



# CIRCULAR ECONOMY OPPORTUNITIES IN ISRAEL

## DISRUPTIVE INNOVATION TOUR

21/09/2020

Webinar series: *Circular Economy World Tour*

**ACCIÓ**



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Government of Catalonia

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# A GLIMPSE INTO ISRAEL

POPULATION  
DENSITY

400 people/km<sup>2</sup>

MEDIAN AGE

30.5 years

AREA

22,072 km<sup>2</sup>

POPULATION

8,684,439

CAPITAL

Jerusalem

MAJOR CITIES

Jerusalem

Tel Aviv-Jaffa

Haifa

Be'er Sheva



**TIME ZONE**  
GMT + 2 HOUR

**OFFICIAL LANGUAGES**  
Hebrew | Arabic | English\*

**URBAN POPULATION**  
91%

**CURRENCY**  
New Israeli Shekel (NIS)

**GDP** (ppp) (2019)  
\$41,000



# Israel Circular Economy - Background

- 3.5 million tons of municipal and commercial waste/year
- 6 million tons of construction waste /year
- 8.1 million tons of organic waste /year
- 8.1% increase in waste production per year
- 80% of the waste is buried in the ground
- No plastic recycling plant
- €5.07 billion food loss in Israel (35% of the volume of food production in Israel)
- 165,000 tons per year amount of electronic equipment and batteries waste
- 20% of all building materials required in Israel could have come from construction waste
- By 2050, Israel is planning to recycle 50% of its total waste (currently it is 25%)

# Israel Circular Economy Current Situation

- ✓ Israel is **ranked 44** on the list of World's Most Sustainable Countries
- ✓ **Need of circular economy solutions** (natural resources scarcity -> Israel's poor ecological footprint)
- ✓ **Growing awareness** of the advantages of circular economy (private / public / governmental sector)
- ✓ **Innovative ecosystem** with leading technologies in water efficiency, energy efficiency, agritech/smart farming
- ✓ Various players and stakeholders in Israel have embarked on this trend at a very early stage (**VC's, accelerators/ incubators, research centers, corporates**)

# Governmental Programs & Initiatives

- ✓ In 2019 the Ministry of Economy declared a **Circular Economy National Program for Circular Economy in Industry** to motivate the industry towards more efficient use of resources.

## Main initiatives:

- Establishment of a **Resource Efficiency Knowledge Center for industry** to assist and provide consulting services to industry in order to increase investment in solutions to reduce the source of pollution and waste. (Budget of € 12.8 M)
- Encouraging **industrial symbiosis** - the use of by-products and wastes of one plant in production processes in other plants. (Budget of € 1.25 M).
- Support in investments for resource efficiency in factories. (Budget of € 25 M).
- Establishment of the "**CIRCLE**" cluster to promote the development of recycling technologies and the use of recycled materials in the plastics industry in Israel. (Budget of € 7.5 M).
- Setting up an Environmental Sustainability Innovation Lab (ESIL). (Budget of € 3.6 M).

# Israel Innovation Ecosystem

- ✓ **Innovation Ranking** - Israel is ranked **5<sup>th</sup>** most innovative country  
(Bloomberg Innovation Index - 2019)
- ✓ Israel is the **3<sup>rd</sup>** leading start-up ecosystem in the world  
Tel Aviv is the **7<sup>th</sup>** leading city for startups  
(StartupBlink, 2020)
- ✓ Leading in private R&D Expenditure & VC investments in startups
- ✓ **NASDAQ** - Israel has more companies listed on the NASDAQ than any country besides the USA and China

