WELCOME TO THE

CITY OF SUGAR LAND STRATEGIC ACTION PLAN PROJECT

Think-Tank Part 1

City of Sugar Land Strategic Action Plan
Think-Tank PART 1

SUGAR LAND STRATEGIC ACTION PLAN

PHASE 1
Initial Planning and Research

- Detailed work plan and schedule
- Create online project portal; project branding
- Review of existing plans and surveys
- Situational analysis/future readiness assessment
- Strategic planning meetings
- Benchmark with comparable peer communities

Project design, branding, and research

July

PHASE 2
Stakeholder Engagement

- Key stakeholder interviews (in person/virtual)
- Stakeholder Survey
- Data Visualization of survey results on portal
- Staff briefing sessions - Q & A and input
- Sugar Land Think-Tank Workshop
- Sugar Land Think-Tank Report

Stakeholder involvement to build alignment

September

PHASE 3
Plan Development

- Focus Groups to develop Strategic Pillars and Action Areas
- Validate with community-based reference groups
- Draft and develop Sugar Land Strategic Action Plan and Implementation
- Briefing/input sessions with dept. groups

Analysis and synthesis of accumulated input

October

PHASE 4
Final Plan and Presentation

- Finalize Sugar Land Strategic Action Plan; input incorporated from prioritization/ decision making tool survey
- City Council presentation of Sugar Land Strategic Action Plan

December

City of Sugar Land - Strategic Action Plan Think-Tank

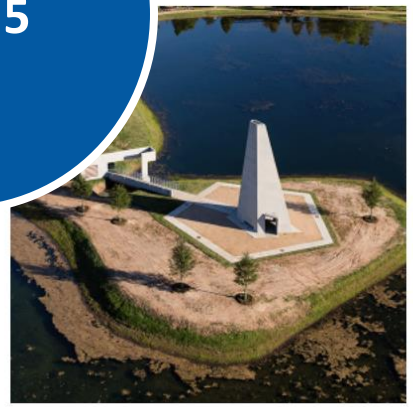
Part 1 – Explore Future Trends

- Macro trends shaping the future
- Key drivers shaping the future
- Rating future impact of drivers

Part 2 – Build Scenarios

- Develop plausible scenarios of the future
- Identify expected and preferred futures
- Begin to build strategic pillars

Sept 5



Sept 7

AGENDA

Part 1 Agenda: Explore Future Trends

Date: Thursday, September 5, 2024

Time: 6:00pm – 9:00pm

Location: T.E. Harman Center, 226 Matlage Way, Sugar Land, TX 77478

5:30 pm Registration

6:00 pm Welcome and introductions

6:15 pm Future trends shaping the City of Sugar Land

7:15 pm Identification of Key Drivers

8:15 pm Build out insights on Key Drivers

8:45 pm Ranking Key Drivers

9:00 pm Next Steps and Finish

Part 2 Agenda: Build Future Scenarios

Date: Saturday September 7 2024

Time: 10:00am – 1:00pm

Location: T.E. Harman Center, 226 Matlage Way, Sugar Land, TX 77478

9:30 am Registration

10:00 am Recap of Think-Tank Part 1

10:10 am Introduce Scenario Matrix

10:30 am Develop plausible scenarios of the future of Sugar Land

12:00 pm Presentations of future scenarios

12:45 pm Scenario Heatmaps – Least Desired, Expected & Preferred Futures

1:00 pm Next Steps and Finish

WELCOME TO THE

CITY OF SUGAR LAND STRATEGIC ACTION PLAN

PROJECT

The Importance of Future Thinking

The key to effective future thinking…

Consider both **trajectory** (direction of change) and **velocity** (speed of change).

The challenge for the Think-Tank

- Explore the future -
- Ask the hard questions -
- Think creatively -

The outcome may be a new view of the future.

Key emerging trends shaping the future

In a time of change and uncertainty….

- Which trends are being amplified and accelerated?
- What changes might be more elastic?
- Where are the potential tipping points?

Forces impacting the world, regions and people

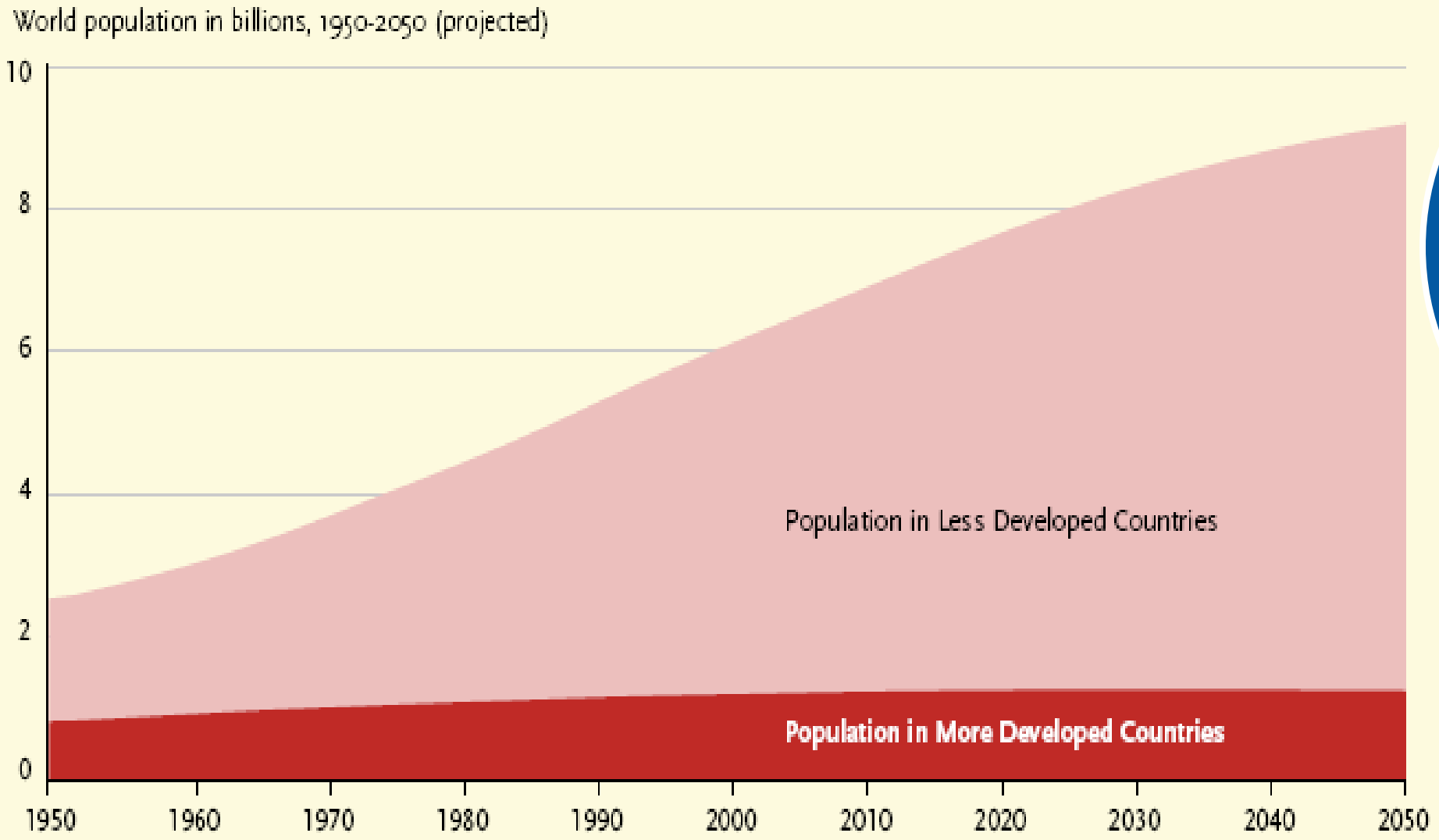
What are the emerging macro drivers…

Macro Trends and Forces of Change Related to . . .

- Demographics, population and mass urbanization
- Energy, food, water & climate change
- Technology driving change

Demographics, population and mass urbanization

Global Population Growth Is Driven By Developing Countries.

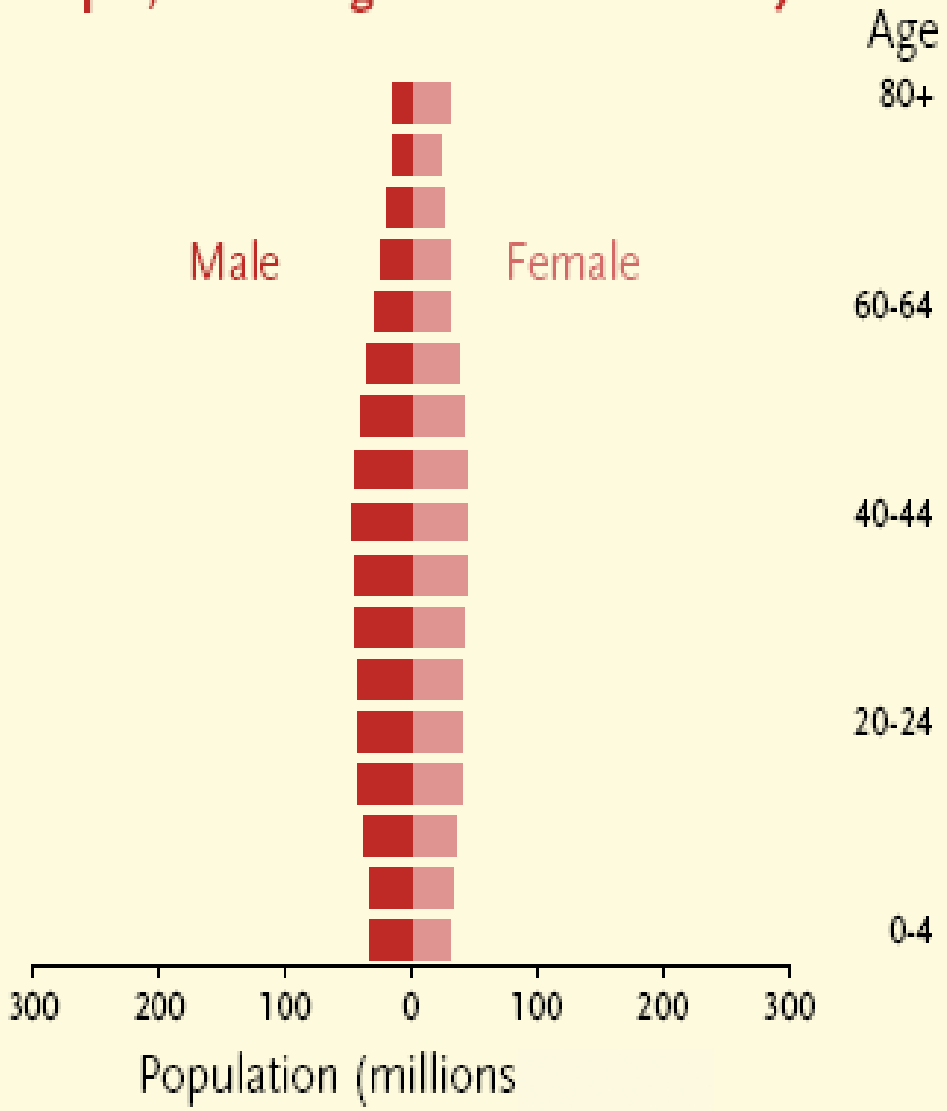


Global population

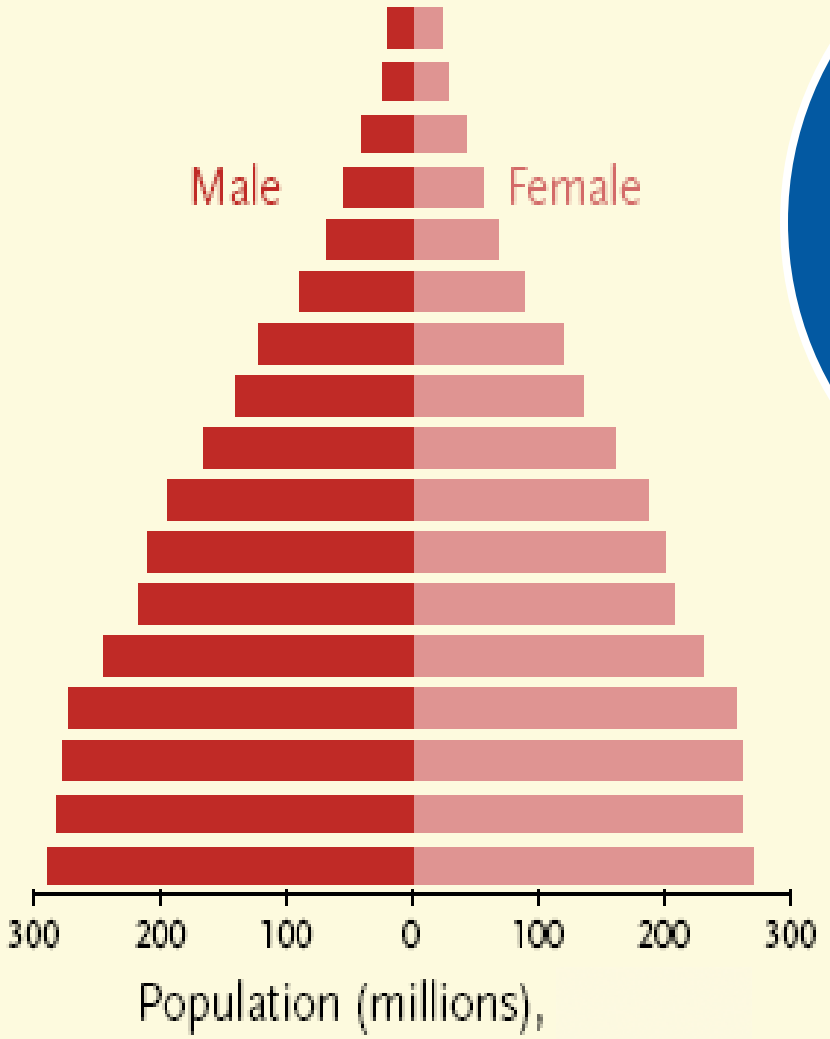
SOURCE: United Nations, *World Population Prospects:*

