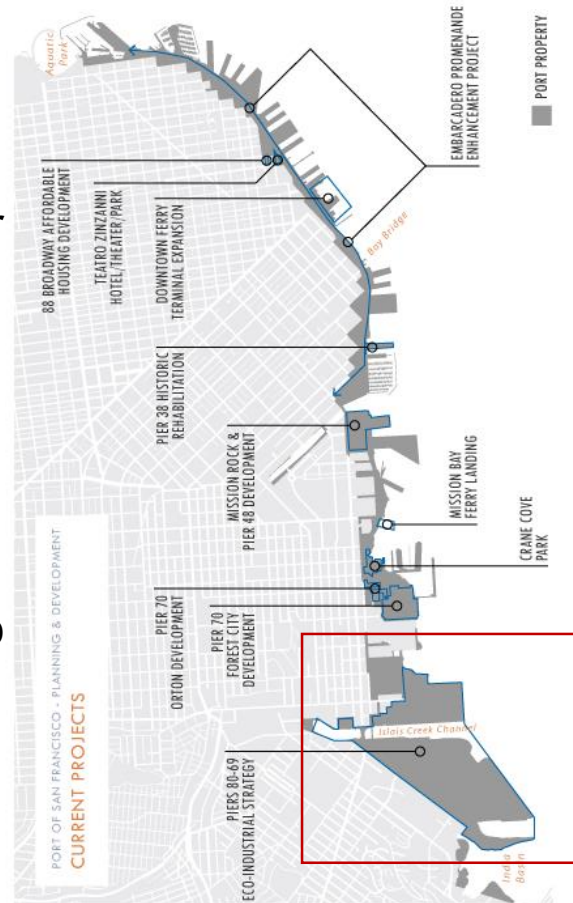
- Product exchange
- Optimize the use of resources
- Incorporates green design and green technologies on-site
- Fosters resource recovery and reuse
- Provides economic opportunities that employ local residents
- Minimizes environmental impact and incorporate public open space for enjoyment and habitat

### Maritime Eco-Industrial Center, San Francisco



## Why Maritime Eco-Industrial Center?

- From mid 1990's container cargo business faded due to expansion of near by port of Oakland
- In 2006 San Francisco ceased container shipping operations
- Forward-looking focus on other cargo and industrial business opportunities