# Technology sectors with highest potential

## **Water Efficiency**

wastewater and water treatment & management, water reuse

## **Energy Efficiency-**

## **Renewable Energy**

smart grids and energy-efficient building technologies

## **Agrotech - Smart Farming**

## **Transport / Low Carbon Mobility**

## **Waste Treatment & Recycling**

## **Foodtech**

protein alternatives, sustainable packaging, food waste

## **E-Waste**

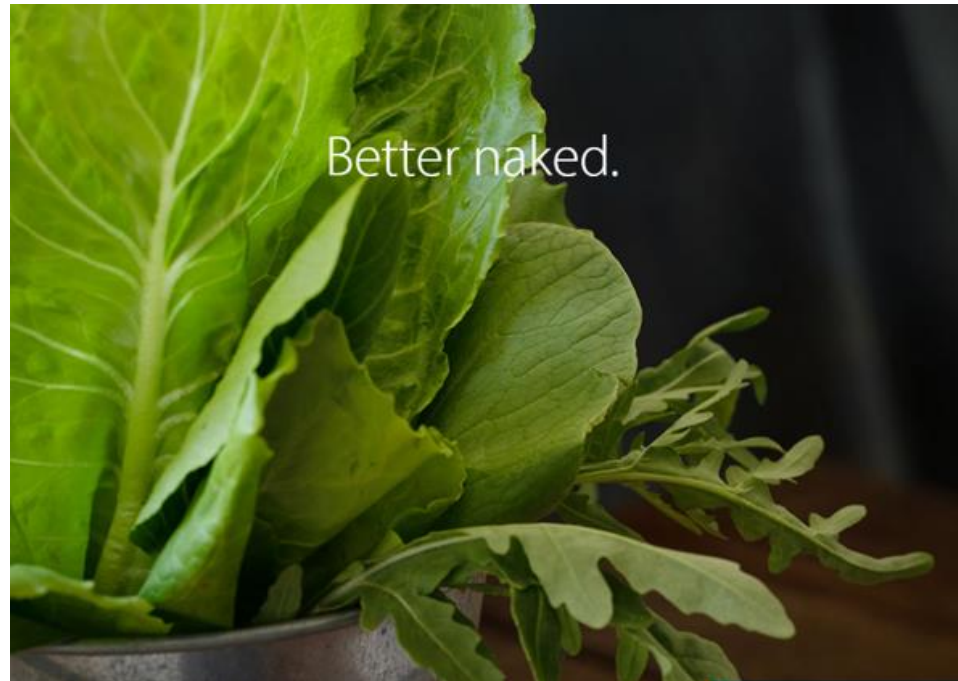
## **Building and Construction**



# Companies/ Startups



**Foodtech**  
sustainable  
packaging



Better naked.

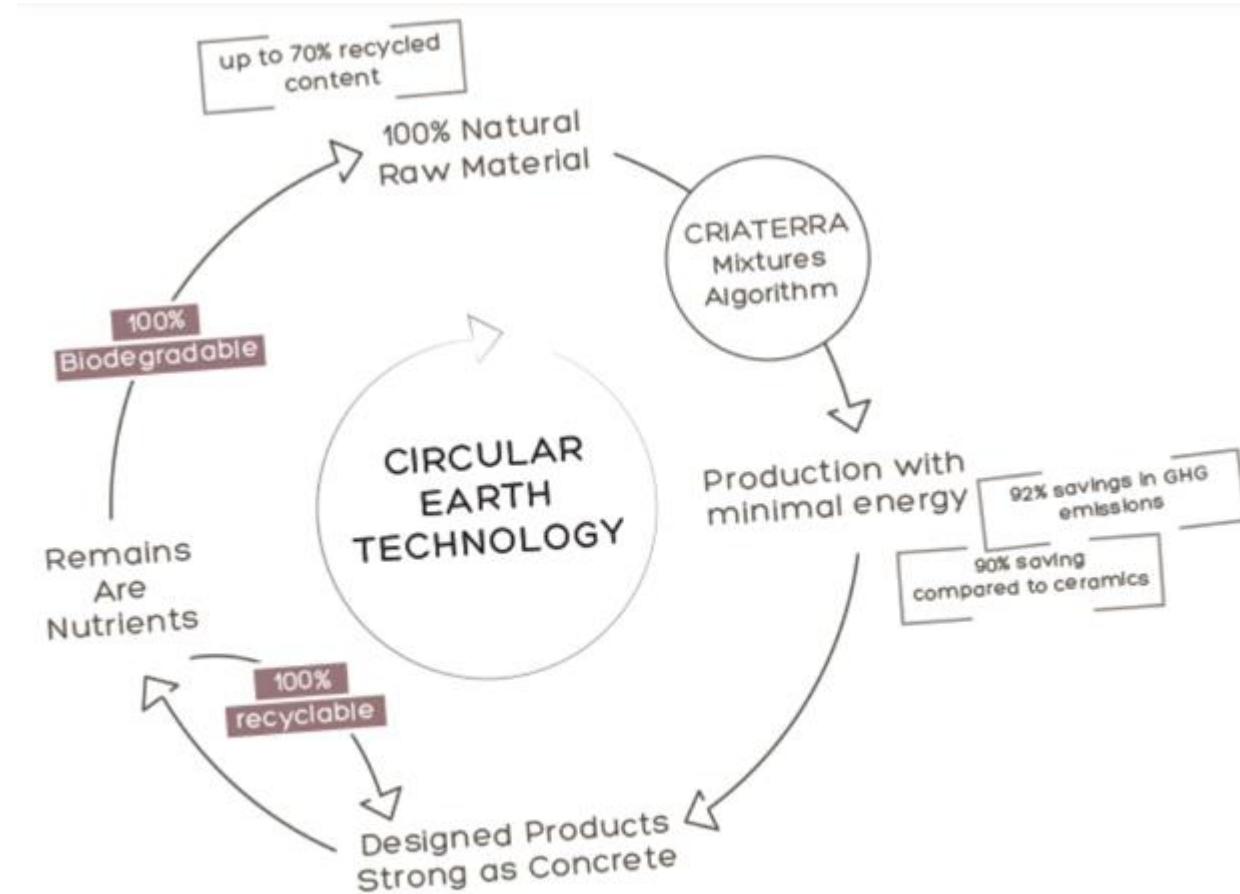


But when you need packaging,  
go compostable.