Global population age profiles

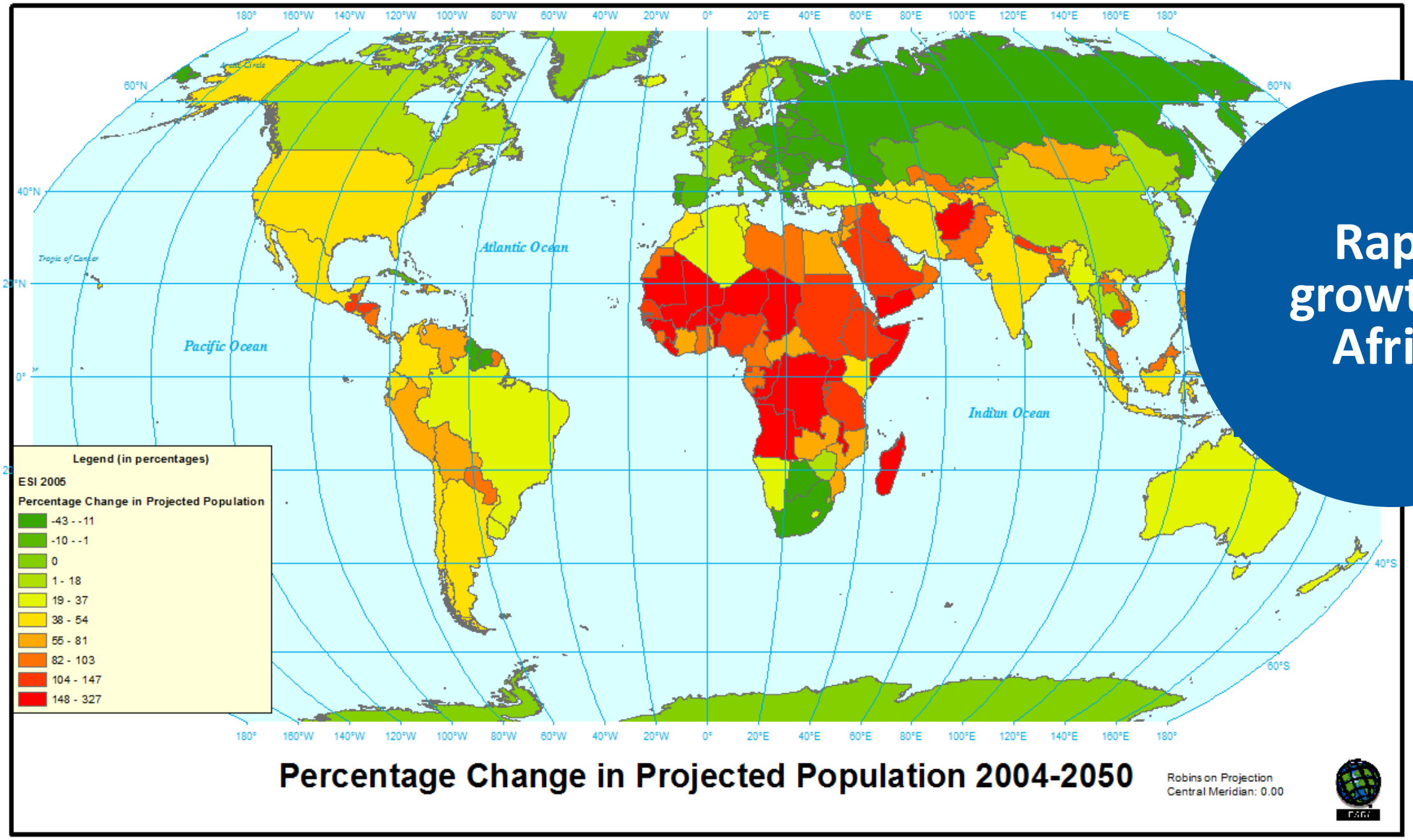
Developed Countries Have Fewer Young People, but a Higher Share of Elderly.



Developing Countries Have More Young People, and a Smaller Share of Elderly.



SOURCE: United Nations, *World Population Prospects:*



Rapid growth in Africa

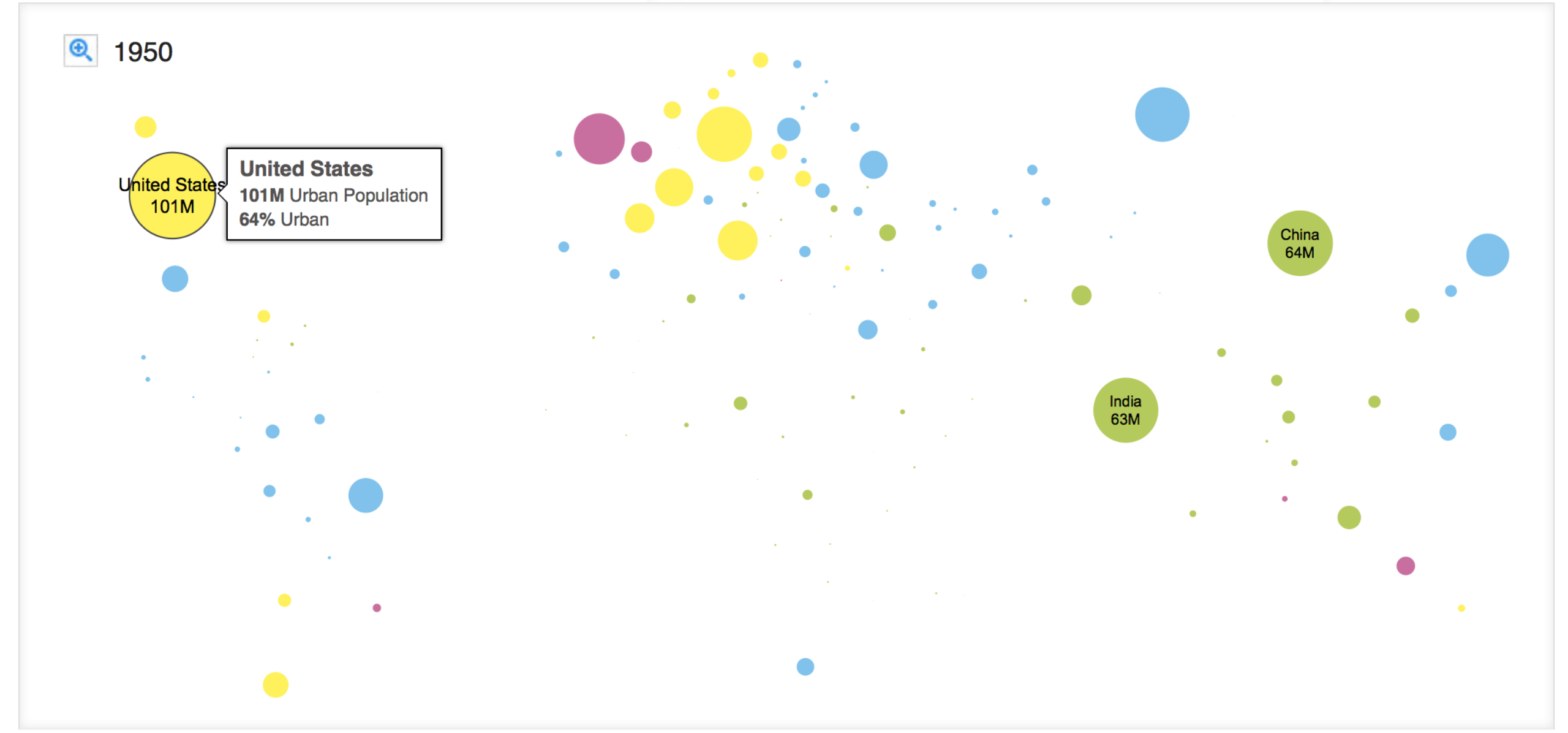
unicef

AN URBAN WORLD

This graphic depicts countries and territories with 2050 urban populations exceeding 100,000. Circles are scaled in proportion to urban population size. Hover over a country to see how urban it is (percentage of people living in cities and towns) and the size of its urban population (in millions).

Urban Population
- Greater than 75%
- 50% - 75%
- 25% - 50%
- Less than 25%

1950



unicef

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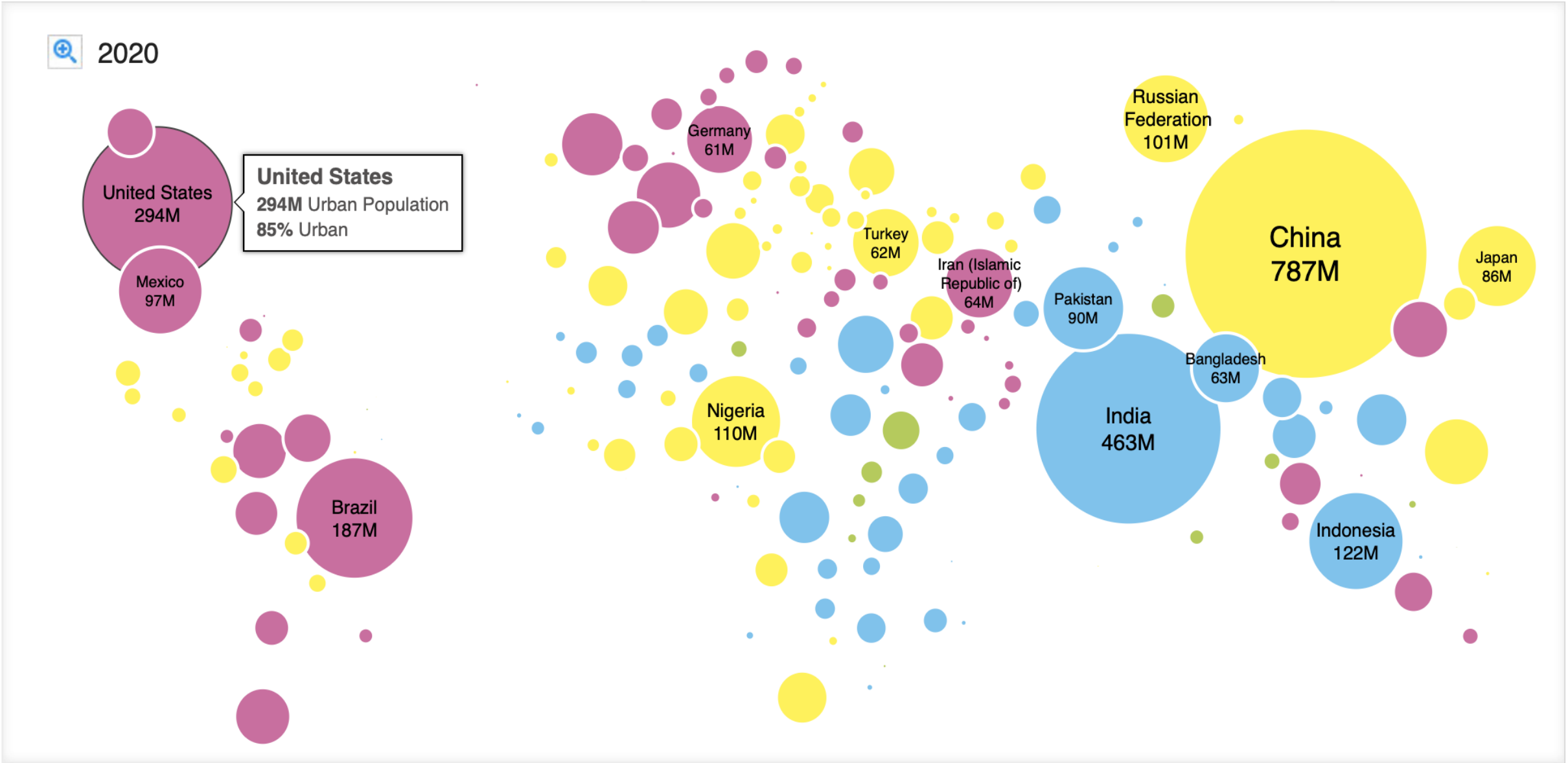

