



HOW TO TRANSITION TO A GREENER ECONOMY WITHIN A CITY?

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A GREEN ECONOMY IS A CENTRAL ASPECT OF *SUSTAINABLE DEVELOPMENT*



Essentially:

- End poverty
- Ensure prosperity for all
- Protect the planet

(United Nations,
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>)

A GREEN ECONOMY

... is an economy, in which „growth in income and employment should be driven by [...] investments that

- reduce carbon emissions and pollution
- enhance energy and resource efficiency
- and prevent the loss of biodiversity and ecosystem services.“

(UNEP (2011): Towards a Green Economy. Pathways to Sustainable Development and Poverty Eradication. A Synthesis for Policy Makers.)



<http://www.designorate.com/wp-content/uploads/2015/04/sustainable-development.jpg>

WHAT IS A GREEN JOB?

ACCORDING TO THE BUREAU OF LABOR STATISTICS

„Jobs in businesses that produce goods or provide services that **BENEFIT THE ENVIRONMENT** or **CONSERVE NATURAL RESOURCES.**“

„Jobs in which workers‘ duties involve making their establishment‘ **PRODUCTION PROCESSES MORE ENVIRONMENTALLY FRIENDLY** or use **FEWER NATURAL RESOURCES.**“

Bureau of Labor Statistics (BLS), https://www.bls.gov/green/green_definition.pdf



http://whlconsulting.com/wp-content/uploads/2012/04/green_collar_worker-785555.jpg

WHAT IS A GREEN JOB?

ACCORDING TO O*NET

GREEN ECONOMY:

- „reducing the use of fossil fuels,
- decreasing pollution and greenhouse gas emissions,
- increasing the efficiency of energy usage,
- recycling materials,
- and developing and adopting renewable sources of energy.“

GREEN OCCUPATION:

Occupations that help to achieve this goal (or are altered towards achieving it) are flagged as a green occupation.

O*NET Resource Center: The Green Economy. <https://www.onetcenter.org/green.html?p=2>



http://whlconsulting.com/wp-content/uploads/2012/04/green_collar_worker-785555.jpg

THE GREEN JOBS INDEX

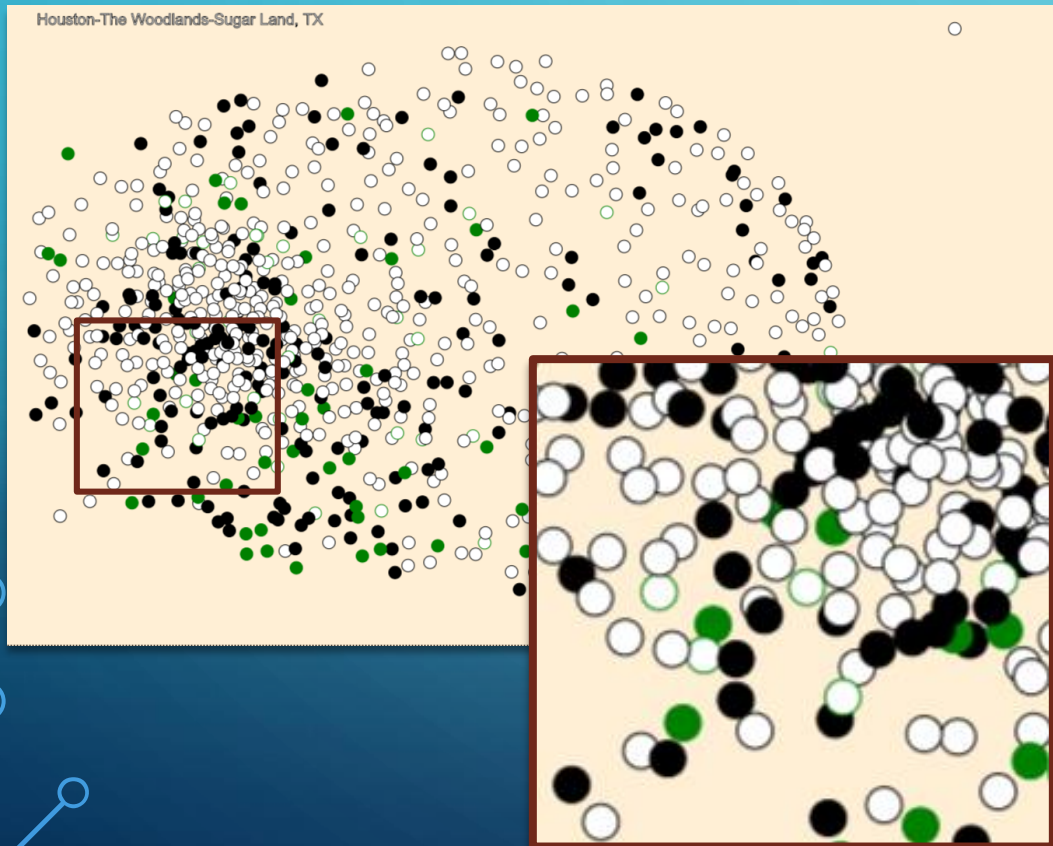
(SHUTTERS ET AL. 2015)