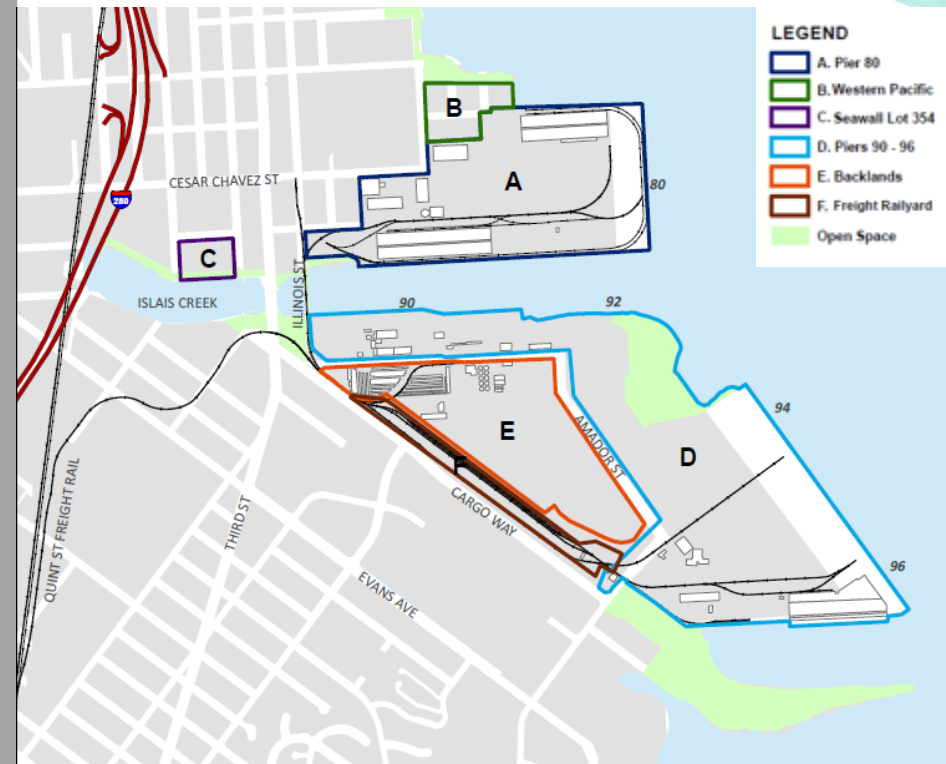


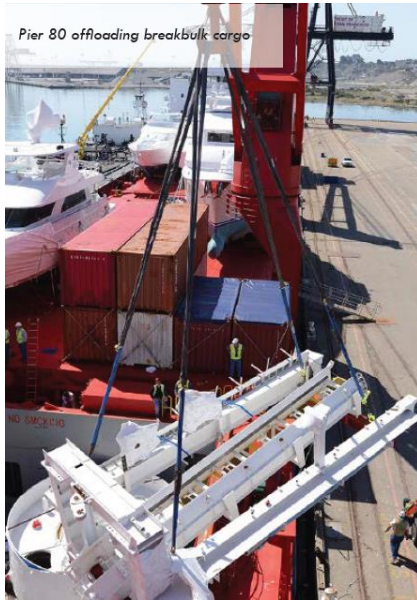


## Port of San Francisco

### OPPORTUNITIES

- Deep water berths enabled the Port to develop business for non-containerized cargo at Pier 80 and Piers 94-96.
- Pier 80 functions for “breakbulk” or “project” cargos
- Port’s ability to retain and adapt its facilities to flex with market changes and pivot to bulk cargo business





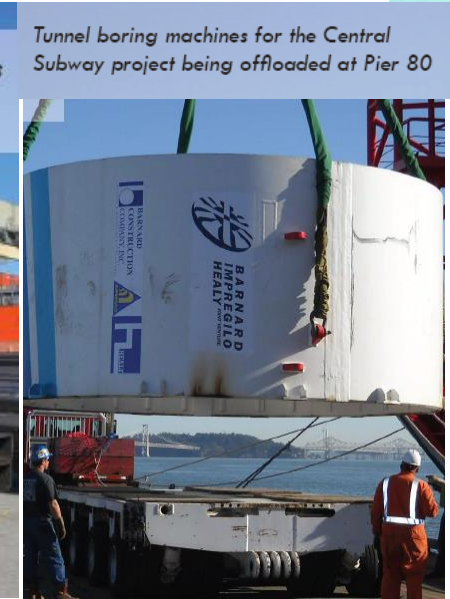
Pier 80 offloading breakbulk cargo



Offloading wind turbine cargo at Pier 80



Pier 80 breakbulk steel imports



Tunnel boring machines for the Central Subway project being offloaded at Pier 80

**Pier 80 functions for “breakbulk” or “project” cargos that often are related to supplying or equipping large industrial facilities or major construction projects**



*Hanson offloading aggregates from British Columbia at Pier 94*

## Bulk cargo at Piers 94-96

- The construction materials industry was attracted to co-locate next door, to be close to sources of aggregate materials.
- Development of two concrete manufacturing plants in the Pier 90-94 Backlands
- Purchase and use of aggregate and sand imported through Port's terminal reduced the number of heavy truck trips
- Capture and manage stormwater for reuse in the concrete production process
- Good source of living-wage, blue collar jobs for City and local residents
- The Port leases facilities to other recycling operators and businesses which also contribute to resource recovery





## Overview

- Biggest regional naval fleet for fishing
- Thriving aquaculture activity

## Waste material - plastic in fishing nets

- Nets from mussels farming
- Nets lost at sea

## Additional problem

- The fishermen and the scuba-diving association involved in recovery of the nets (marine litter) burdened with the responsibility for management of the waste



- Improving resource efficiency and waste management through industrial symbiosis



## Identification of key actors



### RECYCLER

How to increase the reuse of fishing nets as a second raw material?



### PRODUCERS OF FISHING NETS

How to eliminate plastic from fishing nets?