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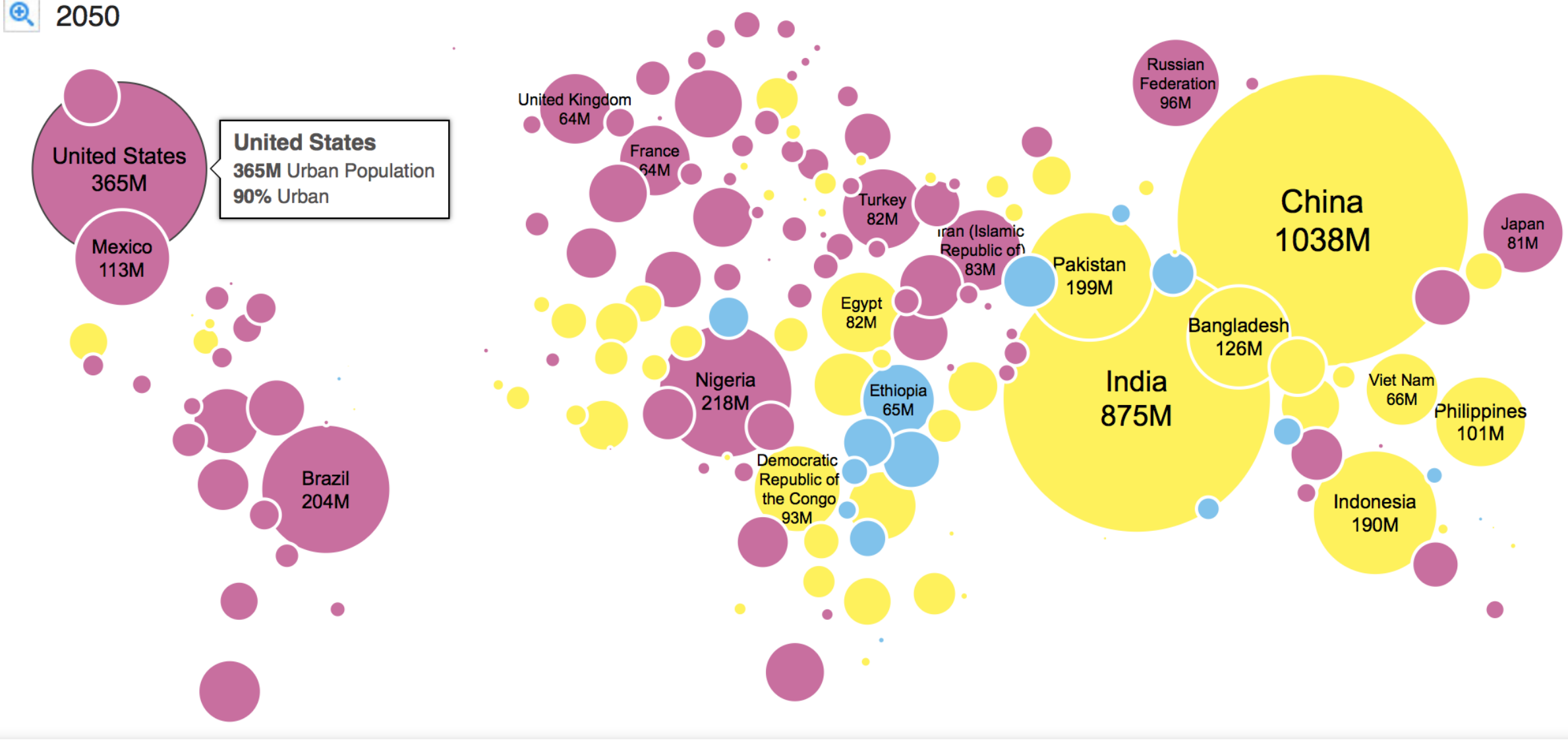
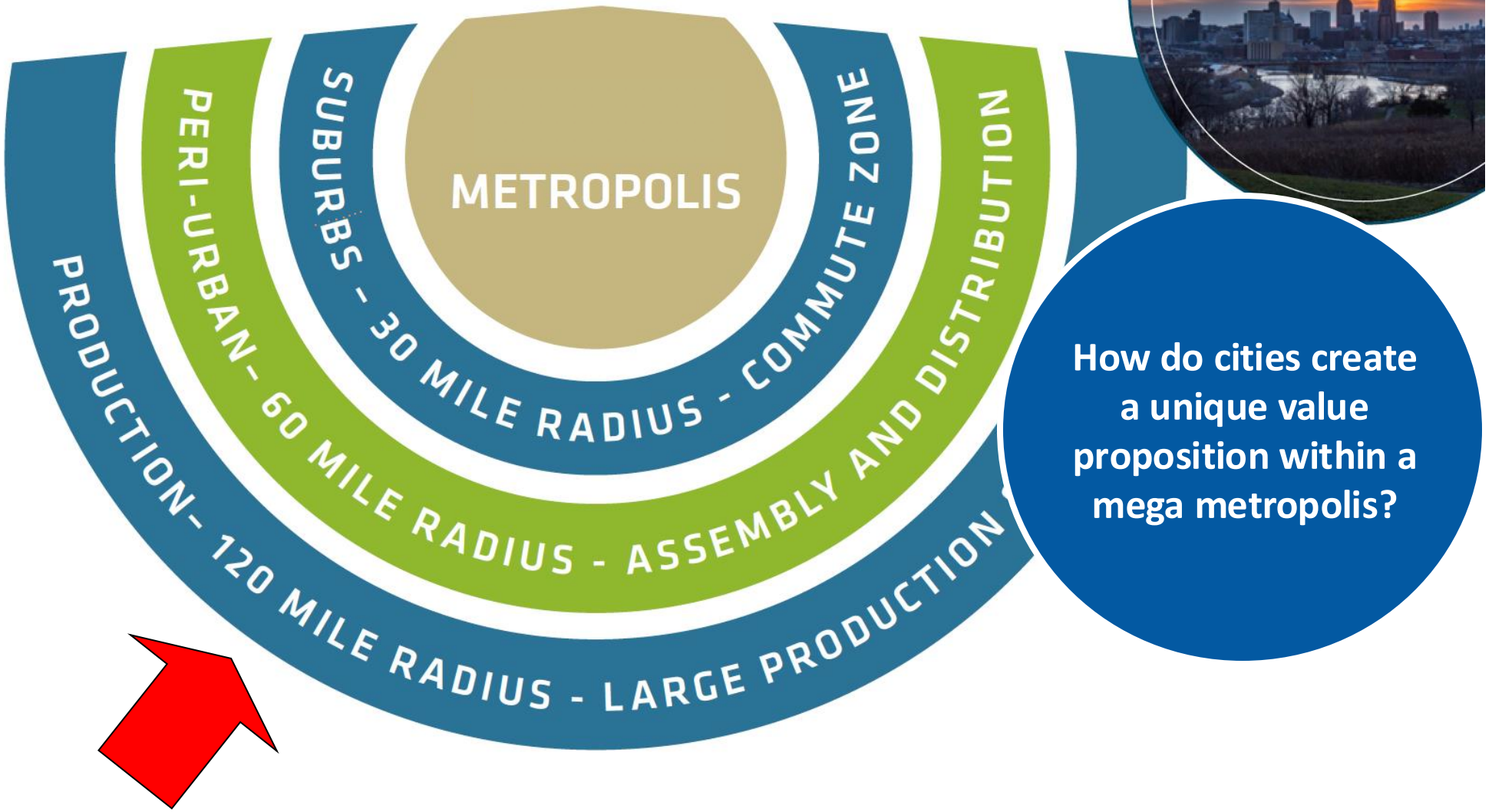
2050



