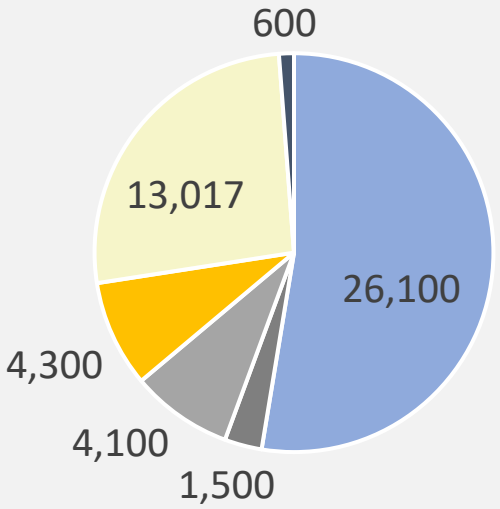
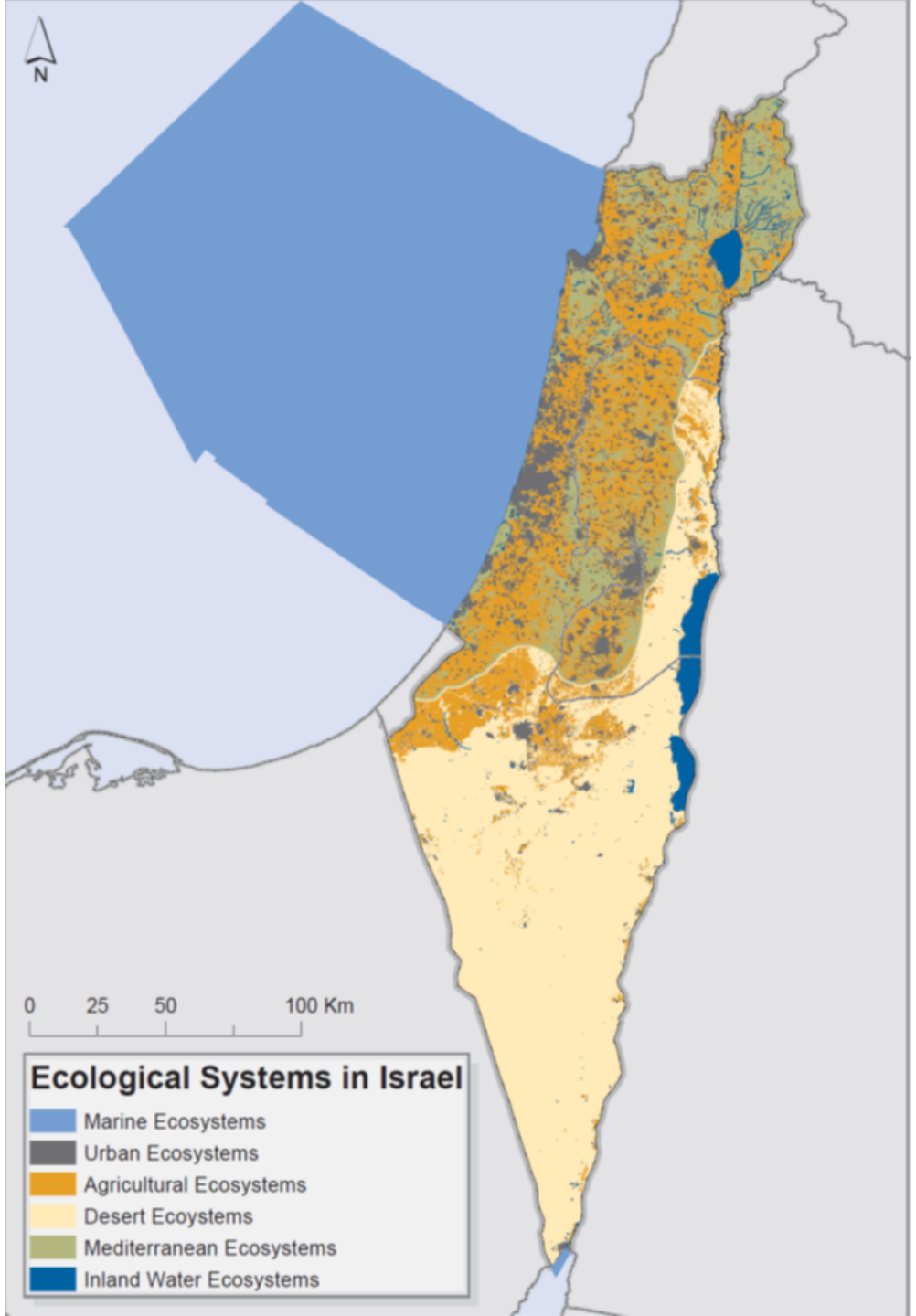
Investment and Sustaianiblity in the marine area, Israel

