



# Democratization of Food Environmental Product Declarations, with a Beer Example

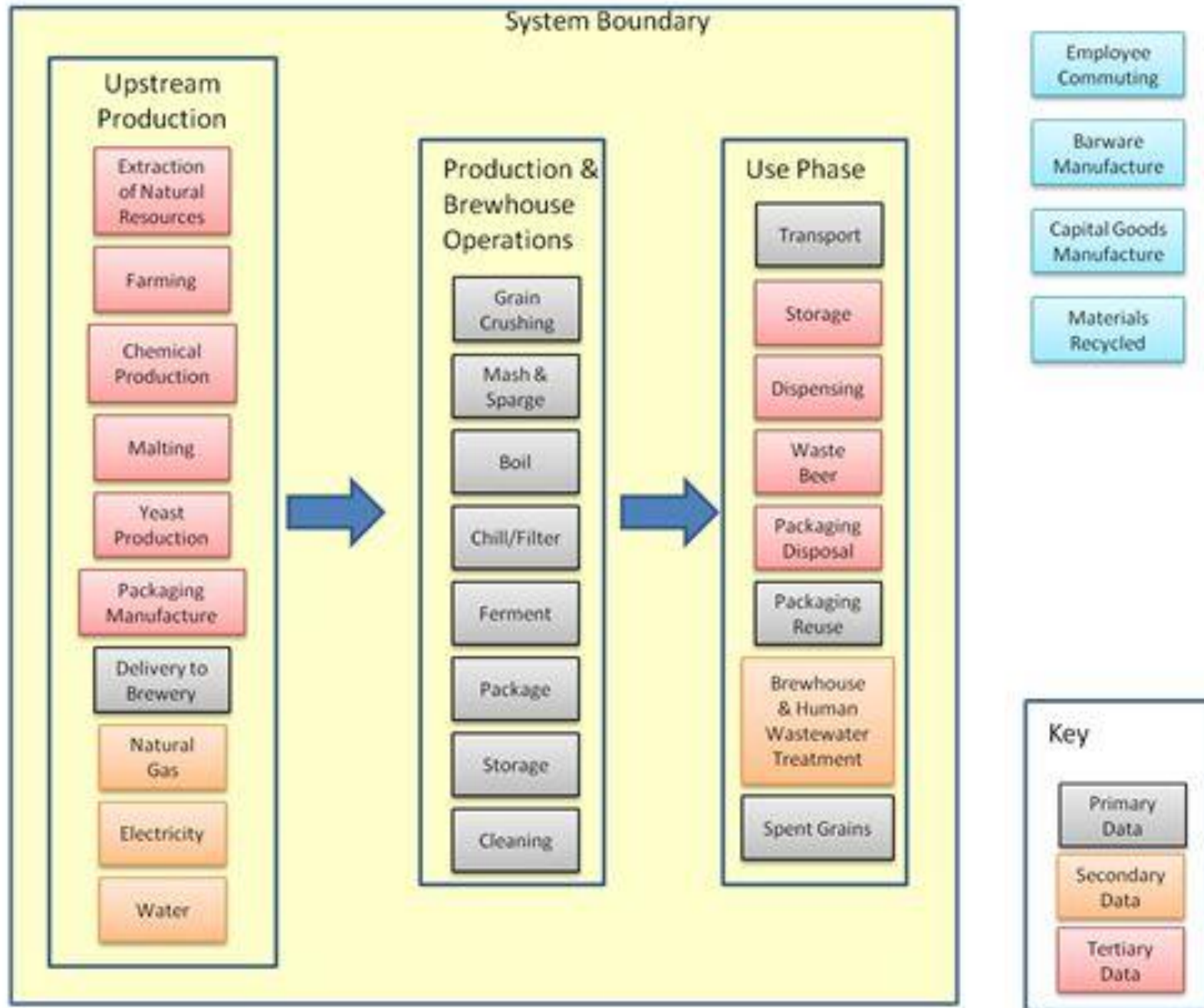
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Anna Nicholson, Matt Leighton, IERE  
LCA of Food 2014





## EPDs are a promising mechanism to support environmental improvement using market forces, but

- EPDs are too expensive for SMEs
  - \$30,000 each is typical and is too much for small businesses
  - This is even more true in developing countries
- What is needed is an EPD system that is
  - Easy to use
  - Requires no technical expertise to operate
  - Technically strong (affording reliable results)
  - ISO conforming
  - Cheap
- Democratizing EPDs





# Earthsure Brewer

[Home](#)[About Earthsure](#)[The Science](#)[For New Breweries](#)

## Welcome to Earthsure Brewers!

Learn about the environmental impacts of the beer you drink. Start by searching for your favorite brewery below, or choose to browse all the breweries and products in the program.