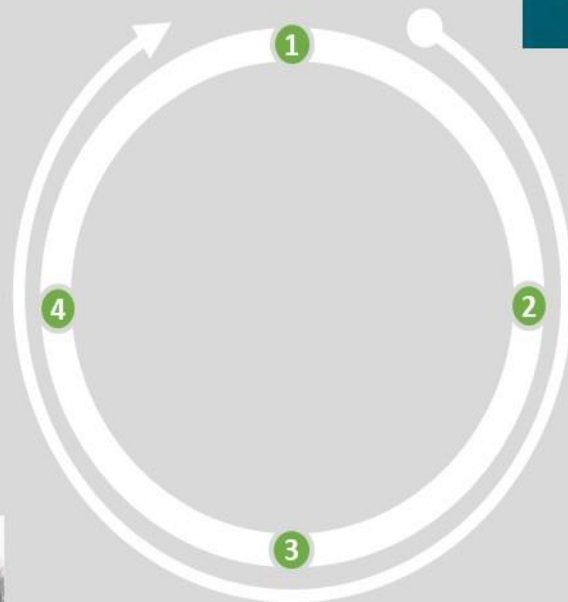
### USERS (fishermen)

How to prevent fishermen from throwing or not collecting the fishing nets into the sea?



### PUBLIC ADMINISTRATIONS AND WASTE COLLECTION SERVICES

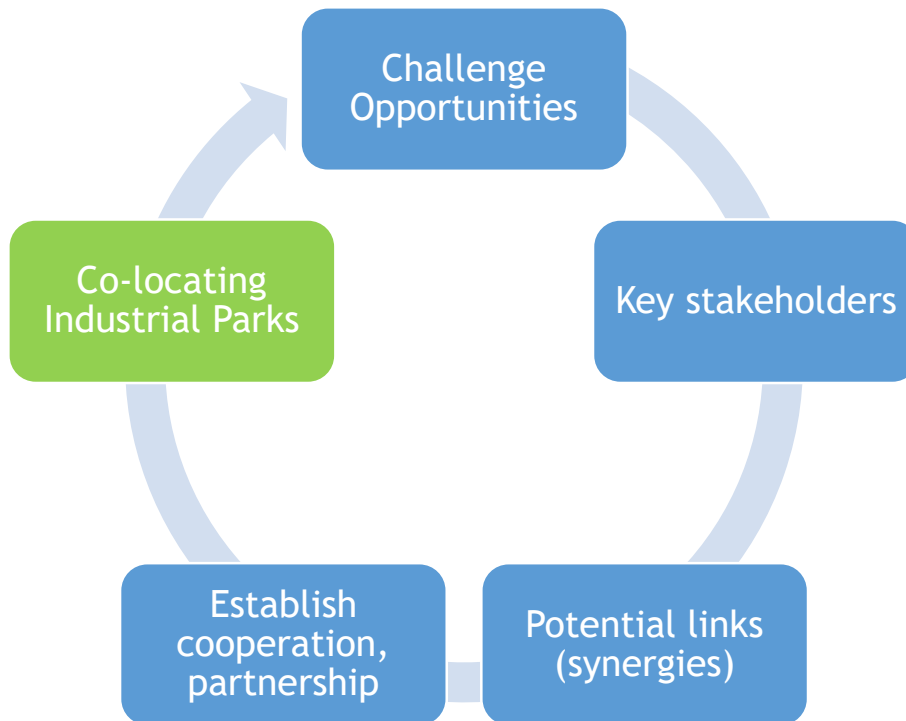
How to develop correct legislation that prevents fishermen throwing nets into the sea and allows waste collection services to separate sock waste considering it as second raw material and therefore allowing its re-utilization?





## Conclusion

Case studies - process  
SCALER - tools



### Type 1:

Through waste exchanges.

Recovered materials are sold or given away by third party dealers to other firms or organizations.

### Type 2:

Within a facility, firm or organization.

Usually one-way exchange. This type includes material or product exchange within a single organisation but different units.

### Type 3:

Among co-located firms in a defined industrial area.

This type includes materials, waste or energy exchange between organisations in close proximity. Exchanges occur primarily in a defined industrial area (e.g. Londonderry, Riverside, Burnside).

### Type 4:

Among near-by firms not co-located.

Linking together existing businesses with an opportunity to fill in some new ones (e. g. Kalundborg).

### Type 5:

Among firms organized across a broader region. This type includes exchanges in a broad spatial region and a larger number of firms. These types of eco-industrial parks had not been yet realised, although some virtual exchanges has been studied.

## What can be the role of Port Authority



- The Port Authority plays the role of a facilitator in identifying synergies (local and/or international) between similar industries and cross-sectoral.



### Long-term Commitment

Align with a long term strategy

Build capacity before attempting bolder steps



### Leadership

Show strong leadership from top management



### Internal Organizational Structure

A dedicated organizational function



In Partnership with:



**TNO** innovation  
for life



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