# Companies/ Startups

Building and Construction

**CRIATERRA**  
EARTH TECHNOLOGIES



# Companies/ Startups



Made with UBQ™

Consumer Products



Logistic Products



Infrastructure and Construction Products



Waste Treatment  
& Recycling



# Companies/ Startups

**Foodtech**  
protein alternatives



HOME   OUR EDGE   THE TEAM   **OUR PRODUCT**   MEDIA   AWARDS



Healthier  
**Superior**  
nutrient content

72% protein content

All essential amino acids

No saturated fat or cholesterol



Product edge  
**Most widely eaten insect in the world**

Neutral taste and flavor

Minimal processing

Sole kosher and halal insect



Sustainable  
**Highly efficient**  
feed conversion

Very low water footprint

Extremely low greenhouse gas emissions

Zero-waste farming



Efficient Farming  
**Year-round production**

Optimized feeding

Innovative cage infrastructure to increase density

Vertical farming

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# Companies/ Startups



**Water Efficiency**  
wastewater and water  
treatment



# Companies/ Startups

Transport / Low  
Carbon Mobility





# VCs & Incubators

Investors & Incubators that provide financing to startup companies in areas of Circular Economy



**Israeli VC**

Areas: Cleantech



**Israeli Incubator**

Areas: Agrifood and Medical



**Israeli Incubator**

Areas: Food Tech,  
Innovation and  
Technologies for the  
Food and Beverages  
Industry



**Israeli Incubator**

Areas: Food Tech

# Accelerators & Innovation Labs

Israeli and foreign accelerators that provide assistance to startups in the area of circular economy

## Accelerators

**GREENUP CITY**

Israeli Municipal Accelerator

## Innovation Labs



**INFRA LAB**  
Smart Infrastructure  
and Construction



**PMATX**  
Novel materials and (2D &3D)  
printing technologies



**LET LAB**  
Industry 4.0



**FOODNEXT**  
FoodTech, functional  
ingredients, nutraceuticals

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**Environmental Sustainability Innovation Lab**

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# Universities & Research centers

R&D centers and universities working on sustainable energy and circular economy



**The Center for Renewable Energy**



**The Robert H Smith  
Faculty of Agriculture,  
Food and Environment**

**The Robert H. Smith - Faculty of  
Agriculture, Food and Environment at  
the Hebrew University in Jerusalem**



**The Arava Institute for Environmental Studies**



**The Research Center for Energy Engineering  
and Environmental Preservation**



# Corporates

Large Corporations implementing circular economy methodologies



- sustainability vision for 2030
- increasing by 30% (year-on-year) the total mass of waste streams re-used

נשר מפעלי סלט ישראליים בע"מ  
NESHER ISRAEL CEMENT ENTERPRISES LTD.



- alternative fuels (RDF) derived from municipal and industrial wastes
- industrial by-products (such as coal fly ash, FGD gypsum, mineral wastes) as alternative raw materials
- provides contaminated soil treatment services

# Organizations / NGOs

Organizations and centers working to implement models of circular economy



**The Israel Resource Efficiency  
Center (IREC)**



**כלכלה מעגלית לישראל  
Circular Economy IL**

**Circular Economy IL**

# Conclusions and Opportunities

- ❖ Circular economy is still at its infancy in Israel however, because of numerous issues (density of population, current infrastructure, growing awareness and needs for solutions), **circular economy will be soon developed in Israel.**
- ❖ **Waste treatment and recycling, packaging, food, e-waste, transport and buildings & construction** are the most promising sectors in the circular economy ecosystem.
- ❖ A number of VCs are operating in Israel **scouting for circular companies.** The circular investment scene is fairly nascent and offers thus an **opportunity for early investors to trace very good seed opportunities.**
- ❖ The combination of growing needs and the very fact that most of these sectors are not yet developed, represents a **potential that can be exploited by relevant international companies.**



**Our Barcelona Office:**

Tel. +34 934 767 287  
info.accio@gencat.cat



@accio\_cat

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תודה רבה

**Catalonia Trade & Investment Offices**

Accra / Amsterdam / Beijing / Berlin / Bogota / Boston / Brussels / Buenos Aires / Casablanca / Copenhagen / Dubai / Hong Kong / Istanbul / Johannesburg / Lima / London / Mexico City / Miami / Milan / Montreal / Moscow / Mumbai / Nairobi / New Delhi / New York / Panama / Paris / Santiago de Chile / São Paulo / Seoul / Shanghai / Silicon Valley / Singapore / Stuttgart / Sydney / Tel Aviv / Tokyo / Warsaw / Washington DC / Zagreb

**CATALONIA TRADE AND  
INVESTMENT OFFICE IN ISRAEL**

Derech Menachem Begin 11  
5268104 Ramat Gan (Israel)  
E-mail [telaviv@catalonia.com](mailto:telaviv@catalonia.com)

**Mar Pérez – Executive Director**  
[mperezbl@catalonia.com](mailto:mperezbl@catalonia.com)

**Gil Oren – International Trade and Investment Consultant**  
[goren@catalonia.com](mailto:goren@catalonia.com)