Dafna DiSegni, Tel Hai college

Israel landscape. KM^2

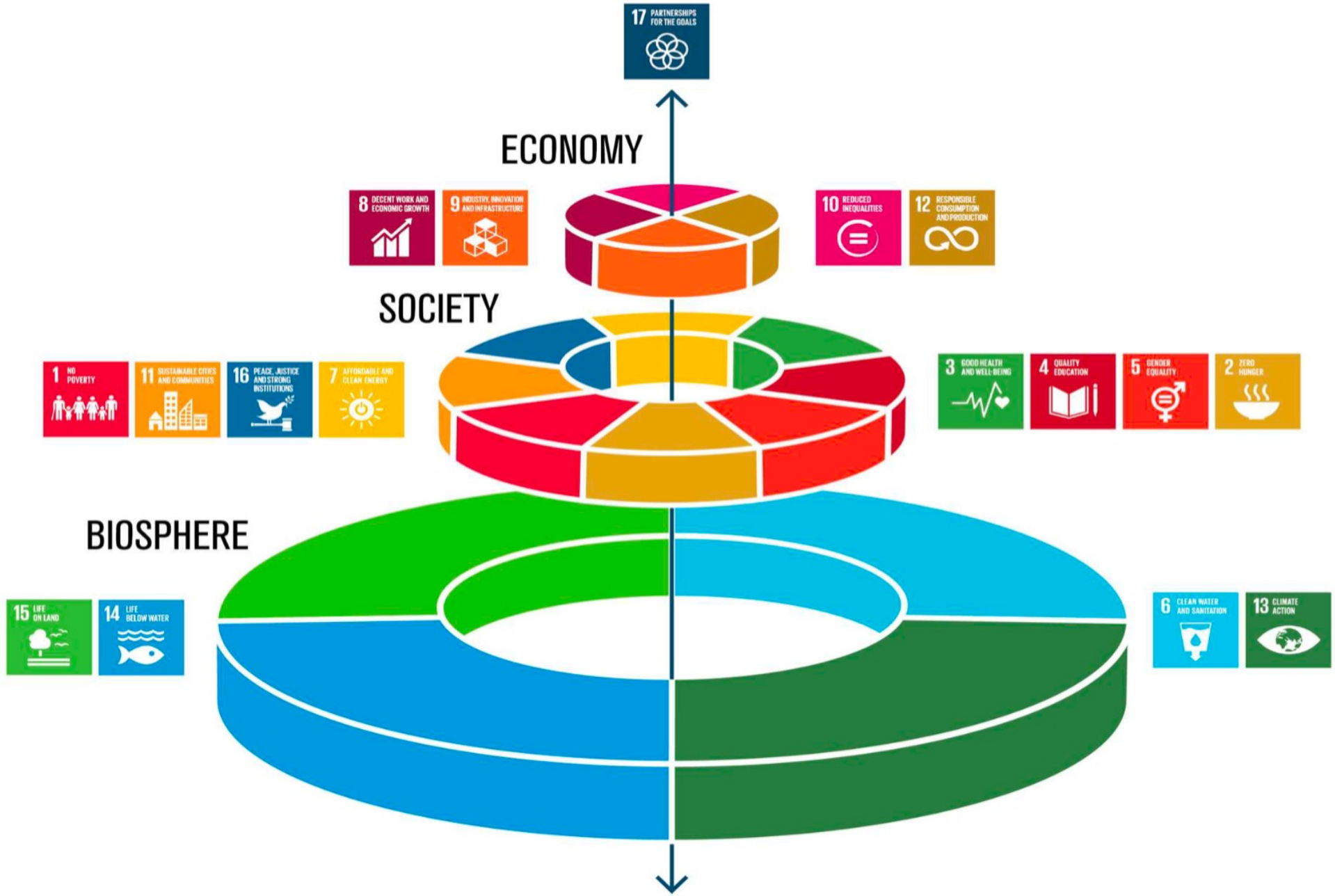


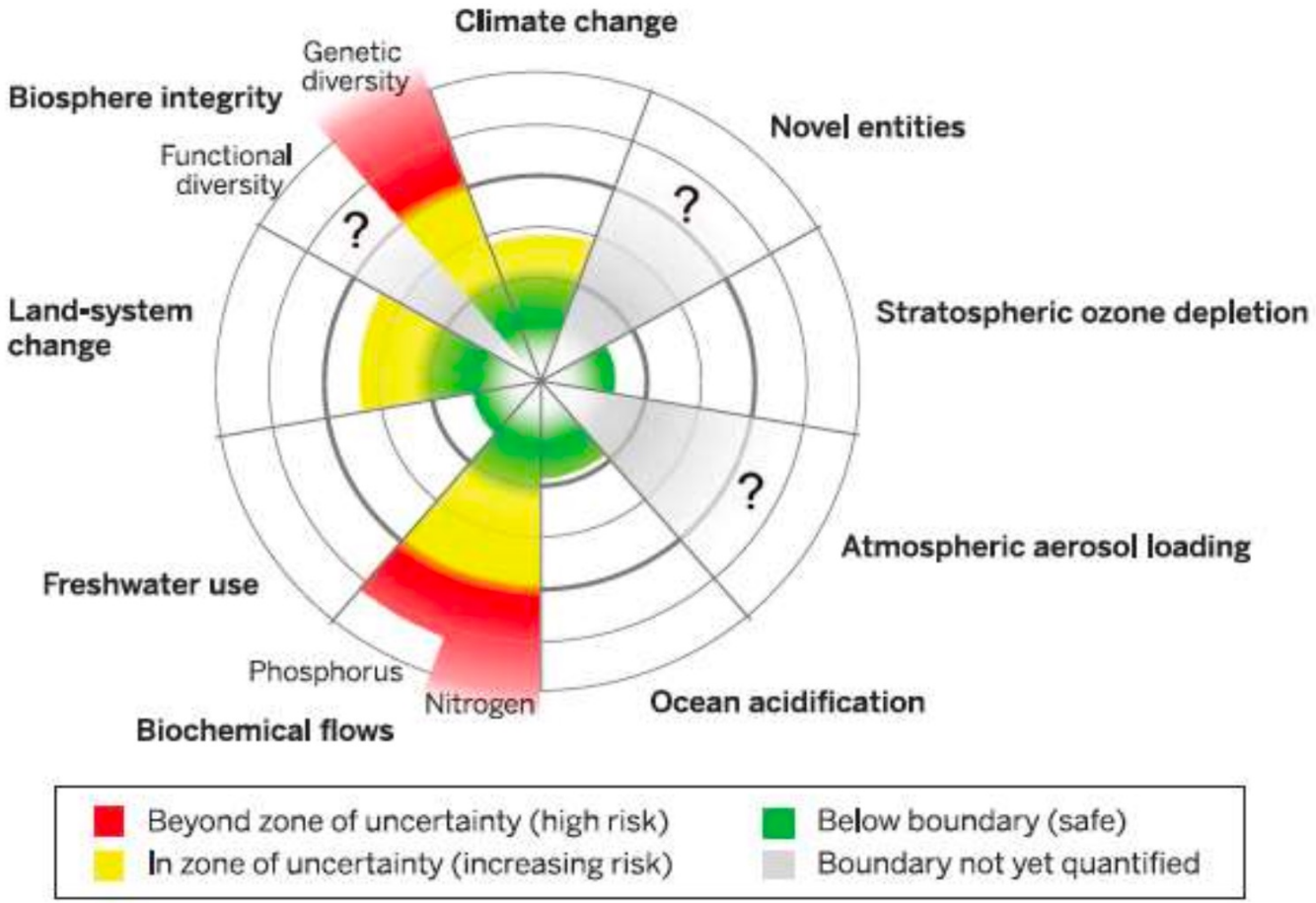
- Marine economics zone
- Urban
- Mediterranean
- Agricultural landscape
- Desert
- Inland water