[Q Search](#)[Browse all breweries](#)

Breweries

-  Vashon Brewing Company
-  Fort George Brewery
-  Harmon Brewery
-  Ram Brewery
-  Hopworks Urban Brewery
-  Z Bianca's Brasserie
-  Clamson Brew Crew Mobile Nanobrewery
-  Working Man Brewing Company

These brewers are in the system so far

Nanobreweries spend \$150/year

Biggest breweries spend \$10,000/year

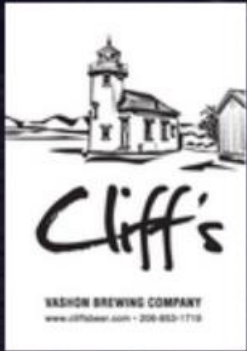
Each can make as many EPDs as they like

About 30 EPDs so far (some expired)



# Impacts by category

Vashon Brewing Company > Alder Smoked Porter (copy) ( Production date: 2014-09-24 / Expiration date: 2015-09-24 )



E-value rating



Shows grade using e-value

Category	Value	Units	Average	Rating
Climate change	0.87	kg CO2 eq	120%	C
Eutrophication	0.94	g N eq	81%	C
Water use	42	liters	94%	C
Land use	0.34	m2 year	100%	C
Ozone depletion	19	µg CFC-11 eq	67%	C
Photochemical smog	43	g O3 eq	160%	C
Acidification	0.24	g H+ eq	140%	C
Toxicity	1.9	CTUe	110%	C

Shows results versus system average

Impact per:

12 oz.

Serving size can be modified

## Ingredients:

Malt 100%  
Hops 0.34%  
Yeast 0.074%

Shows all ingredients

External reviewer **Thomas Gloria**. These results follow Earthsure Beer PCR 50202201:2012. Results from other programs may not be comparable. For more information, contact [earthsure@iere.org](mailto:earthsure@iere.org)

ISO conforming





# Earthsure Brewer

[Home](#)[Brewery](#)[Distribution](#)[Suppliers](#)[Material](#)[Equipment](#)[Recipe](#)

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## Locations

123 Main street Seattle, WA, USA, 98070



## Create new location

Line 1


City

Line 2

State

Line 3

Postal code

 Create Location





Home

Administra

## Equip

Equipmen

Lautertun

big berth

Frigo (Refr

big chill (Chiller)

kegger (Kegger)

Carbonator (Carbonator)

+ Create new equipment

### Update equipment



Name:

Lautertun

Type:

Lauter tun

Energy type:

Electricity (watts)

Rating:

900

Save Cancel



Very easy  
input screens

earthsure

Home Brewery Distribution Suppliers Material Equipment Recipe Administration

### Recipe list

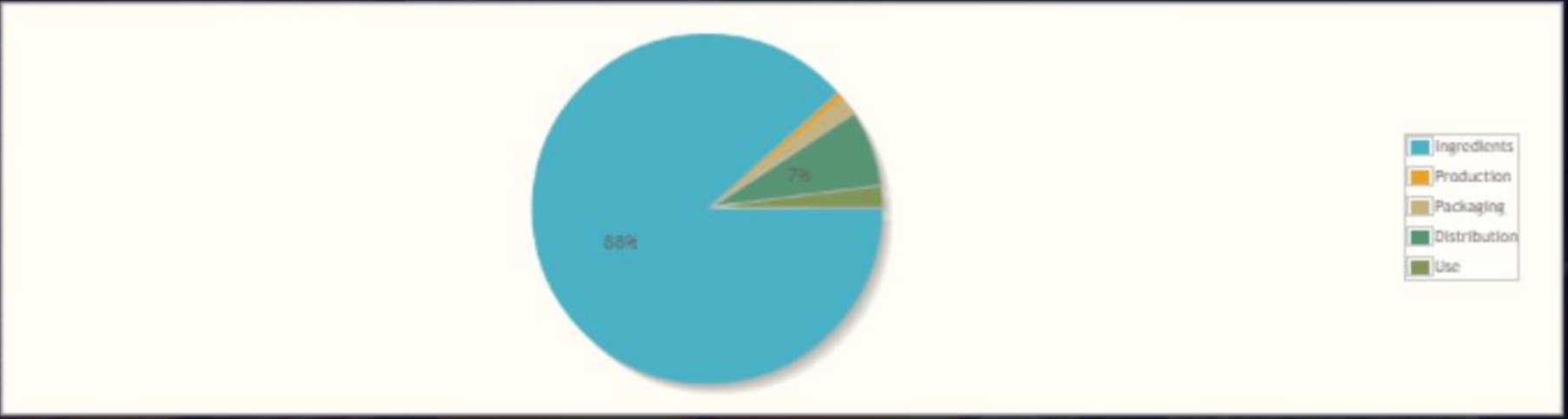
- View Results Greenbeer2
- View Results Greenbeer 3
- View Results Greenbeer fall
- View Results Greenbeer (Matt's Copy)
- View Results Greenbeer fall new

+ Create new recipe

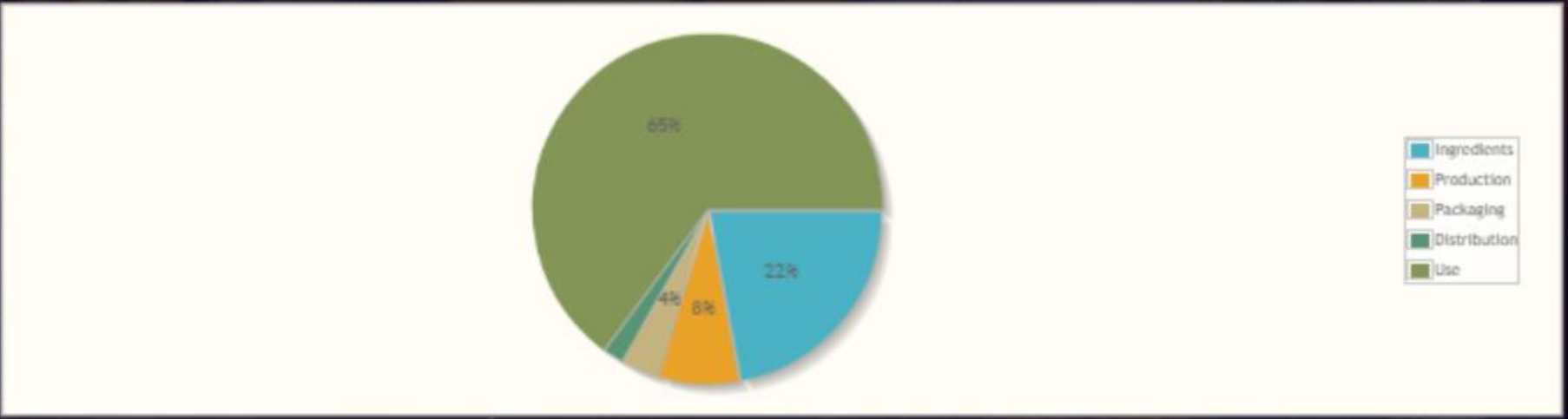
Annotations: Edit, calculate, publish, Discard, Copy

## Detailed results for "Greenbeer fall"

### Ozone depletion



### Climate change



### Photochemical smog



Of the five breweries we started with, all made improvements based on their LCA feedback

- Changed cleaning processes (save water)
- Changed equipment (saved energy)
- Purchased electric vehicle for distribution

The automated EPD system helped them save money and the environment





## Conclusions

- The automation of EPDs worked in the case of beer: EPDs were democratized
- All the brewers learned about their impacts and took steps to improve
- The cost was very affordable
  
- We are expanding the system to other products