- In terms of the **OCCUPATION DISTRIBUTION** within a city, how far does this city still have to go until its economy is a green economy?
- A green jobs index of 1 means that the city has a green economy: all green jobs are specialized within this city.
- It is computed based on the **INTERDEPENDENCIES OF JOBS**, i.e. how tightly connected their specialization is

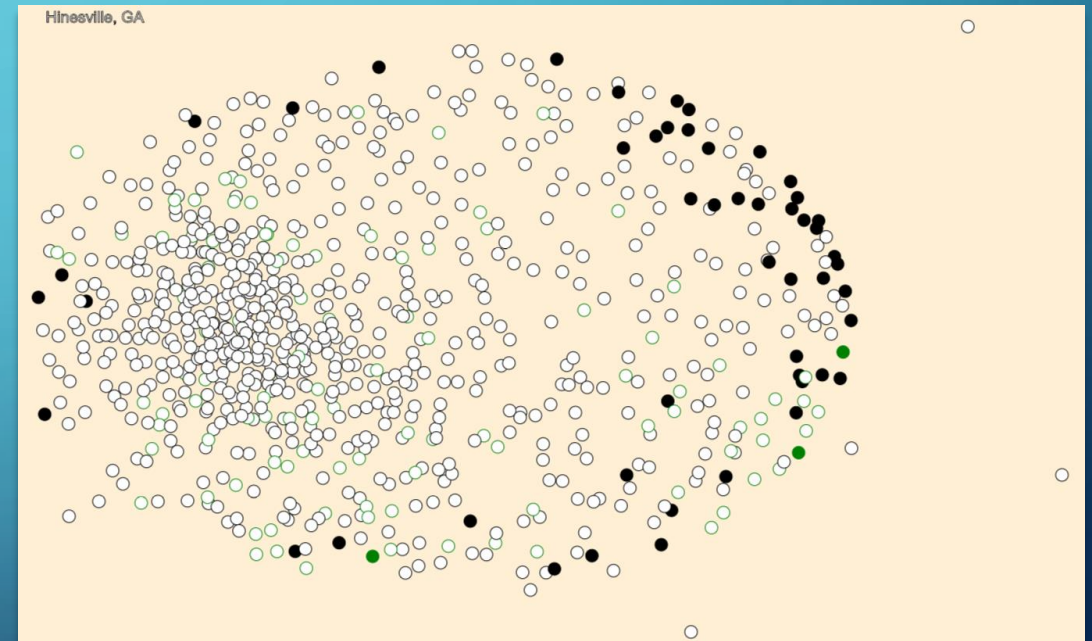
THE GREEN JOBS INDEX

(SHUTTERS ET AL. 2015)

Houston, The Woodlands-Sugar Land, TX (Rank 1, 67.17)



Hinesfield-Fort Stewart, GA (Rank 372, 5.11)





HOW TO MOVE TOWARDS A GREEN ECONOMY?

One possibility is to attract those industries that bring a good share of green jobs.

We developed a

VISUALIZATION-BASED DECISION-SUPPORT TOOL

to assist appropriate choices.