Israel Landscape

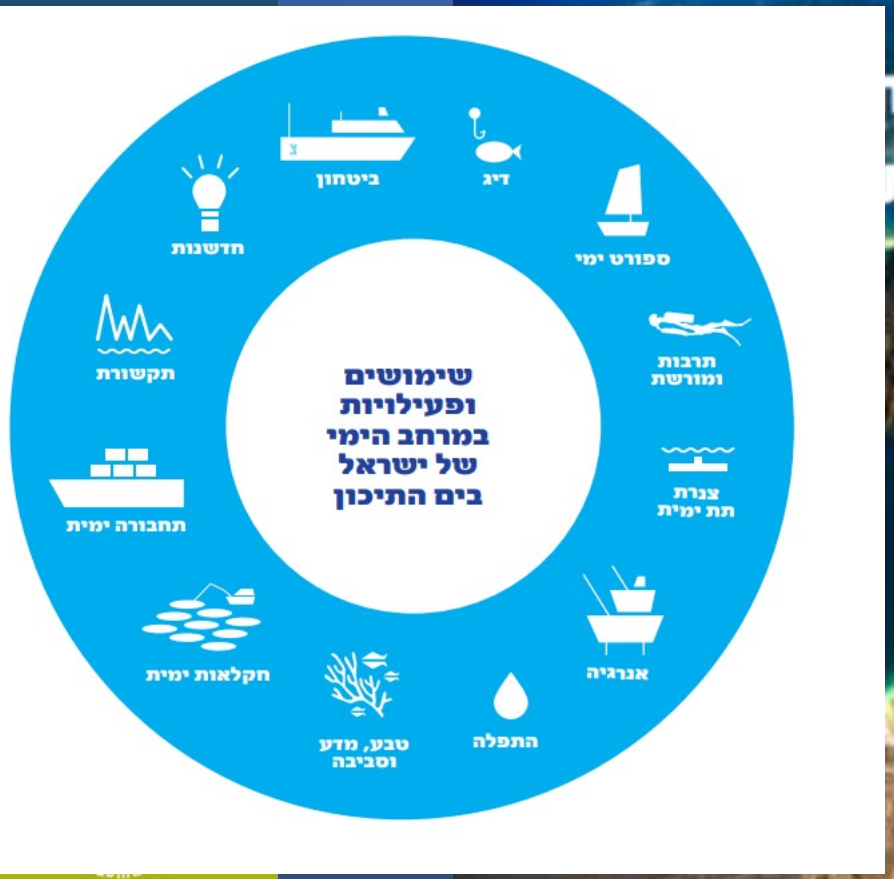
Global goals for sustainable development


17 PARTNERSHIPS FOR THE GOALS
ECONOMY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
SOCIETY
1 NO POVERTY
11 SUSTAINABLE CITIES AND COMMUNITIES
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
7 AFFORDABLE AND CLEAN ENERGY
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
2 ZERO HUNGER
BIOSPHERE
15 LIFE ON LAND
14 LIFE BELOW WATER
6 CLEAN WATER AND SANITATION
13 CLIMATE ACTION