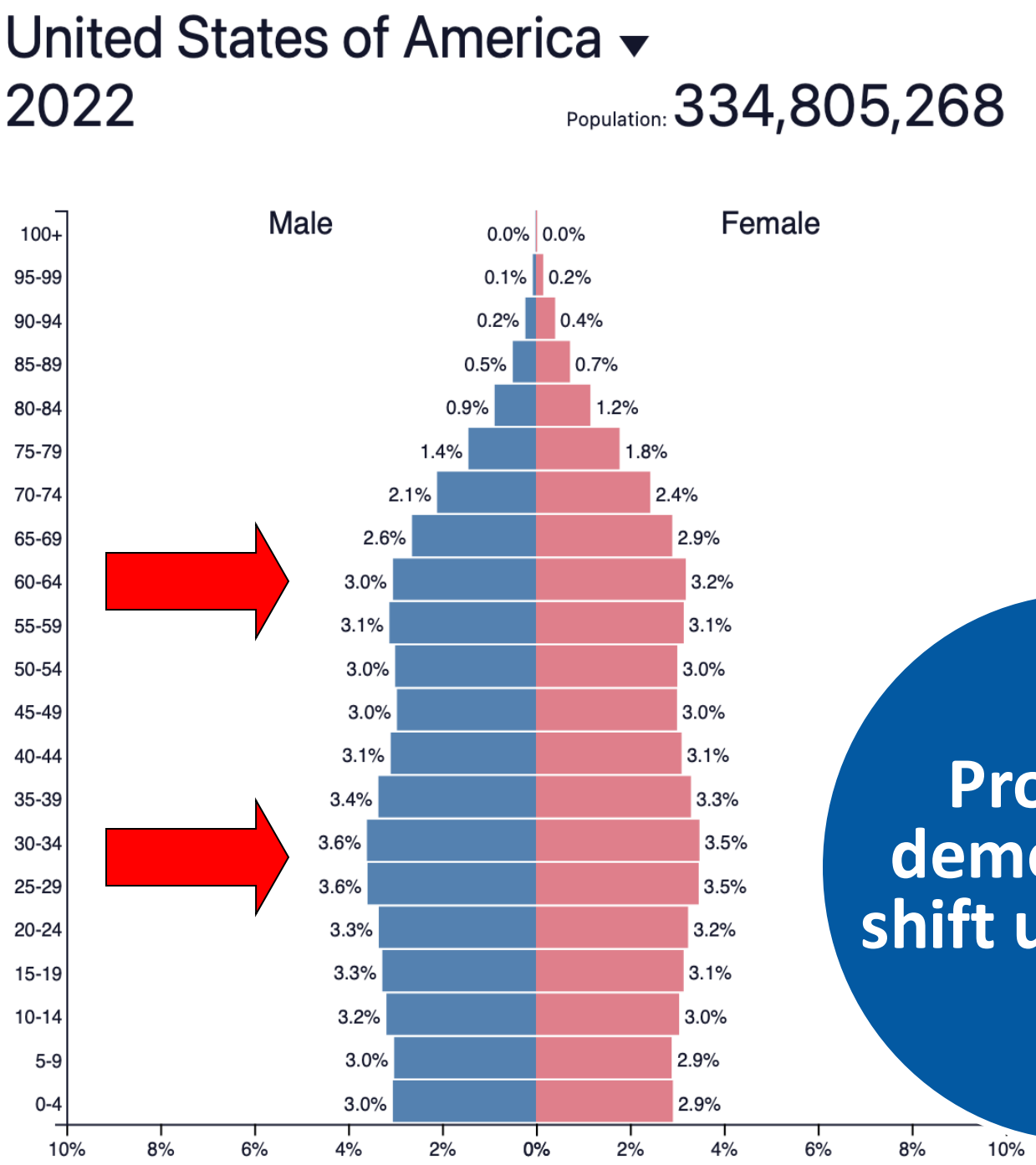
Arc of Innovation

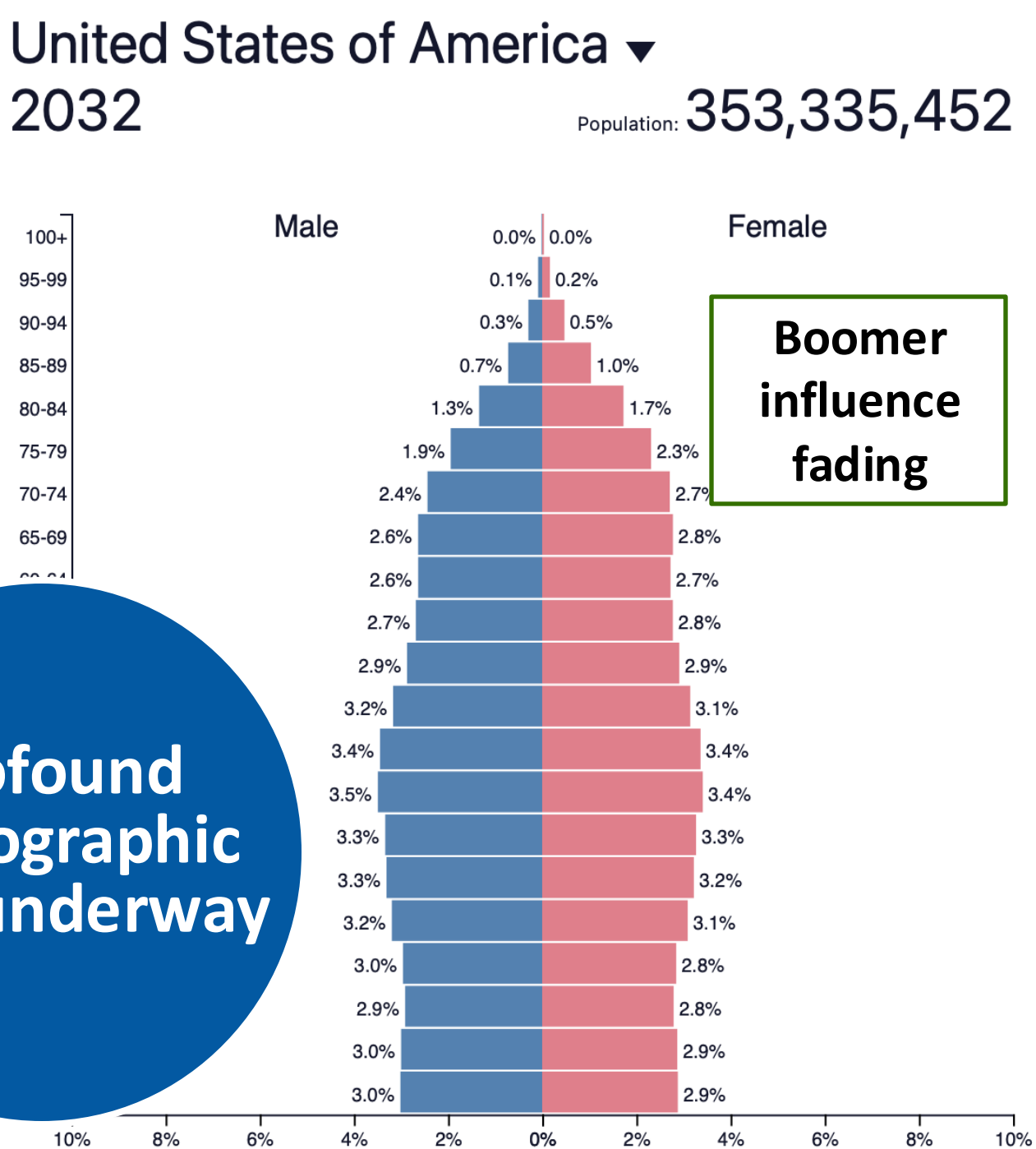
Future-Splitting Questions™



How do cities create a unique value proposition within a mega metropolis?

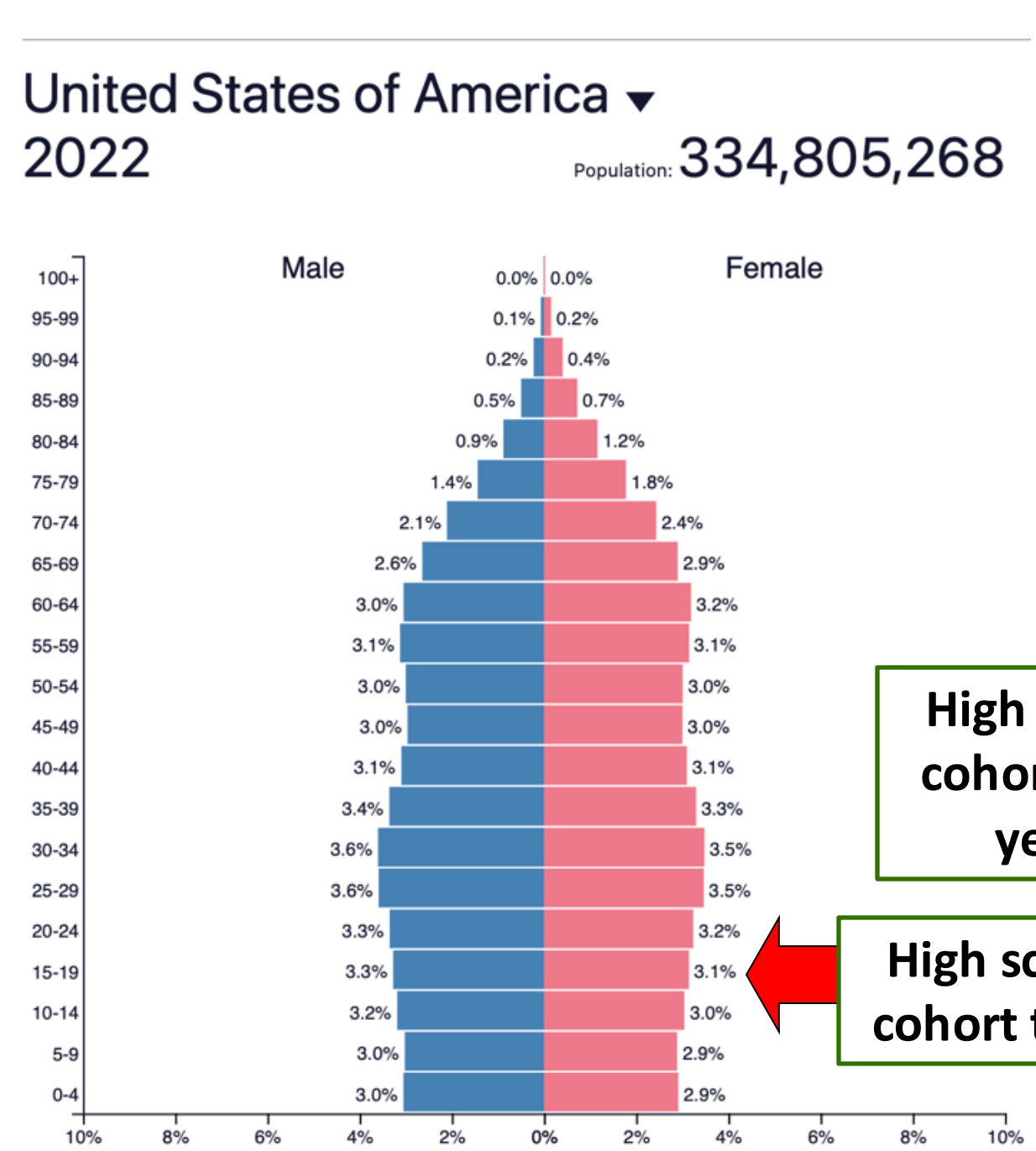
Society is re-distributing into and around mega-cities





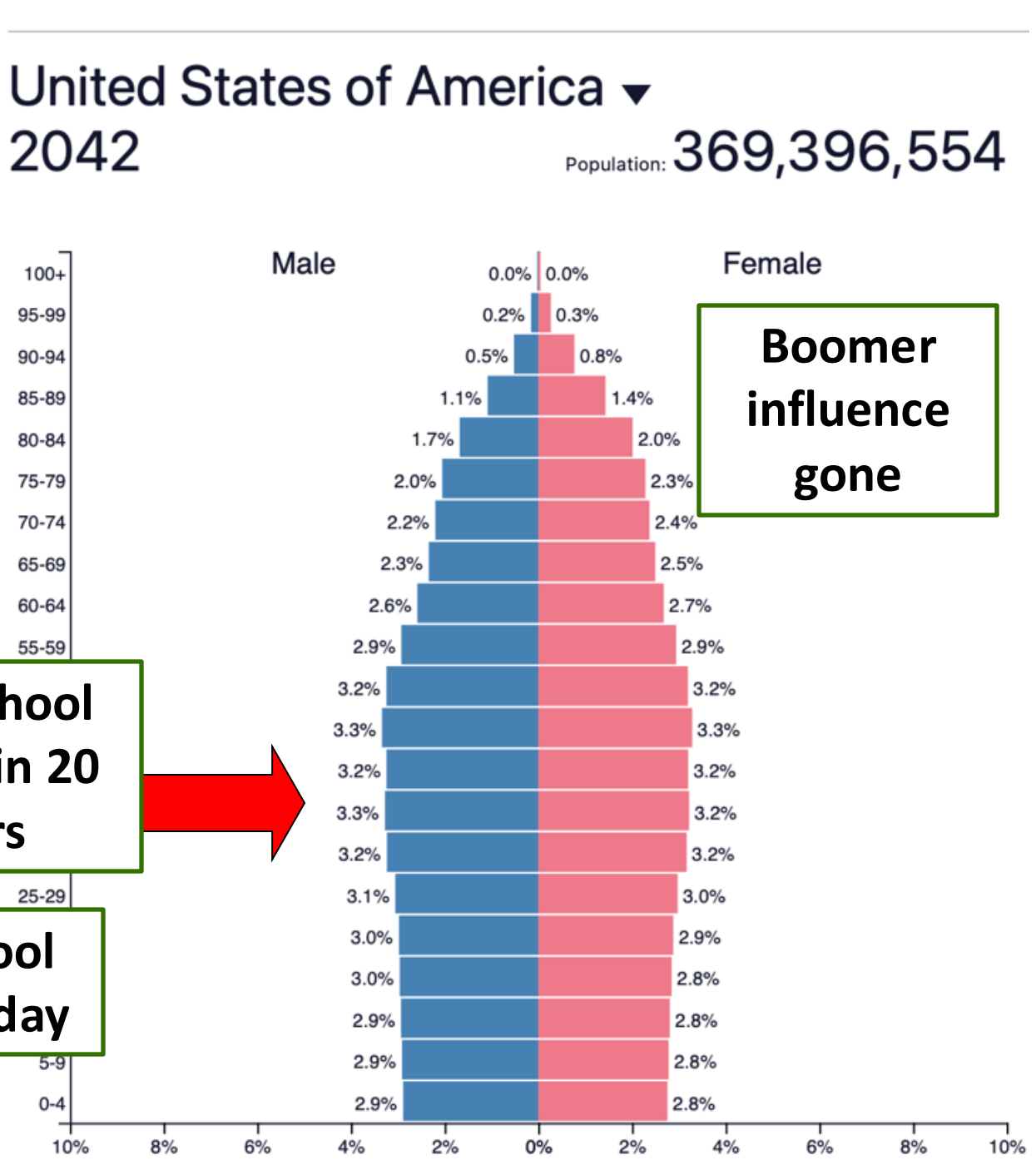
Boomer influence fading

Profound demographic shift underway



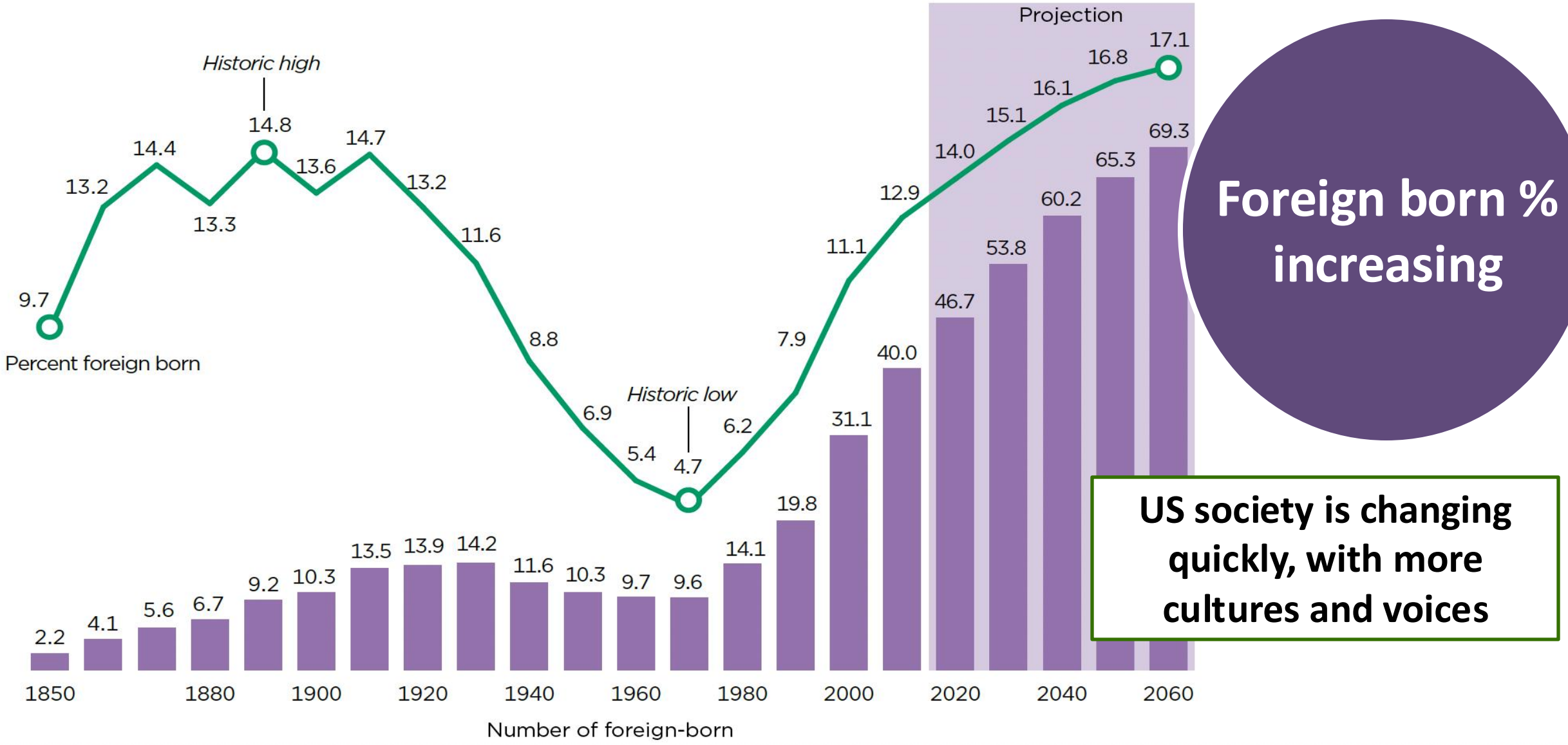
High school cohort today

High school cohort in 20 years



Boomer influence gone

By 2028, the foreign-born share of the U.S. population is projected to be higher than at any time since 1850.