A TOOL TO HELP MAKING THIS DECISION

OVERARCHING GOAL:

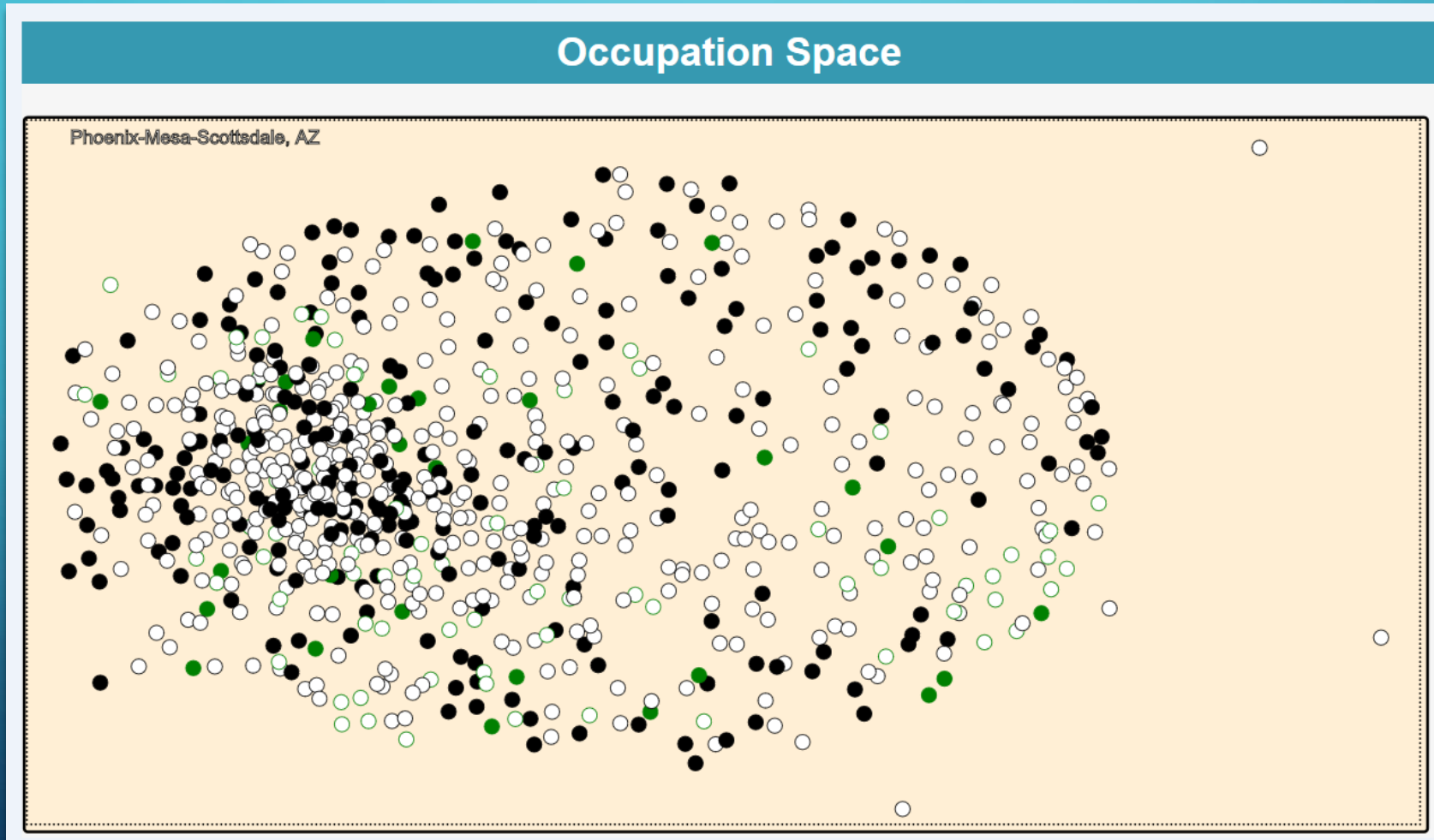
Support the **IMPLEMENTATION OF A GREEN ECONOMY** within a community.

DERIVED GOAL OF THE VISUALIZATION SYSTEM:

Support finding possibilities to **IMPROVE THE GREEN JOBS INDEX** within an MSA, but in a way that it is compliant with the current situation of this MSA.