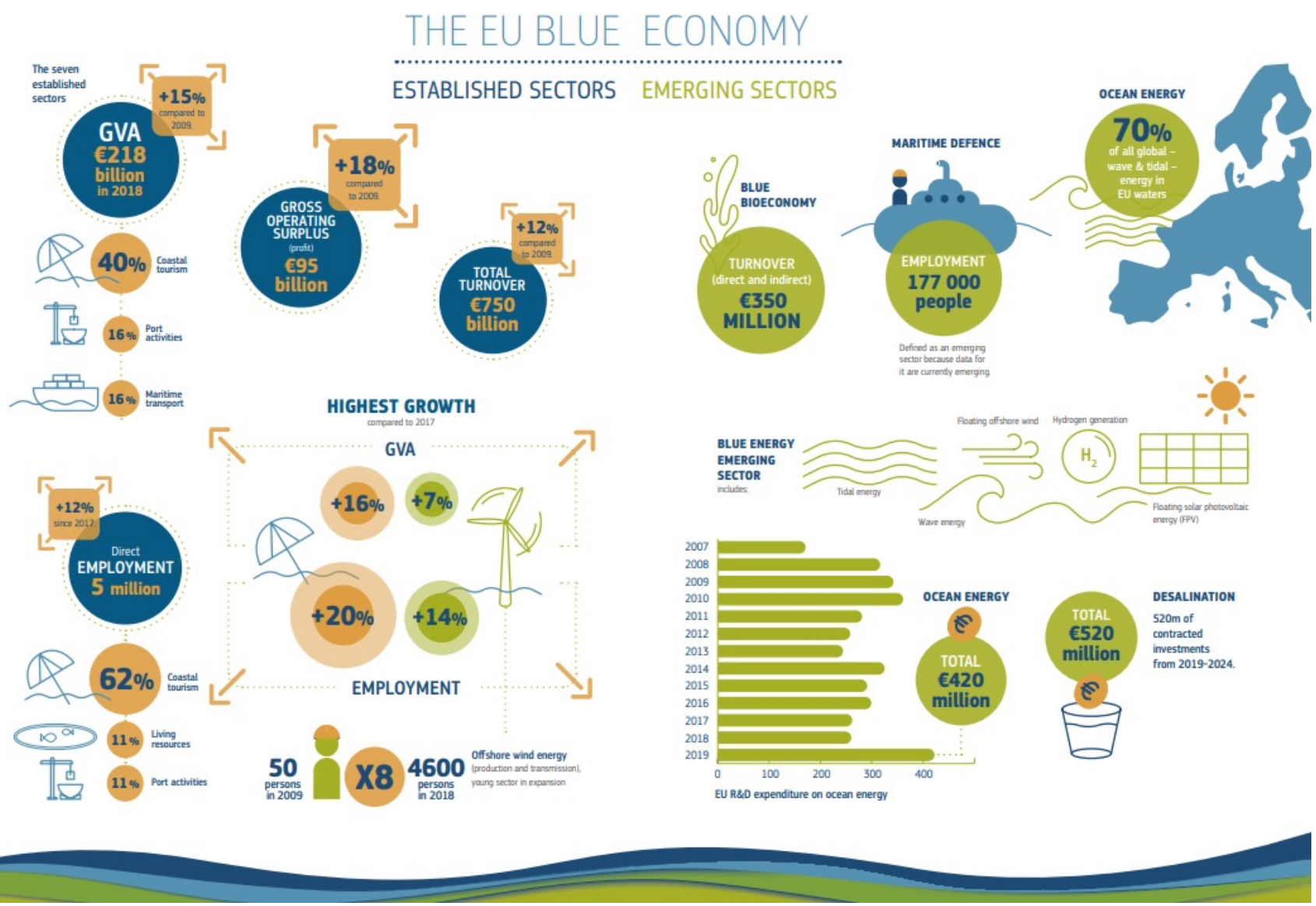


Boundaries of Sustainability


European Commission
THE EU BLU
ECONOMY
Marine living-resources
Shipbuilding and repair
Coastal tourism
Marine minerals
Ocean energy
Maritime defence
Blue bioeconomy / bio
Maritime security
Maritime data
Maritime spatial planning
Shared infrastruc-ture
Environ-mental protection
Common skills


שימושים ופעילויות במרחב הימי של ישראל בים התיכון
ביטחון
דיג
ספורט ימי
תרבות ומורשת
צנרת תת ימית
אנרגיה
התפלה
טבע, מדע וסביבה
חקלאות ימית
תחבורה ימית
תקשורת
חדשנות


המרחב הימי של ישראל
מינהל התכנון
מסמך מדיניות למר
ישראל | ים ת
מאי 2020


THE EU BLUE ECONOMY
ESTABLISHED SECTORS
EMERGING SECTORS
The seven established sectors
GVA €218 billion in 2018
+15% compared to 2009.
40% Coastal tourism
16% Port activities
16% Maritime transport
GROSS OPERATING SURPLUS (profit) €95 billion
+18% compared to 2009.
TOTAL TURNOVER €750 billion
+12% compared to 2009.
HIGHEST GROWTH
compared to 2017
GVA
+16%
+7%
+20%
+14%
EMPLOYMENT
+12% since 2017.
Direct EMPLOYMENT 5 million
62% Coastal tourism
11% Living resources
11% Port activities
50 persons in 2009
X8
4600 persons in 2018
Offshore wind energy (production and transmission), young sector in expansion
BLUE BIOECONOMY
TURNOVER (direct and indirect) €350 MILLION
MARITIME DEFENCE
EMPLOYMENT 177 000 people
Defined as an emerging sector because data for it are currently emerging.
OCEAN ENERGY
70% of all global – wave & tidal – energy in EU waters
BLUE ENERGY EMERGING SECTOR
includes:
Tidal energy
Wave energy
Floating offshore wind
Hydrogen generation
H_2
Floating solar photovoltaic energy (FPV)
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
0
100
200
300
400
EU R&D expenditure on ocean energy
OCEAN ENERGY
TOTAL €420 million
TOTAL €520 million
DESALINATION
520m of contracted investments from 2019-2024.

Italy — Evolution of the Blue Economy established sectors

Persons employed *(thousand)*	2009	2011	2013	2015	2016	2017	2018
Marine living resources	73.5	72.2	71.6	69.8	72.8	72.9	73.1
Marine non-living resources	11.2	10.8	9.6	9.5	6.3	2.0	2.0
Marine renewable energy	-	-	-	-	-	-	-
Port activities	38.9	35.2	34.5	33.8	35.2	34.9	34.9
Shipbuilding and repair	45.8	38.0	32.3	34.0	35.4	39.2	38.8
Maritime transport	45.3	41.7	41.8	63.3	63.8	67.9	67.9
Coastal tourism	396.6	261.5	222.0	204.9	227.7	244.2	308.4
Blue economy jobs	611.2	459.4	411.9	415.4	441.1	461.2	525.2
National employment	22,324	22,215	21,755	21,973	22,241	22,444	22,586
Blue economy *(% of national jobs)*	2.7%	2.1%	1.9%	1.9%	2.0%	2.1%	2.3%

GVA *(€ million)*	2009	2011	2013	2015	2016	2017	2018
Marine living resources	2,380	2,523	2,231	2,523	2,666	2,609	2,631
Marine non-living resources	2,074	2,014	1,324	1,385	1,287	739	735
Marine renewable energy	-	-	-	-	-	-	-
Port activities	1,732	1,877	2,047	2,142	2,194	2,222	2,222
Shipbuilding and repair	1,894	1,848	1,489	1,694	2,092	2,555	2,492
Maritime transport	3,175	3,595	3,595	4,741	4,534	4,768	4,768
Coastal tourism	10,158	8,040	6,621	6,902	7,918	8,551	10,518
Blue economy GVA	21,413	19,896	17,307	19,388	20,691	21,444	23,366
National GVA	1,425,157	1,480,875	1,451,514	1,488,049	1,522,917	1,557,833	1,583,358
Blue economy *(% of national GVA)*	1.5%	1.3%	1.2%	1.3%	1.4%	1.4%	1.5%