Foreign born % increasing

US society is changing quickly, with more cultures and voices

Source: U.S. Census Bureau, 1850-2000 Decennial Censuses, American Community Survey 2010, 2017 National Population Projections for 2020-2060.

Shifting societal values

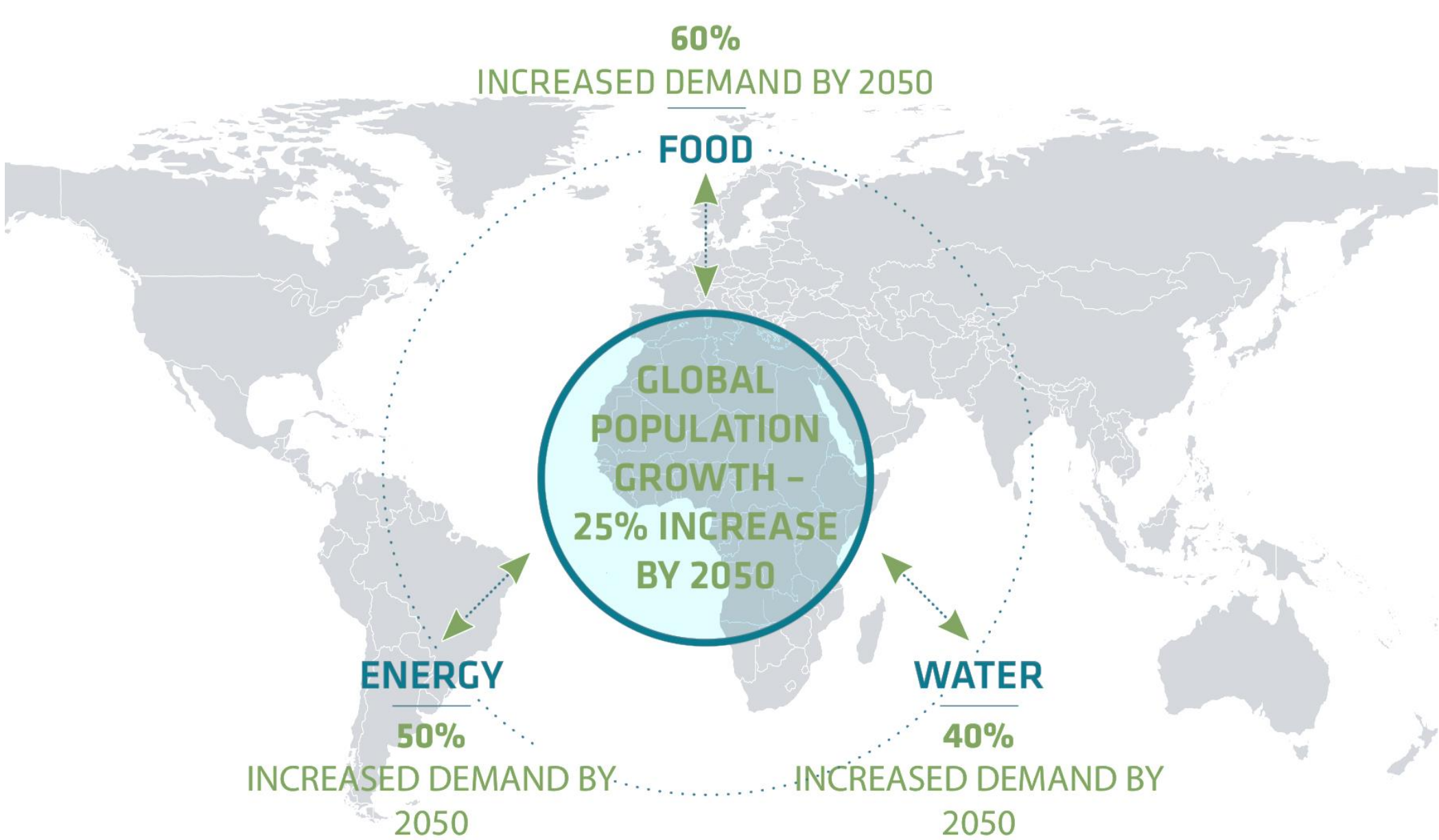
Predictions and observations

- Generational change is coming which will trigger widespread upheaval of norms.
- People and industries will continue to cluster around mega-cities, in specialized cities and regional centers.

Demographic + Population + Mass Urbanization

What does this mean for the
the future of Sugar Land?

Energy + Water + Food + Climate Change



Adapted from work by Prof. Nicholas Jordan, University of Minnesota (2015)

Renewable Energy

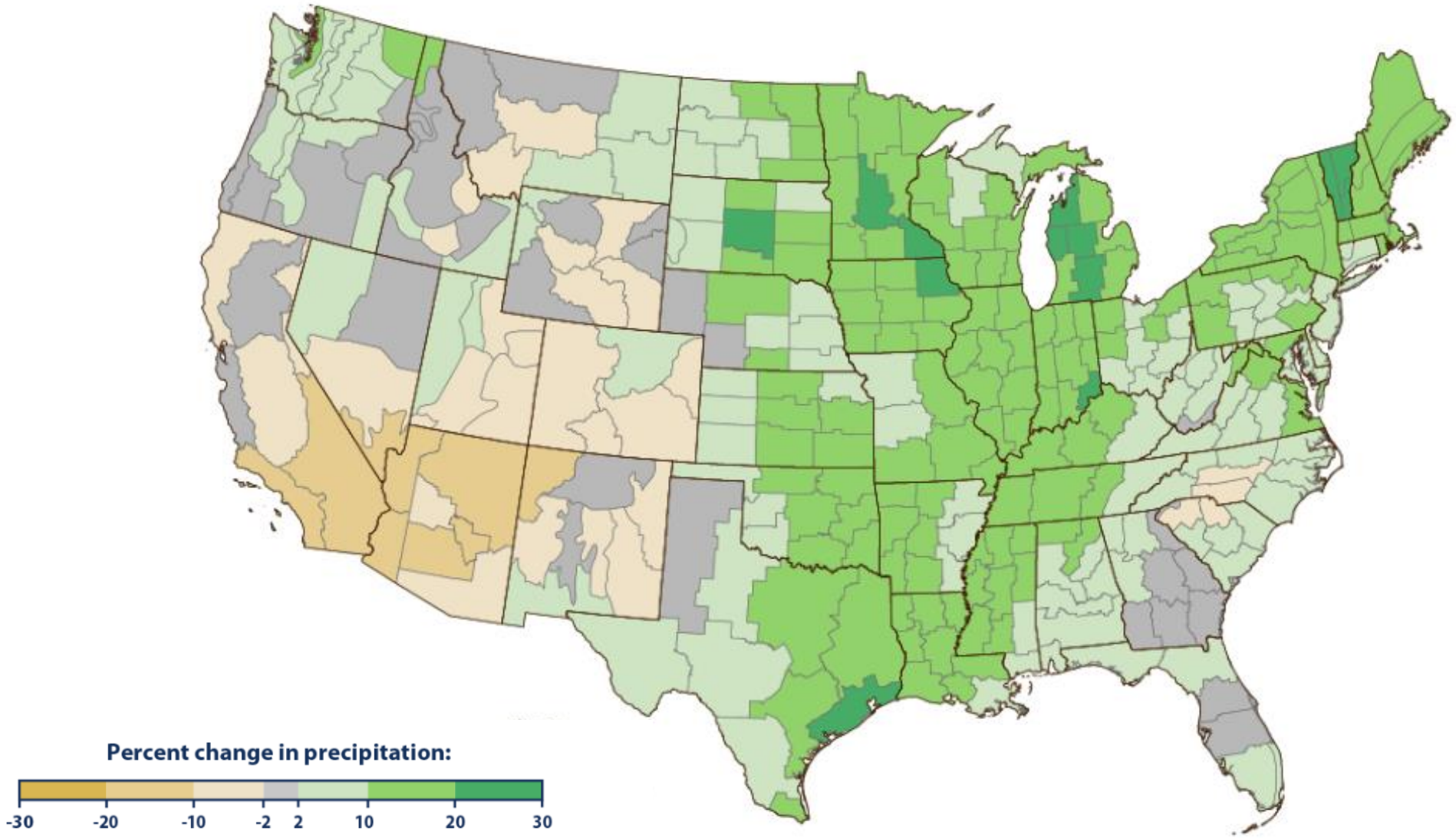
Potential for unlimited cheap energy

Electrification of the world is accelerating, driven by renewable energy

FRESH WATER

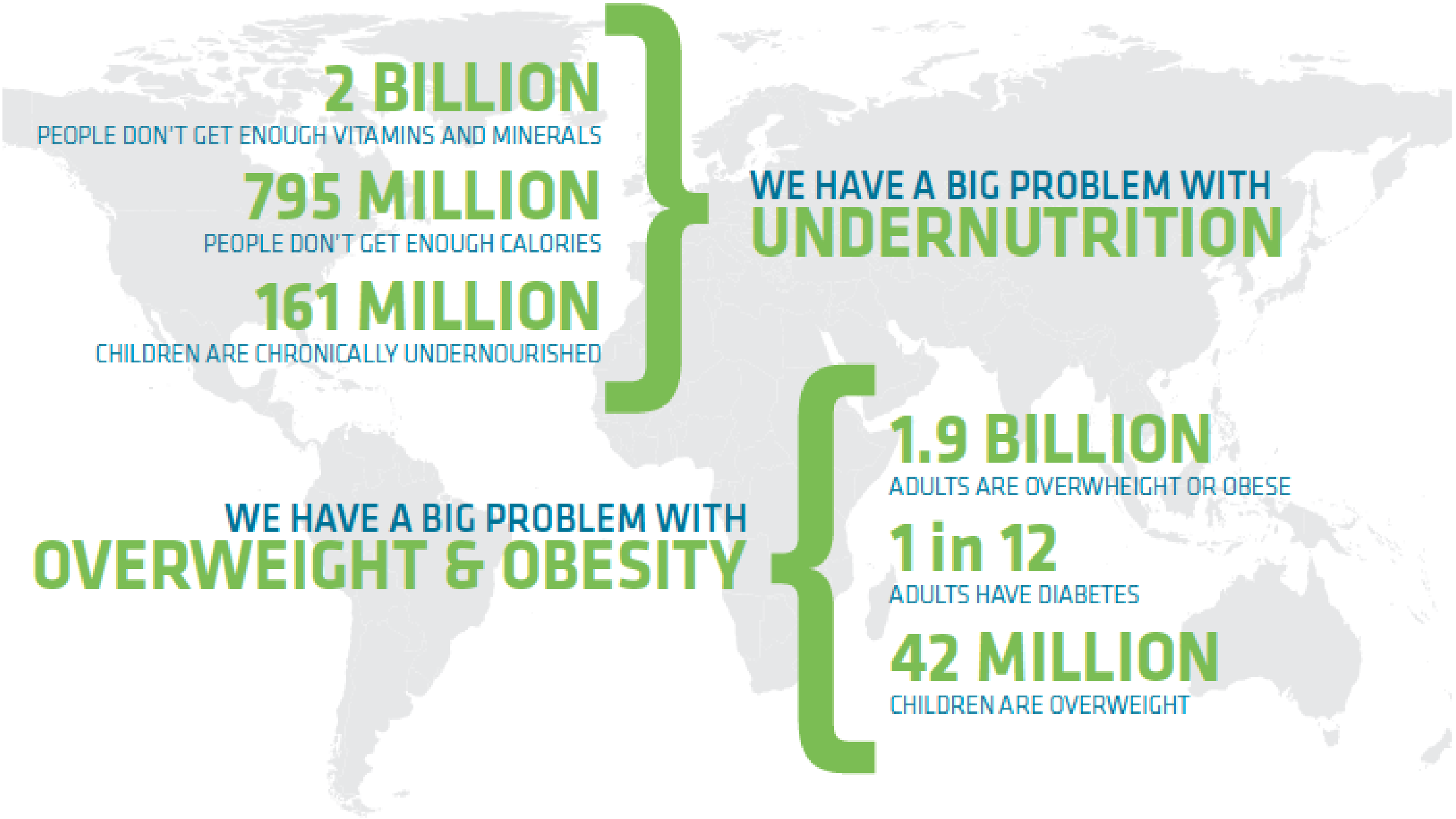
- Nearly 450 million people in 29 countries now face severe water shortages
- As much as 2/3 of the world population could be water-stressed by 2025
- Half the world's rivers and lakes are seriously polluted

Change in Precipitation in the United States, 1901–2021



Alaska data start in 1925.