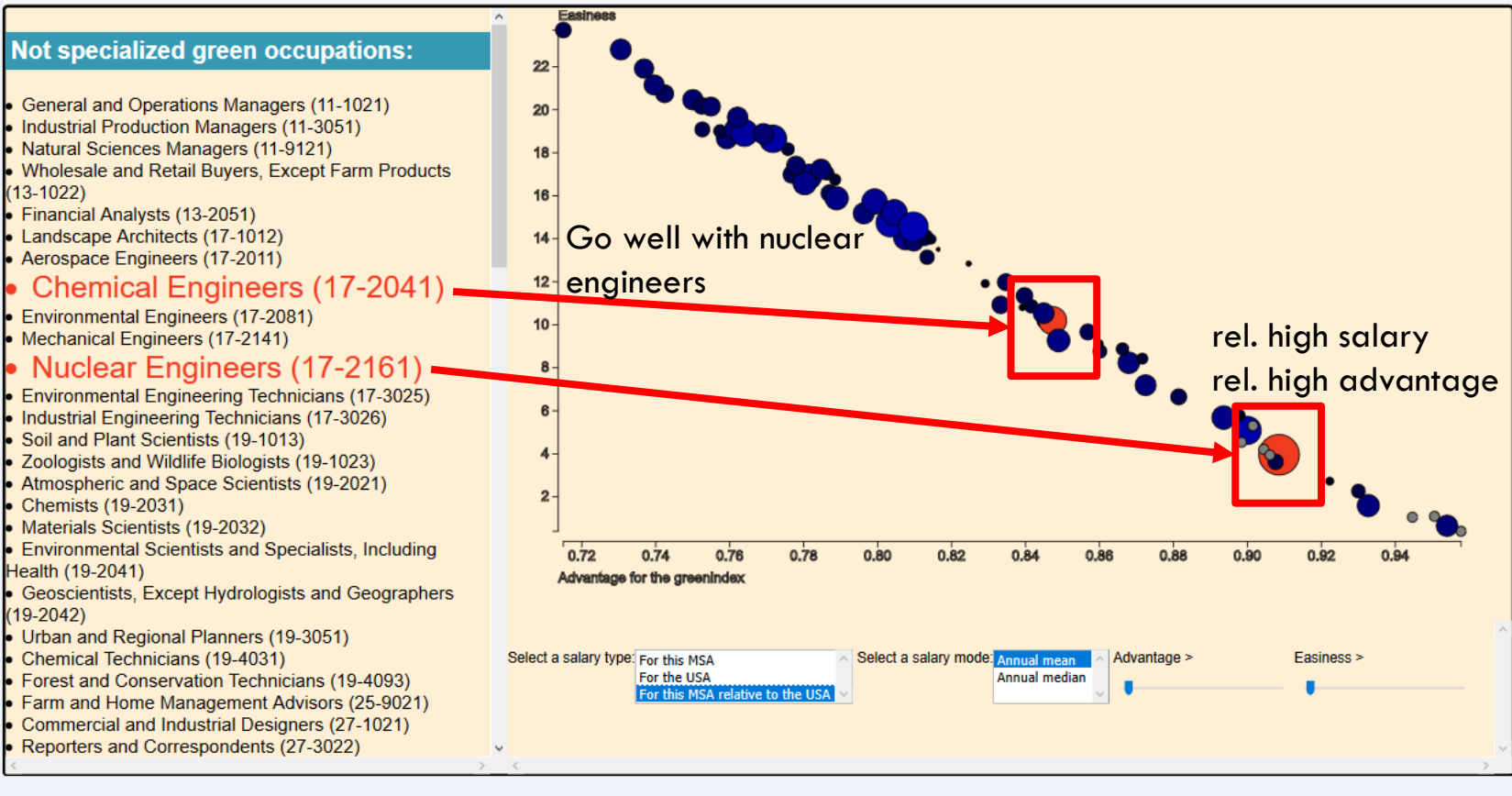
ANALYZING THE CURRENT SITUATION:

PHOENIX-MESA-SCOTTSDALE (RANK 61, 37.15)