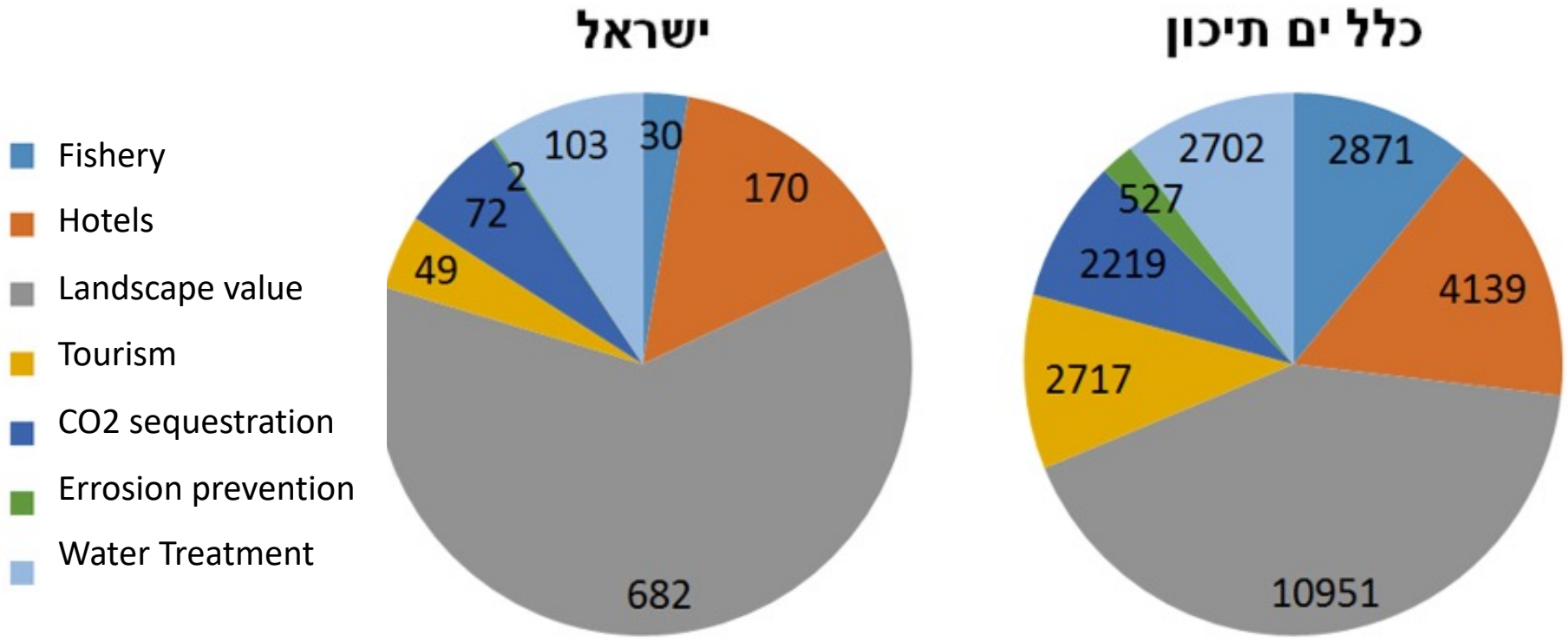
Evcaluation of the blue economy in Italy:

Established Sectors

Drivers of investment

- Economic Return
- Energy Security
- Food Security
- Water Security
- National Security
- Trade and Economics Develoment
- Population Growth
- Heritage


Social and Economics activities in the Israeli Marine Aera
ביטחון
דיג
ספורט ימי
תרבות ומורשת
צנרת תת ימית
אנרגיה
התפלה
טבע, מדע וסביבה
חקלאות ימית
תחבורה ימית
תקשורת
חדשנות



Million Euro, 2014

([Mangos, Bassino et al. 2010]; [Galil, Boero et al. 2014])

Who Invests?