Data source: NOAA (National Oceanic and Atmospheric Administration). 2022. Climate at a glance. Accessed March 2022. www.ncdc.noaa.gov/cag.


2 BILLION
PEOPLE DON'T GET ENOUGH VITAMINS AND MINERALS
795 MILLION
PEOPLE DON'T GET ENOUGH CALORIES
161 MILLION
CHILDREN ARE CHRONICALLY UNDERNOURISHED
WE HAVE A BIG PROBLEM WITH
UNDERNUTRITION
WE HAVE A BIG PROBLEM WITH
OVERWEIGHT & OBESITY
1.9 BILLION
ADULTS ARE OVERWHEIGHT OR OBESE
1 in 12
ADULTS HAVE DIABETES
42 MILLION
CHILDREN ARE OVERWEIGHT

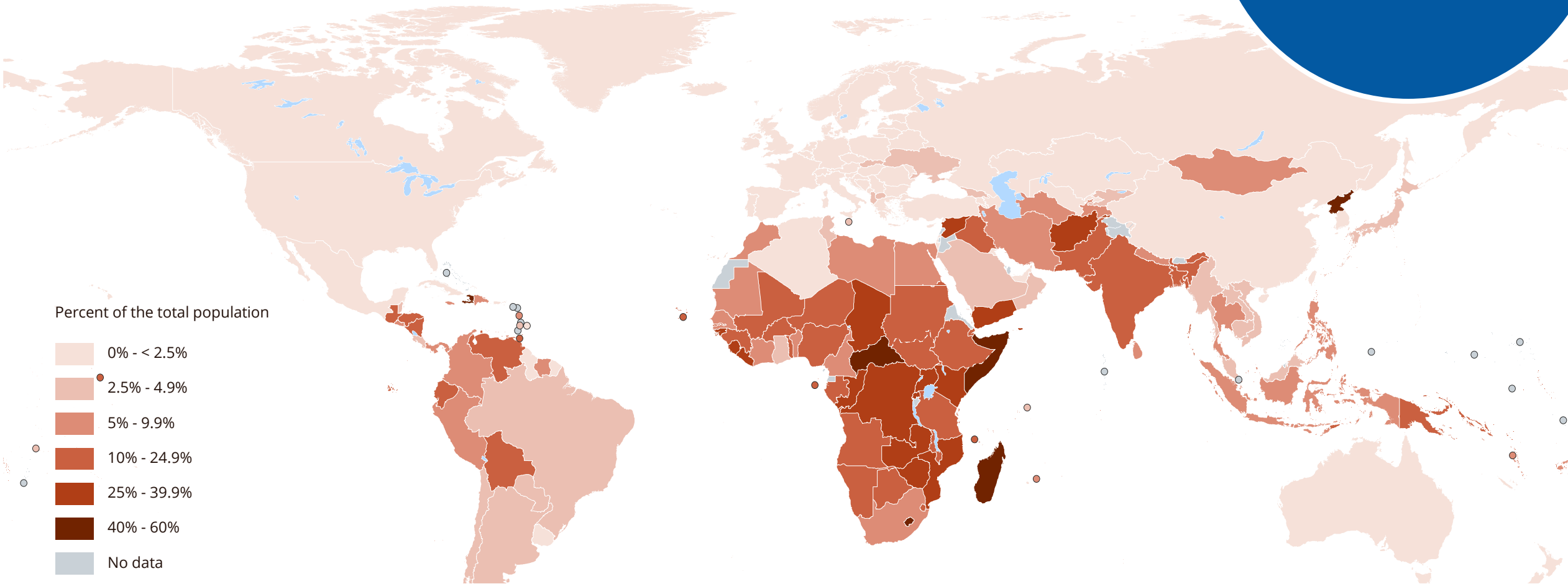
Food and Agriculture Organization of the United Nations

FAO Hunger Map

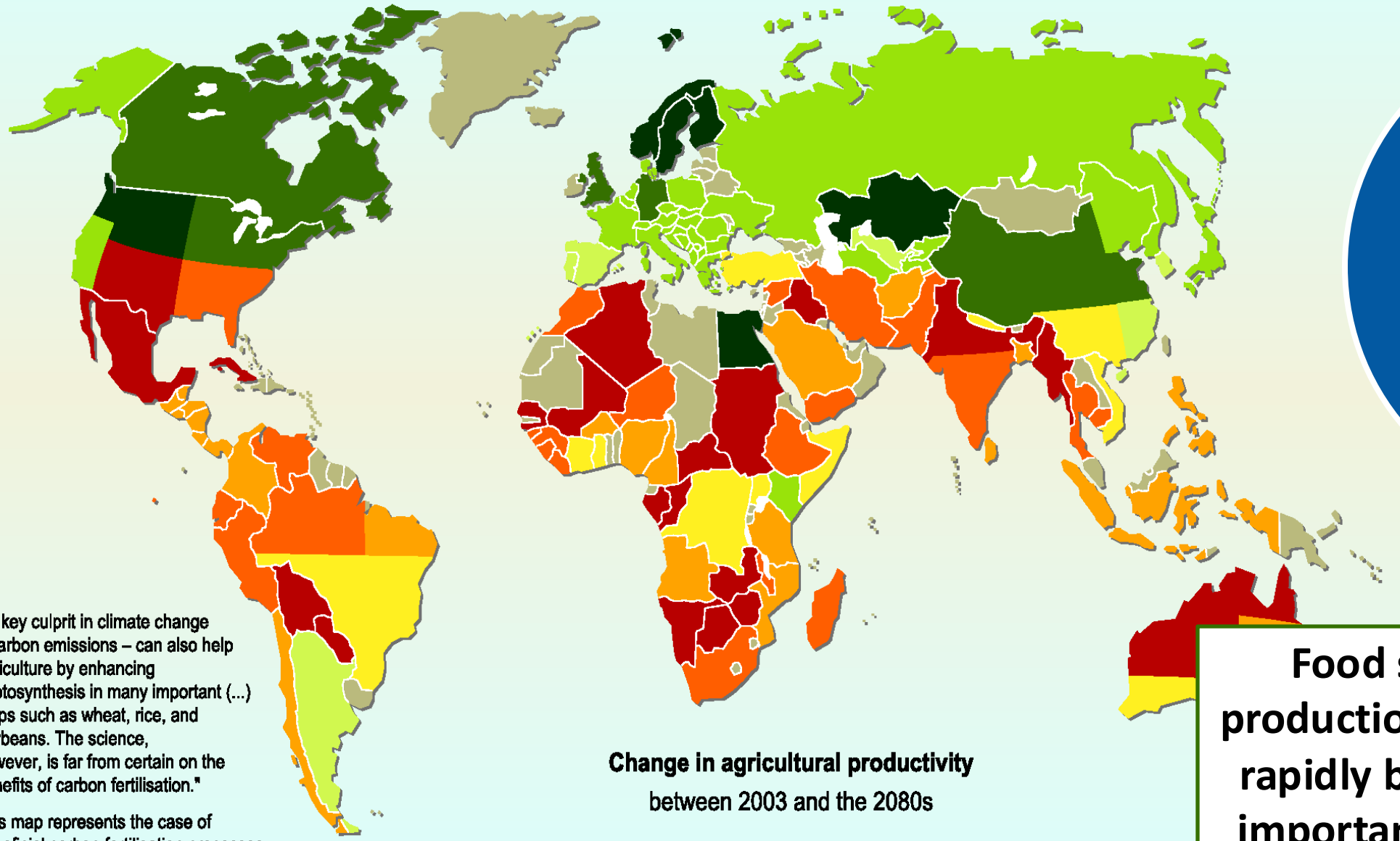
Prevalence of Undernourishment 2020-2022

SDG Indicator 2.1.1

Hunger is an emerging critical global issue



Projected impact of climate change on agricultural yields



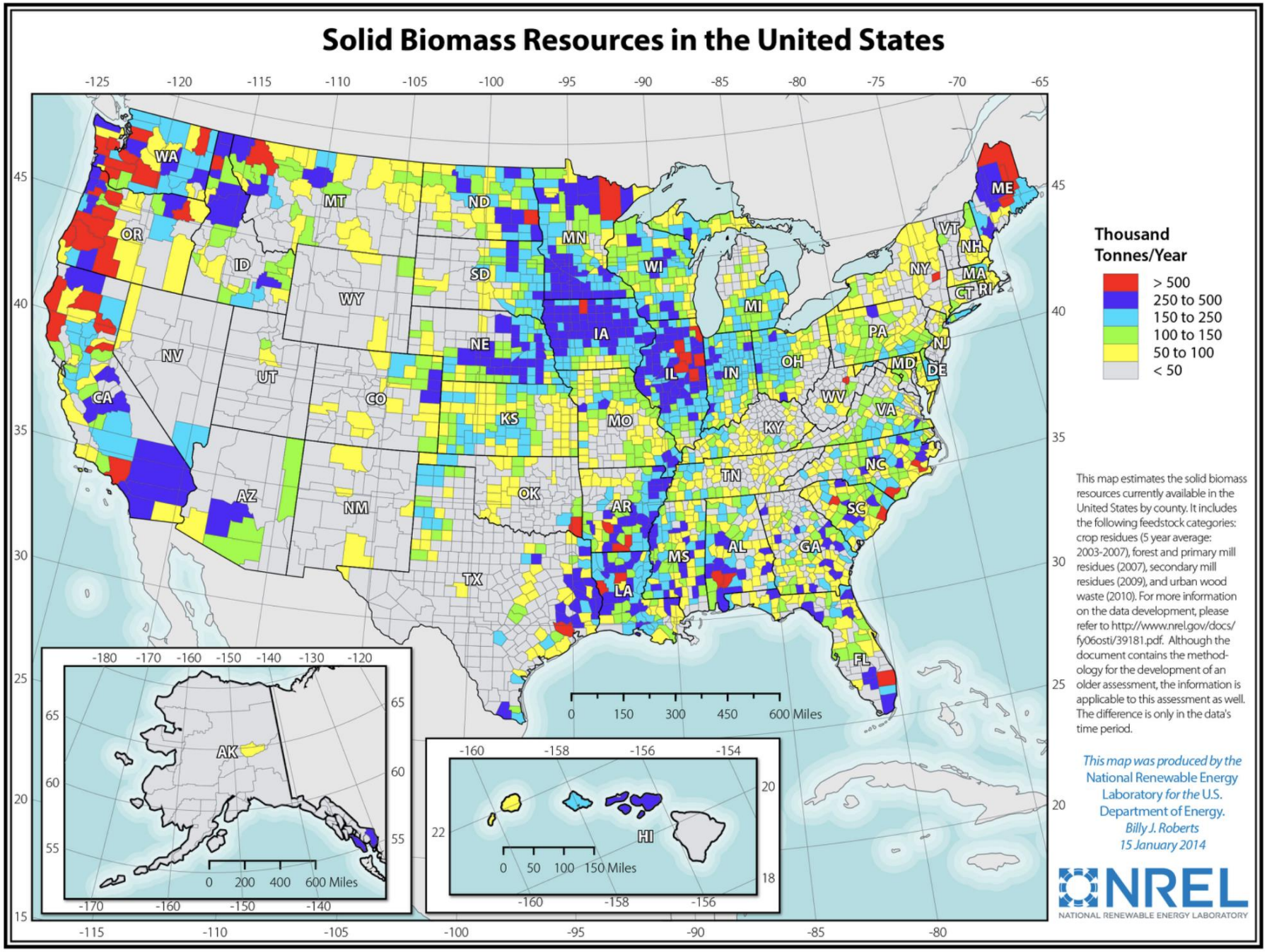
" A key culprit in climate change – carbon emissions – can also help agriculture by enhancing photosynthesis in many important (...) crops such as wheat, rice, and soybeans. The science, however, is far from certain on the benefits of carbon fertilisation."

This map represents the case of beneficial carbon fertilisation processes.

Source: Cline W., 2007, *Global Warming and Agriculture*.