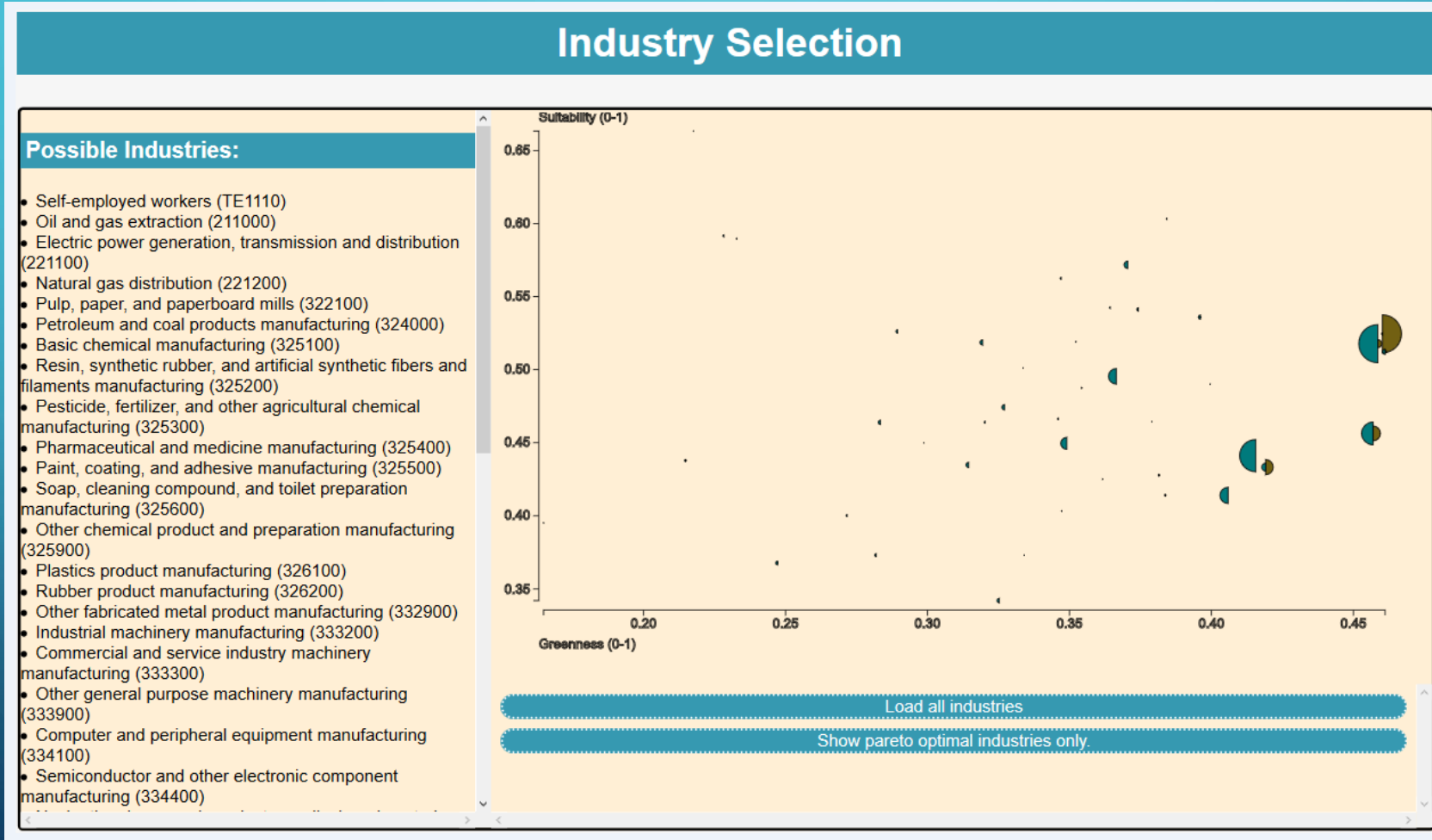
FINDING OCCUPATIONS TO SPECIALIZE

Occupation Selection



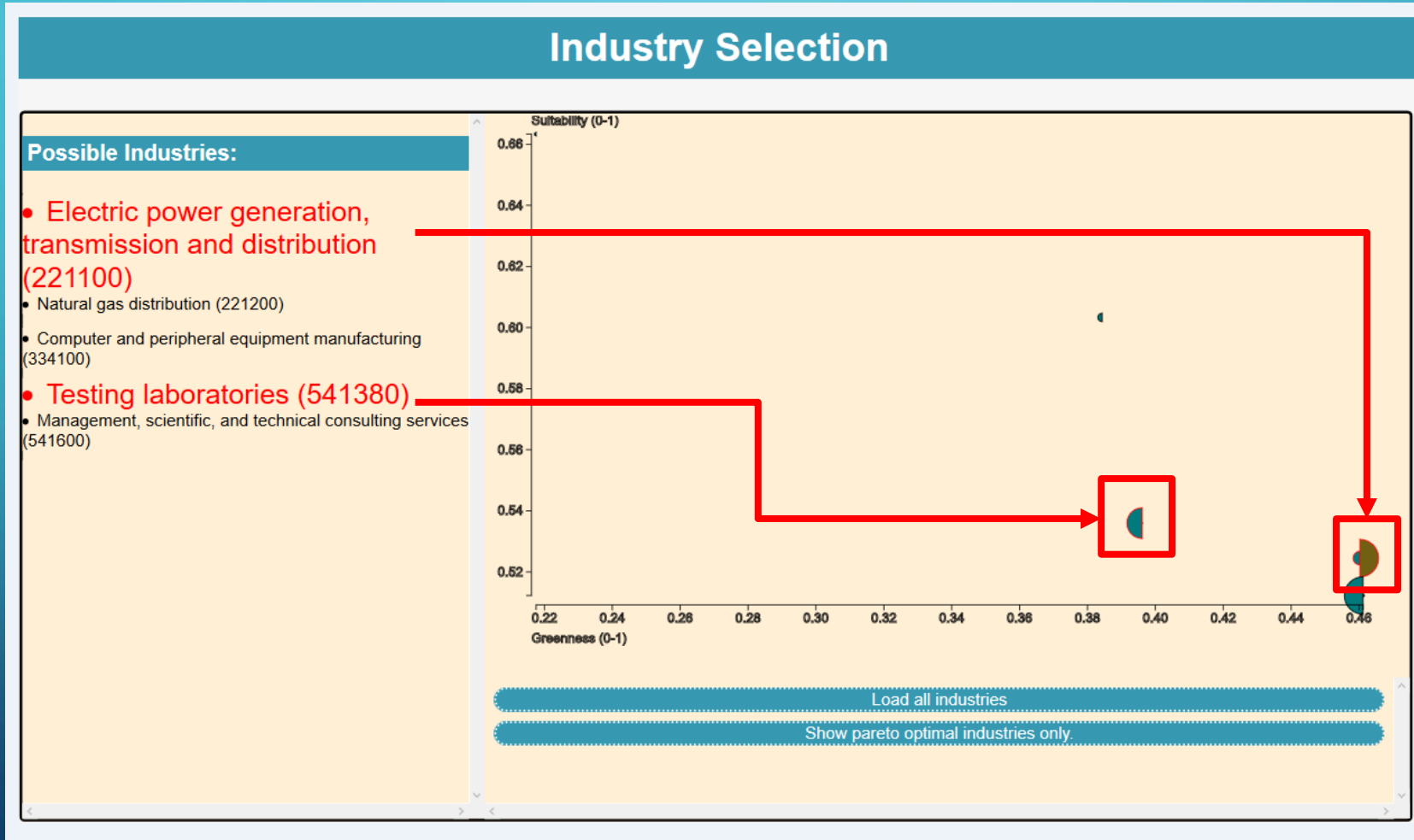
DECIDING FOR INDUSTRIES TO BE ATTRACTED

SHOULD HAVE A GOOD SHARE OF SELECTED OCCUPATIONS



DECIDING FOR INDUSTRIES TO BE ATTRACTED

JUST THE PARETO-OPTIMAL CHOICES



ASSESSING THE IMPACT OF THIS DECISION

NEW RANK OF THIS MSA: 16 (was: 61)

NEW GREEN JOBS INDEX: 45.63 (was: 37.15)



**WE
NEED
YOU
TO
VOLUNTEER**

WE NEED YOUR EXPERTISE!

- Do you think a tool like this could be relevant for your work?
- Which aspects are missing?
- Which role does green economic development play in your daily work?

Talk to us after the meeting!