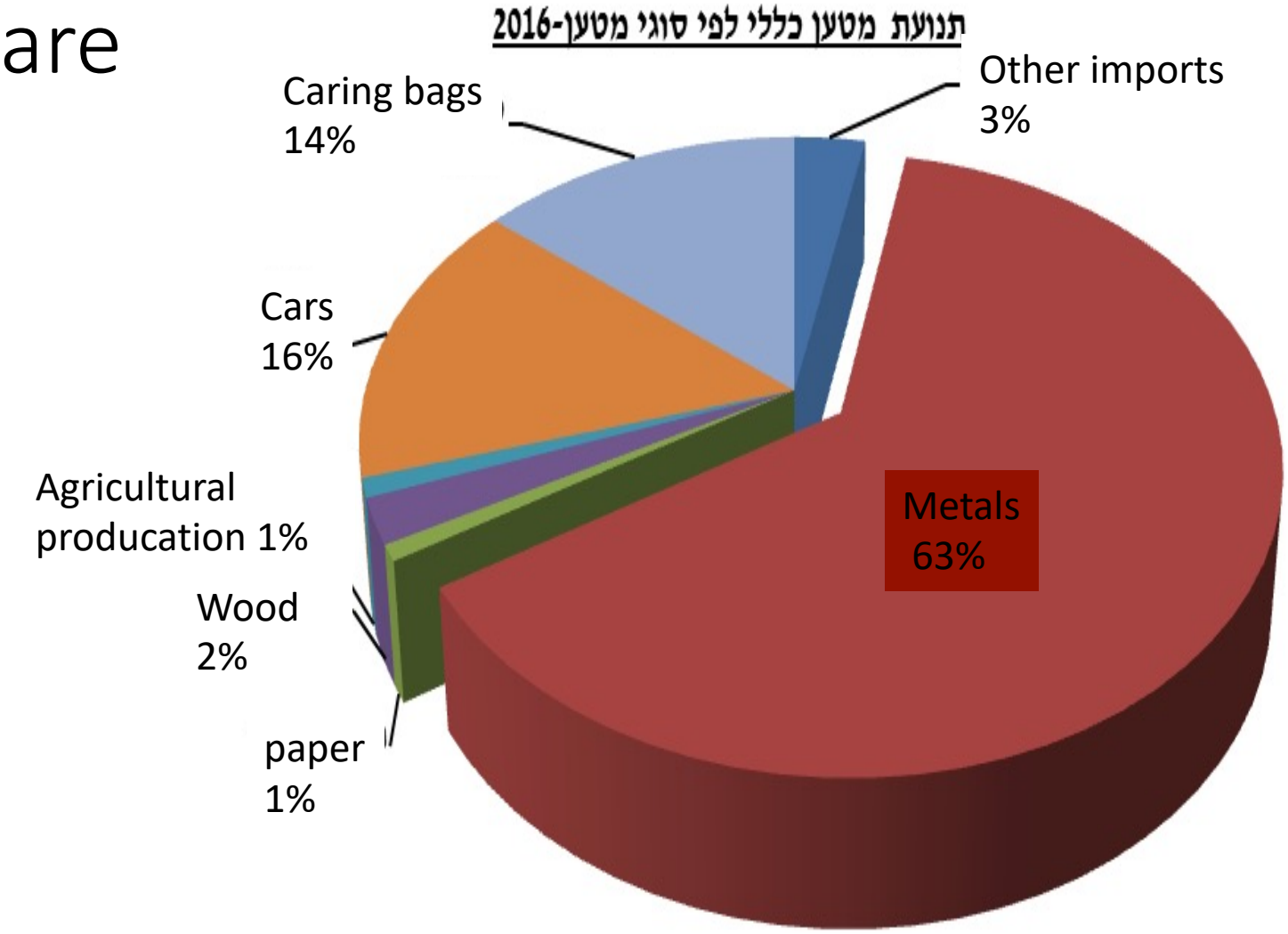
1. MARINE TRANSPORTATION

"He that commands the sea, commands the trade, and he that is Lord of the trade of the world is lord of the wealth of the world".

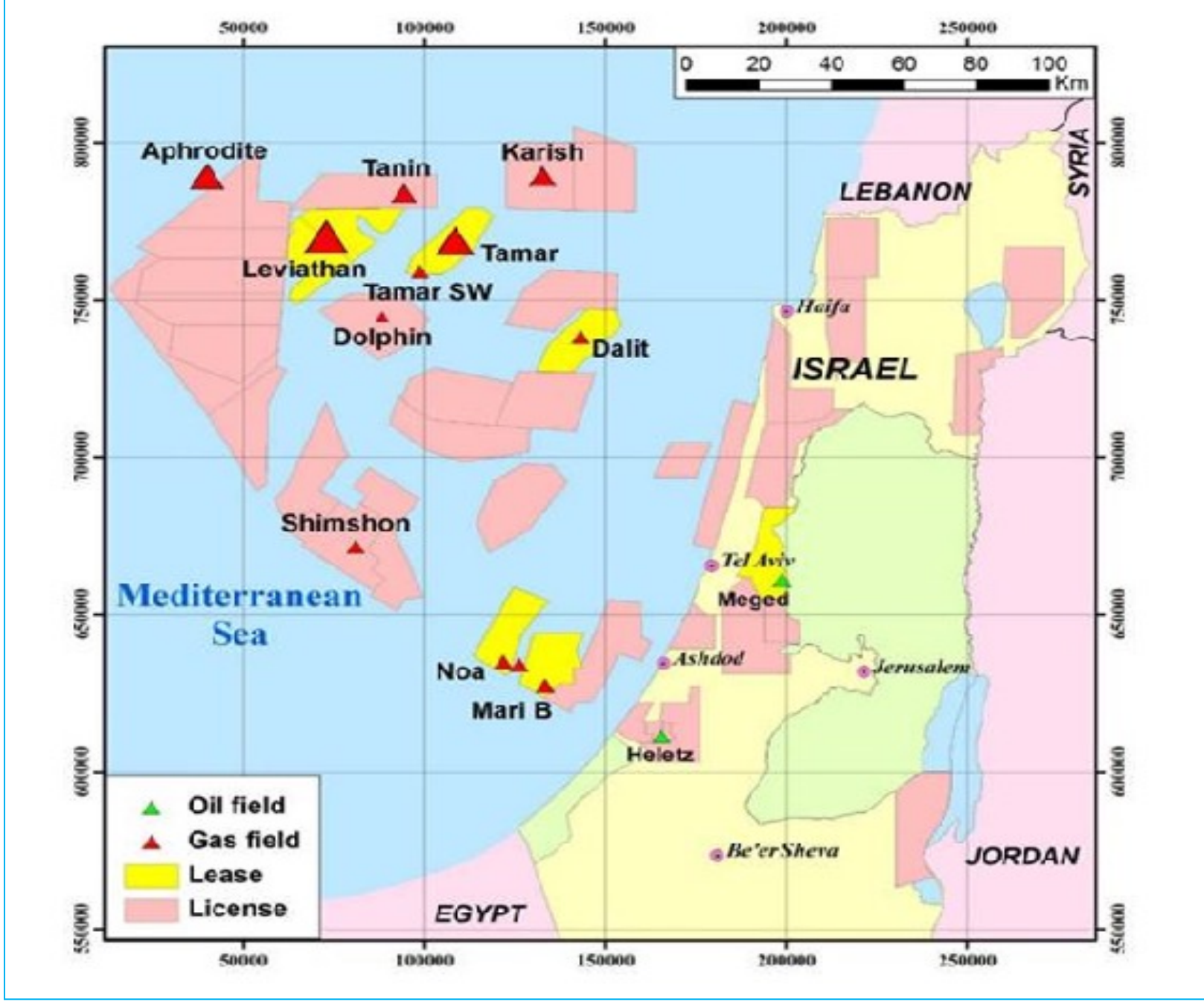
Sir Walter Raleigh (1552-1618)