Increases and decreases

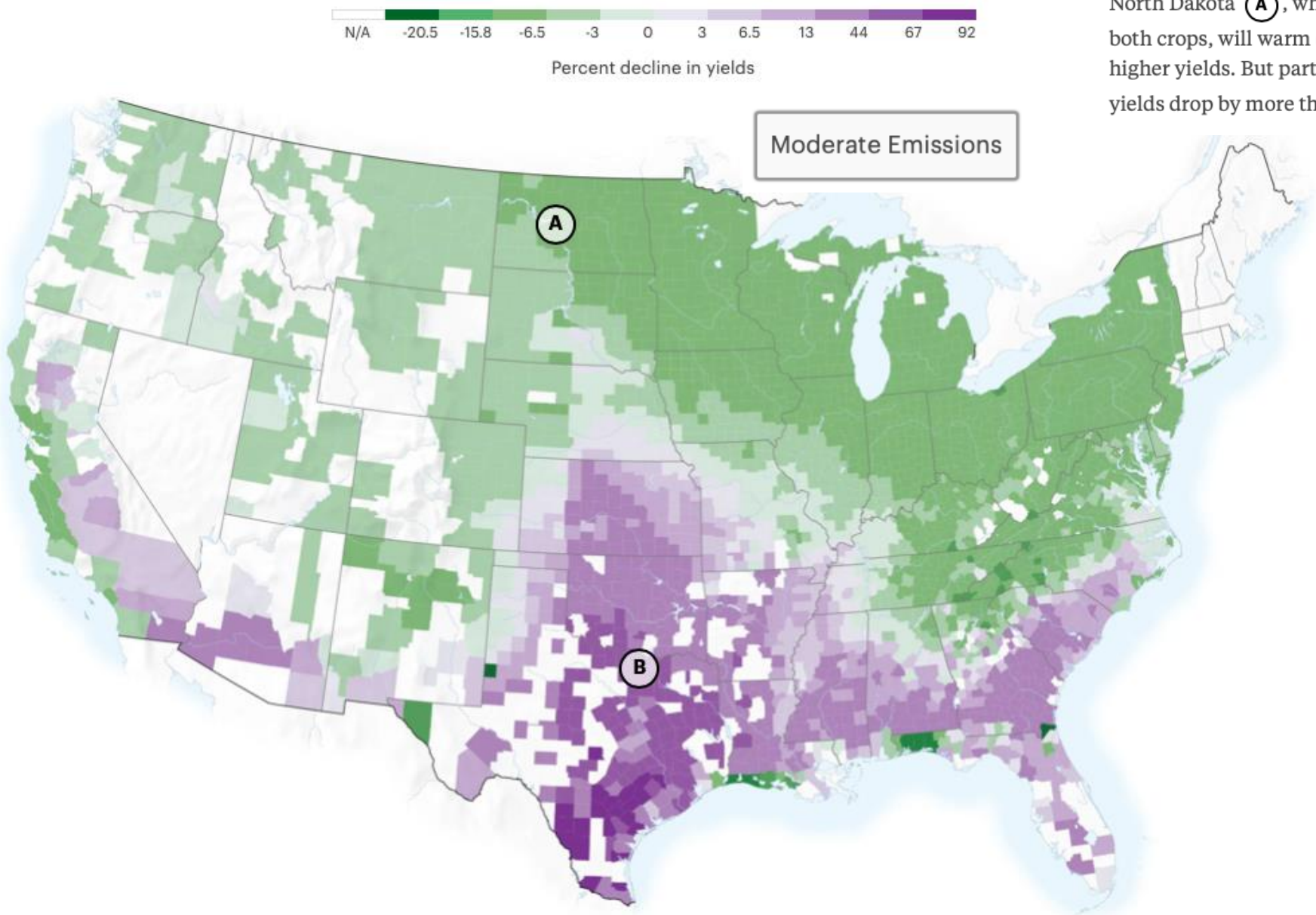
Food security and production capability are rapidly becoming more important global issues



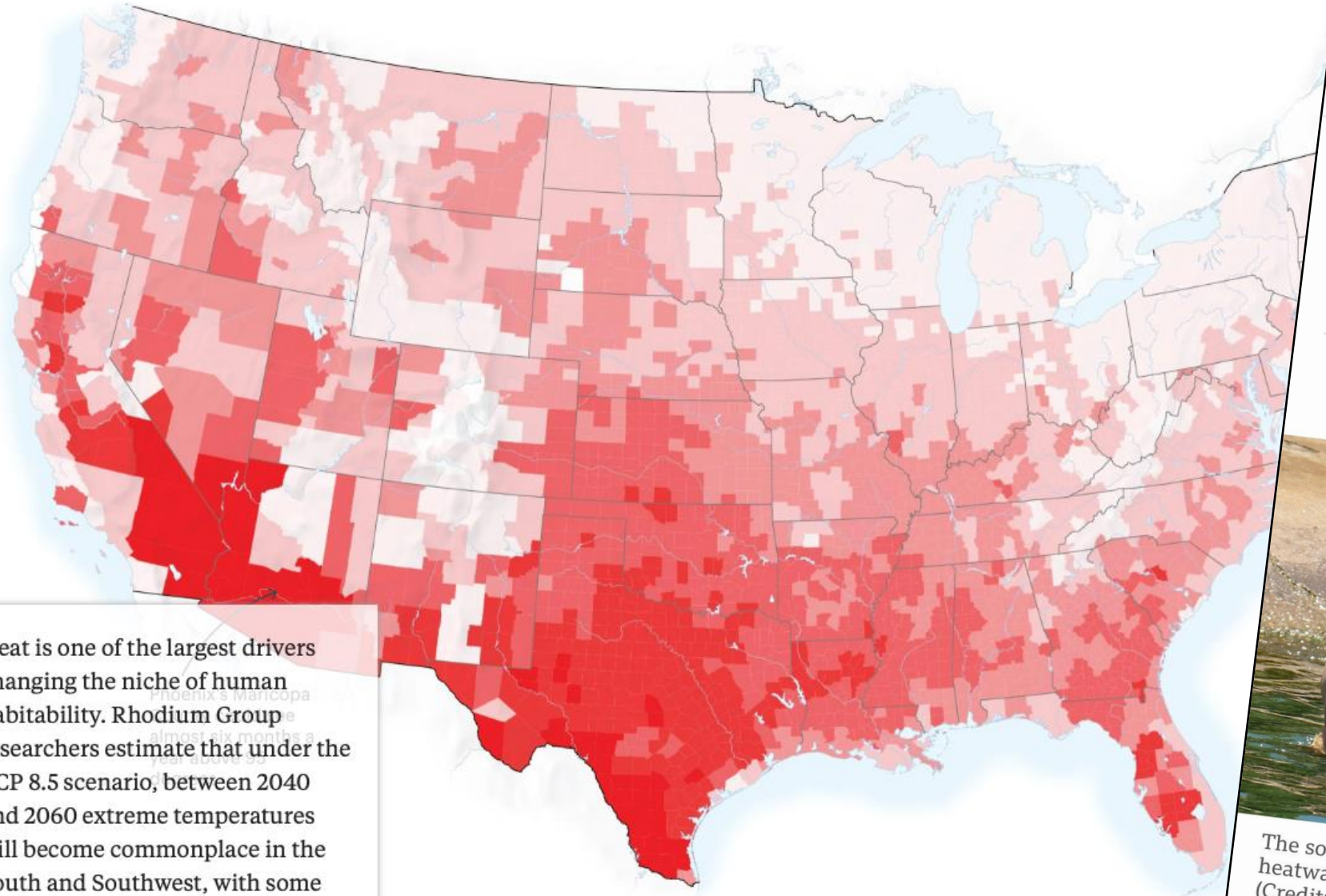
Unique biomass capability

Upper Midwest bioeconomy likely to be more globally significant over coming decades

Farm Crop Yields: 2040-2060



Corn and soy production is more sensitive to heat than drought, and it will decrease for every degree of warming. By midcentury, North Dakota (A), which already harvests millions of acres of both crops, will warm enough to allow for more growing days and higher yields. But parts of Texas and Oklahoma (B) may see yields drop by more than 70%.



Heat is one of the largest drivers changing the niche of human habitability. Rhodium Group researchers estimate that under the RCP 8.5 scenario, between 2040 and 2060 extreme temperatures will become commonplace in the South and Southwest, with some counties in Arizona experiencing temperatures above 95 degrees for half the year.

0 2 5 8 11 17 26
weeks per year above 95 degrees F

Extreme Heat and Humidity: 2040-2060

BBC

Watch

Will Texas become too hot for humans?

30 June 2023

By Sarah Griffiths, Features correspondent

Share

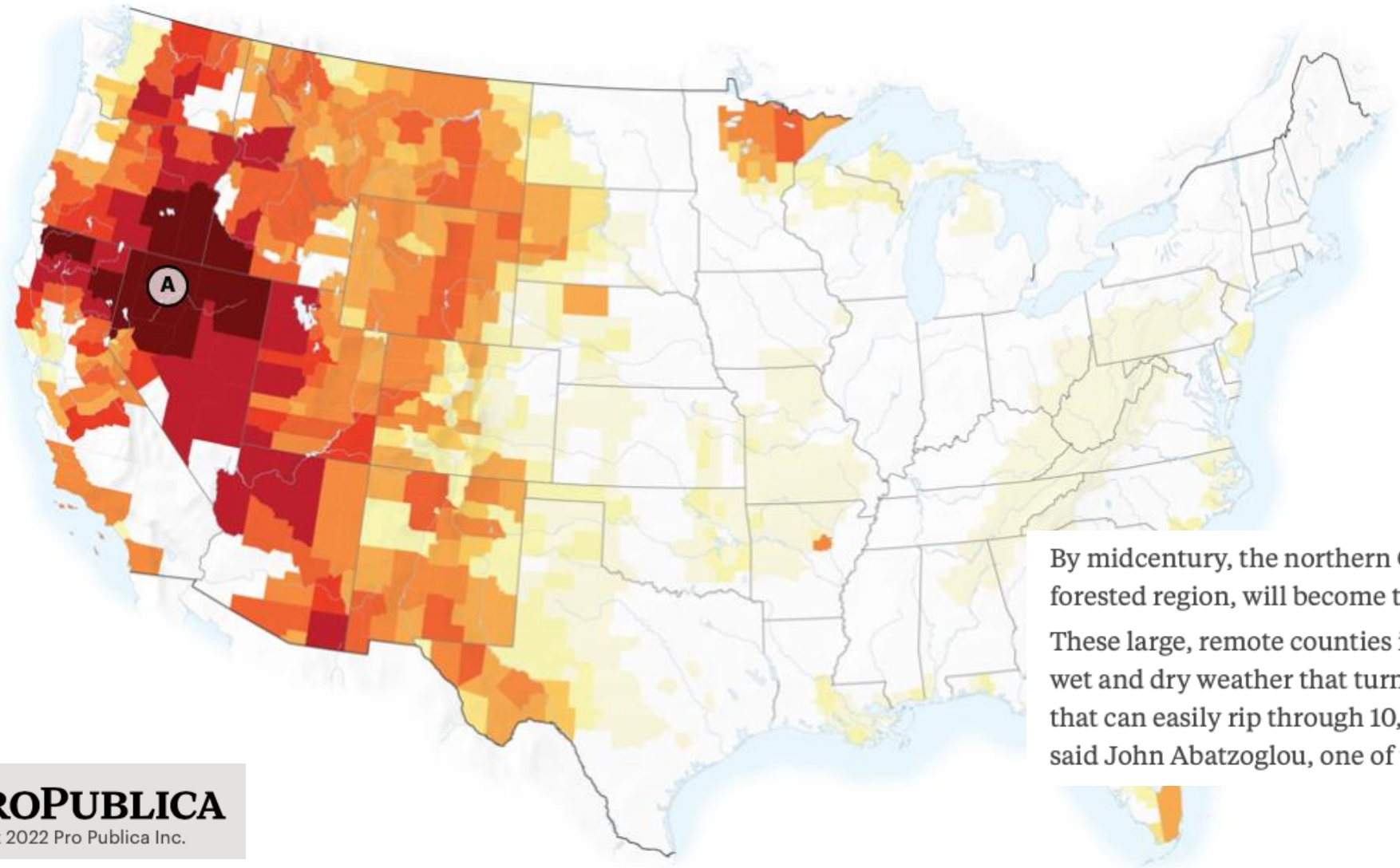
Getty Images

The southern states in the US are in the grip of a major heatwave – could it be a sign of summers in the future? (Credit: Getty Images)