Port of Herode

99% of resources are via marine transportation

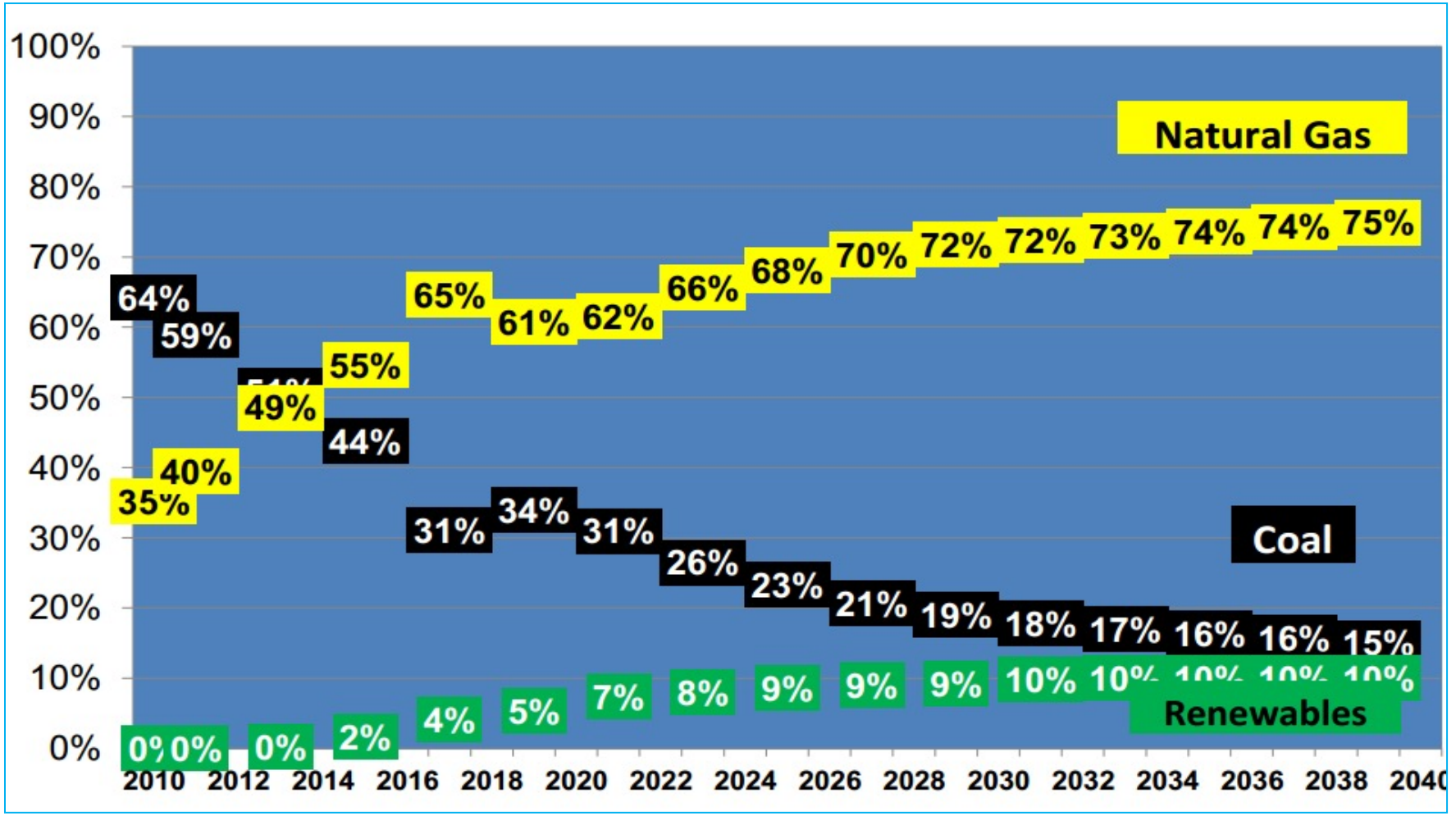


2. Gas Reserves Energy Security



מפת המאגרים המרכזיים, מקור: משרד האנרגיה

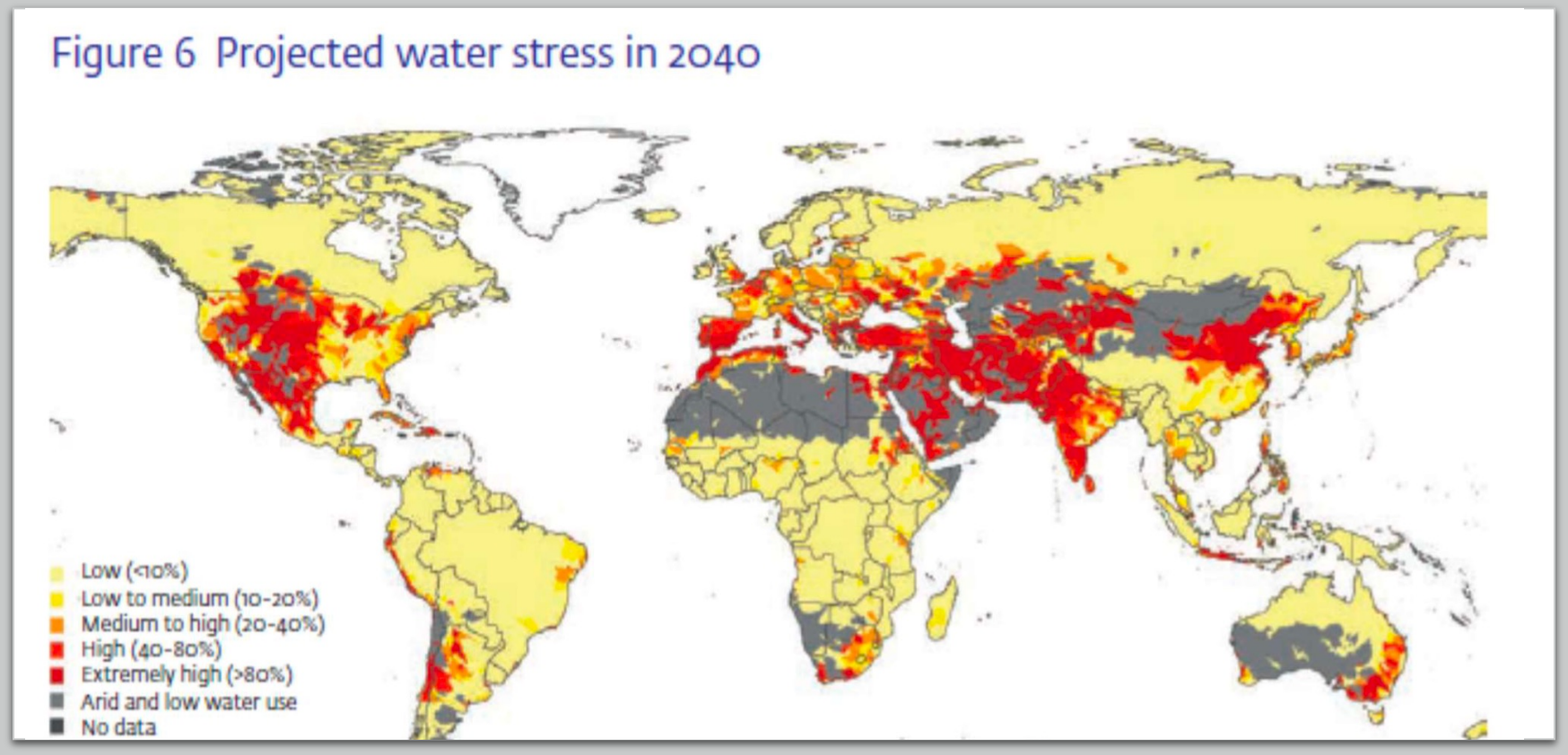
Israel: Energy Resources use



תמהיל הדלקים לייצור חשמל בישראל בין השנים 2011-2040 מקור: משרד האנרגיה

3. Tourism

4. Water Technologies
5. Food and High tech development



Projected Water Stress in 2040 (% of available water)

The National water Carrier (1956)

In 1959 its construction began, taking 5 years
Its cost of construction was circa 420 million Israeli lira

In the course of its construction, approximately 2.5 million work days were invested, over 4,000 workers were employed, about 7 million cubic meters of dirt were dug up, about 1.7 million cubic meters of rock were quarried, approximately 500 thousand cubic meters of concrete were poured, about 75 thousand tons of steel were sunk and 15 thousand concrete and steel pipes were laid.

Its length: about 130 km

Upon its operation, about 80% of the water transferred in it was for agricultural uses and about 20% for drinking water.

At the beginning of the 1990s the “National Carrier” already supplied half of Israel’s drinking water, from the north to the edges of the Negev.

Investment in Water Technologies

5 desalination plants that provide in total 850 MCM/year
First plan operation: 2008

1987 stop discharge water to the Mediterranean sea. Shafdan water treatment plant

Netfim. The Dripping system 1965

Algaeing

CONTACT US

Triple good Solution

FOR OUR PLANET

- Prevents global water pollution
- Carbon negative and 100% zero waste
- Free of harmful chemicals and fertilizers

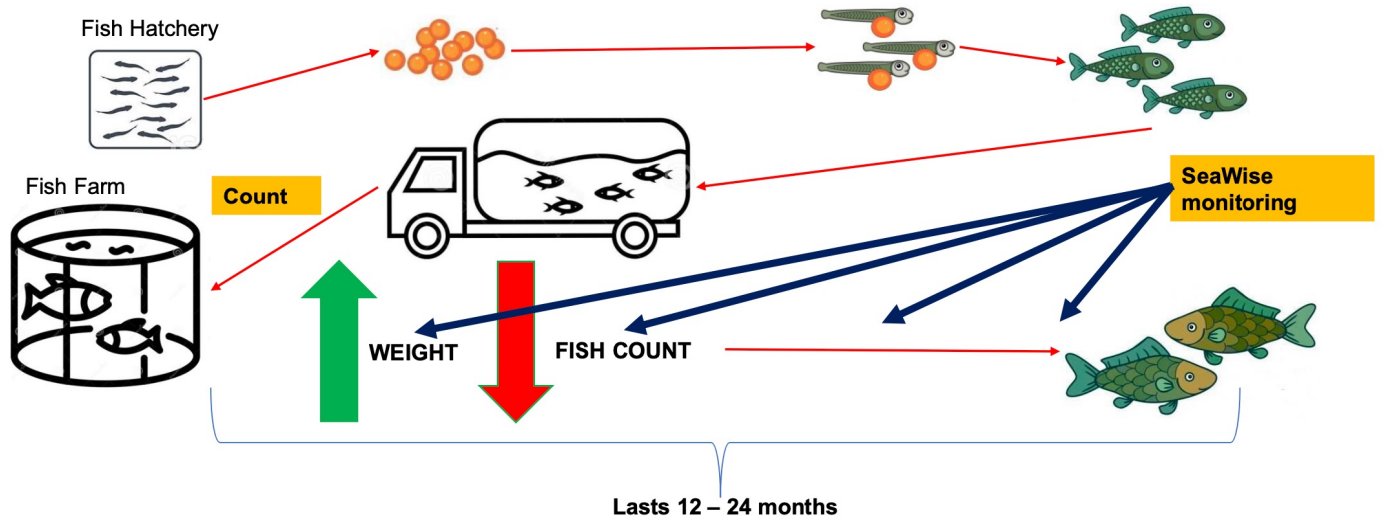
FOR OUR INDUSTRY

- Energy and water efficient
- Creates a work environment free of hazardous toxins

Investment in Food and hightech production

Investment in Food and high-tech production

SeaWise: IT technology of biodata analysis



- Phase I – Eggs spawned in hatchery
- Phase II – Eggs hatch into larvae and, grow into juveniles
- Phase III – Juveniles are transported to Fish Farm and **counted exactly**
- Phase IV – Juveniles are fattened and grown into adults in fish farm – during this phase **fish loss** is expected along with **weight gain**

Investment in Food and high-tech production

6. Heritage

Hanna Senesh
1921-1944

Budapest, Hungary

A walk to Cesarea

Elee, Elee
Never to end
The sand and sea
The rustle of waters
The light of the sky
The prayer of man.

Hana Senesh, 1942

Elee, Elee
She lo igamer le olam
Ha'chol ve ha'yam
Rishrush shel ha'maim
Barak ha'shamaim
Tefilat ha'adam

Ha'cho ve ha'yam
Rishrush shel ha'maim
Barak ha'shamaim
Tefilat ha'adam

אלי, אלי
שלא יגמר לעולם
החול והים,
רשרוש של המים,
ברק השמיים,
תפילת האדם.

החול והים,
רשרוש של המים,
ברק השמיים,
תפילת האדם.

חנה סנש, 1942