ProPublica

High Emissions

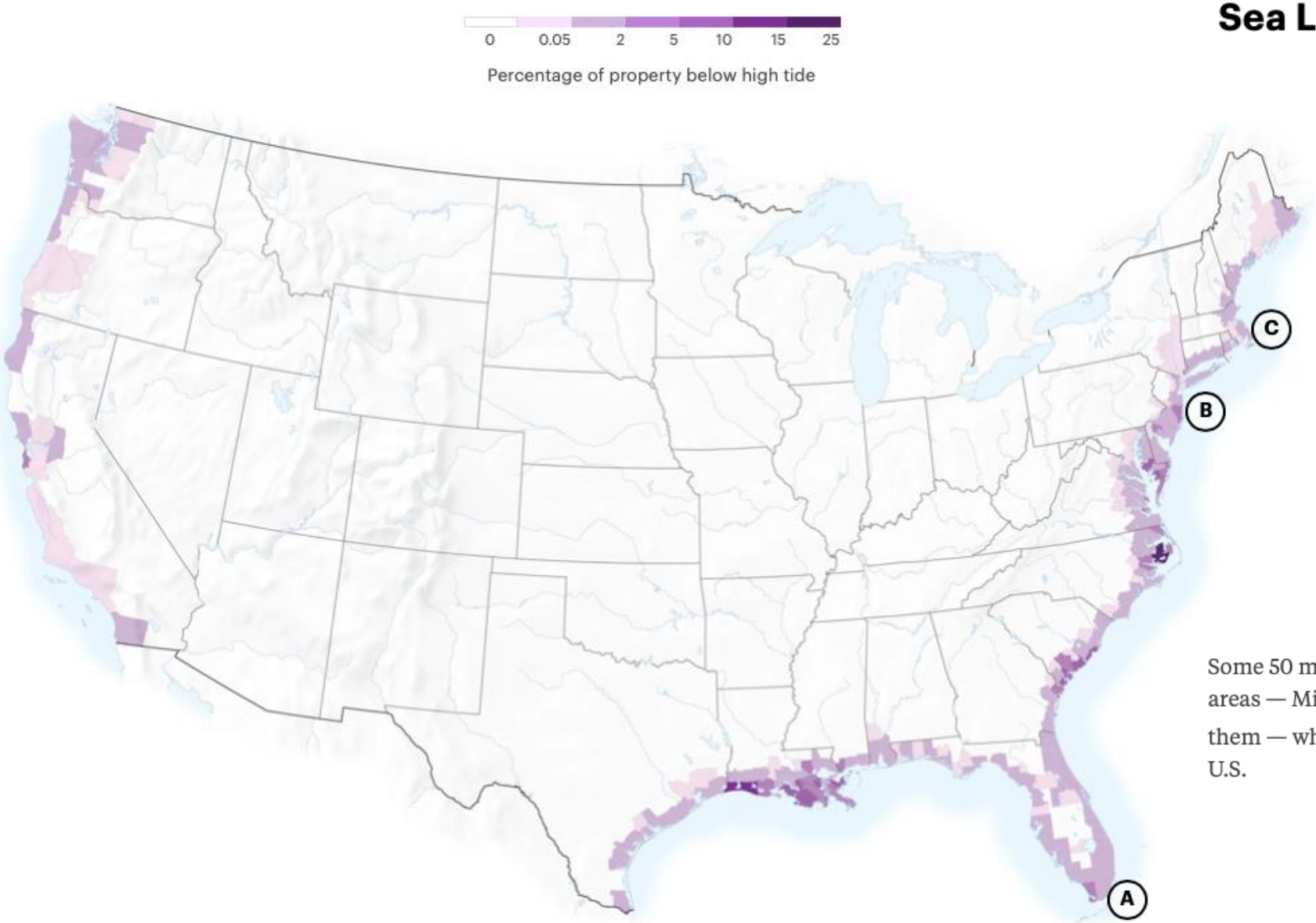
Large Wildfires: 2040-2071



By midcentury, the northern Great Basin, though not a densely forested region, will become the epicenter of large wildfires (A). These large, remote counties in Nevada and Oregon see cycles of wet and dry weather that turn the grassland into the fuel for fires that can easily rip through 10,000 acres a day with strong winds, said John Abatzoglou, one of the authors of the study.

PROPUBLICA

High Emissions | Moderate Emissions



Sea Level Rise: 2040-2060

Some 50 million Americans live in eight of the largest U.S. metro areas — Miami (A), New York (B) and Boston (C) among them — which all lie in some of the most affected counties in the U.S.

New Climate Maps Show a Transformed United States

by Al Shaw, Abrahm Lustgarten, ProPublica, and Jeremy W. Goldsmith, Special to ProPublica, September 15, 2020.

In a paper published in the Proceedings of the National Academy of Sciences, a team of researchers modeled the human climate "niche": the regions where temperature and precipitation have been most suitable for humans to live in over the past 6,000 years.

More suitable →

In the United States, that niche today blankets the heart of the country, from the Atlantic seaboard through northern Texas and Nebraska, and the California coast.

According to new data from the Rhodium Group analyzed by ProPublica and The New York Times Magazine, warming temperatures and changing rainfall will drive agriculture and temperate climates northward, while sea level rise will consume coastlines and dangerous levels of humidity will swamp the Mississippi River valley.

But as the climate warms, the niche could shift drastically northward. Under even a moderate carbon emissions scenario (known as RCP 4.5), by 2070 much of the Southeast becomes less suitable and the niche shifts toward the Midwest.

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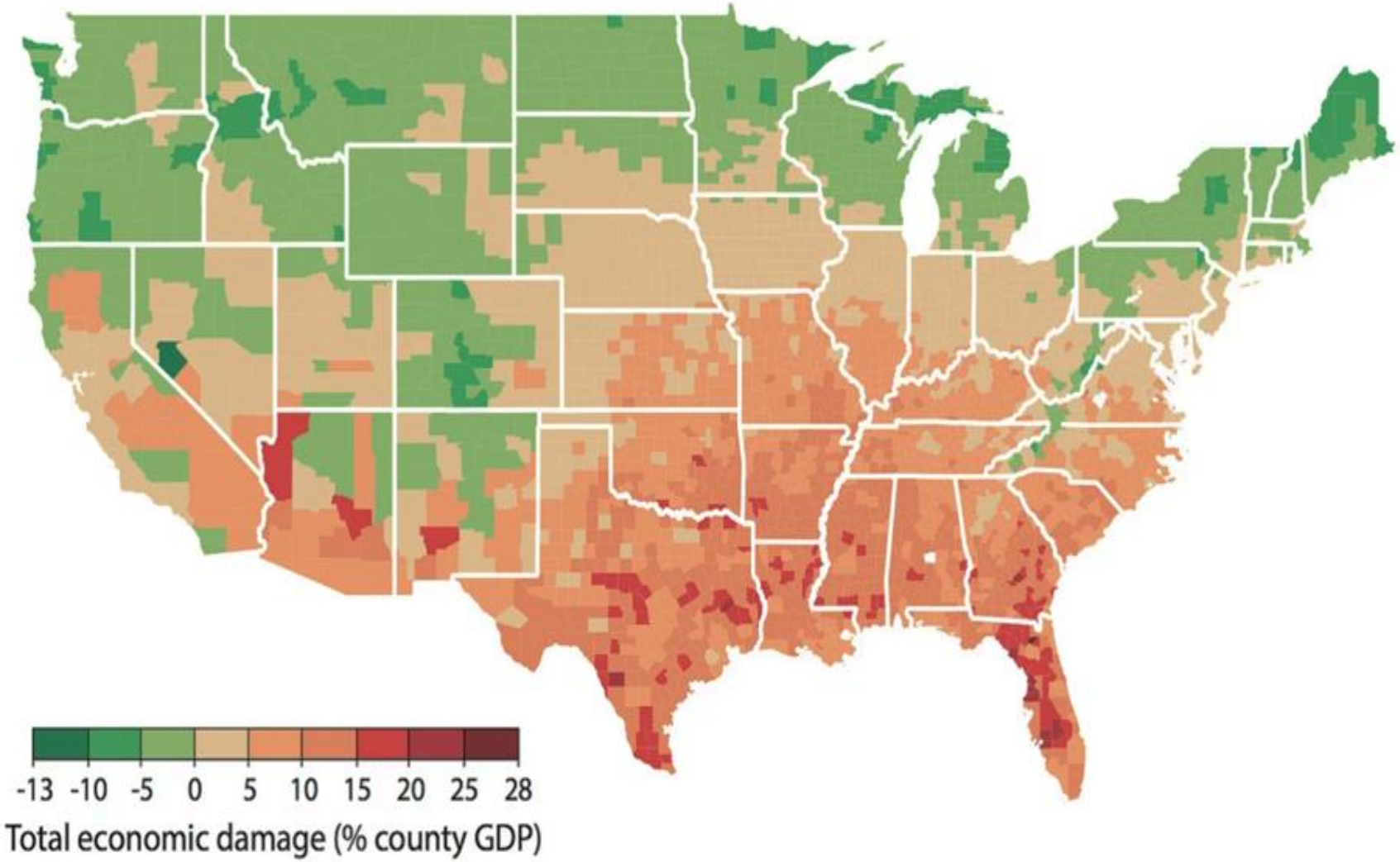
https://projects.propublica.org/climate-migration/



Potential economic damages are shown at the county level in a scenario in which emissions of greenhouse gases continue at current rates. Green indicates areas that could see economic benefits. To see an interactive version of this map, click here.

Hsiang, Kopp, Jina, Rising, et al./Science

Source: *Christopher Joyce, MPR News, June 29, 2017*

Long term GDP impact positive in north

Climate change may drive migration patterns within US may move to 'north', and from 'west to center'

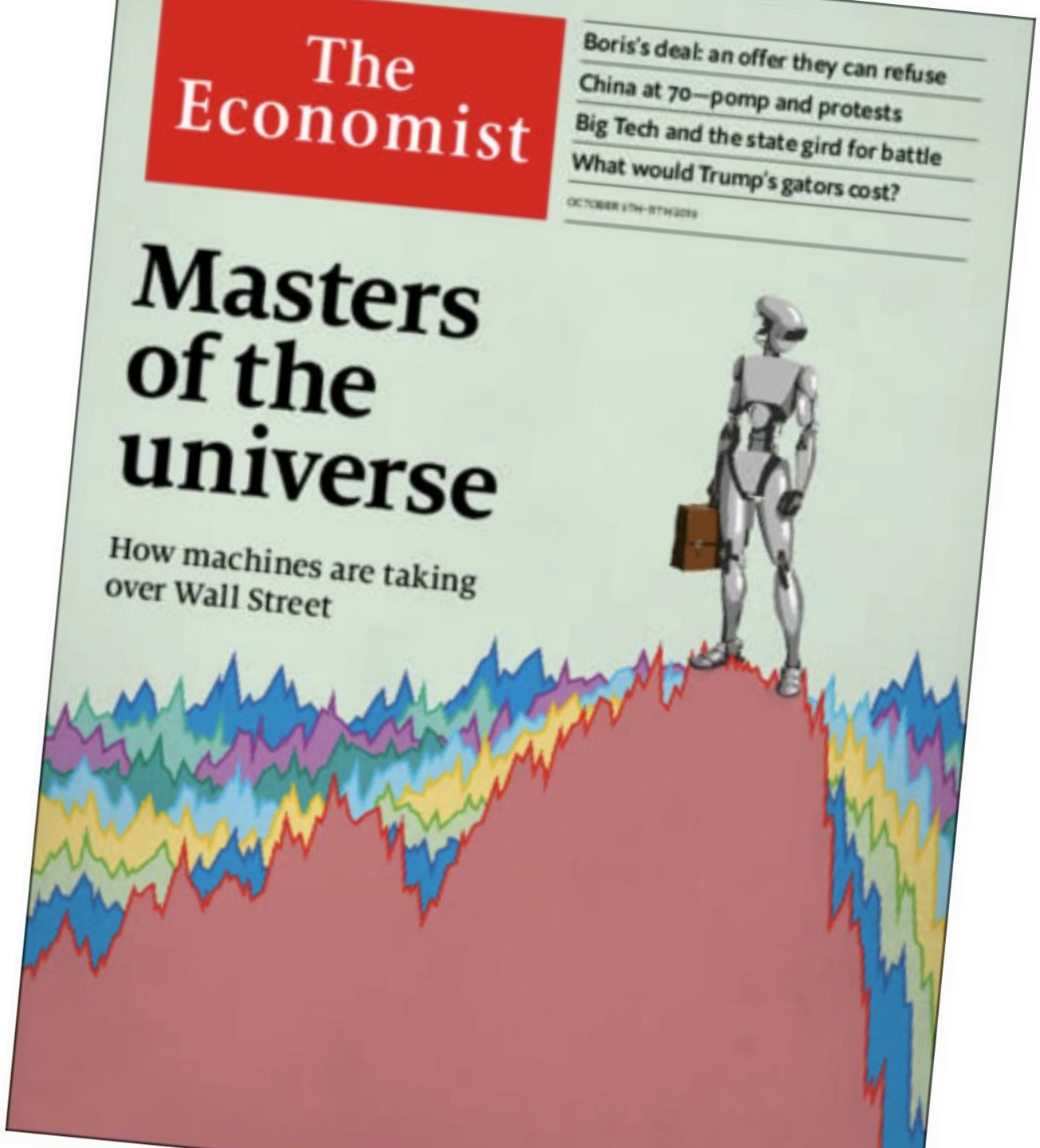
Predictions and observations

- Growing disconnect between where food will be consumed, and where it can be grown.
- New migration patterns are emerging.

Energy + Food + Water + Climate Change

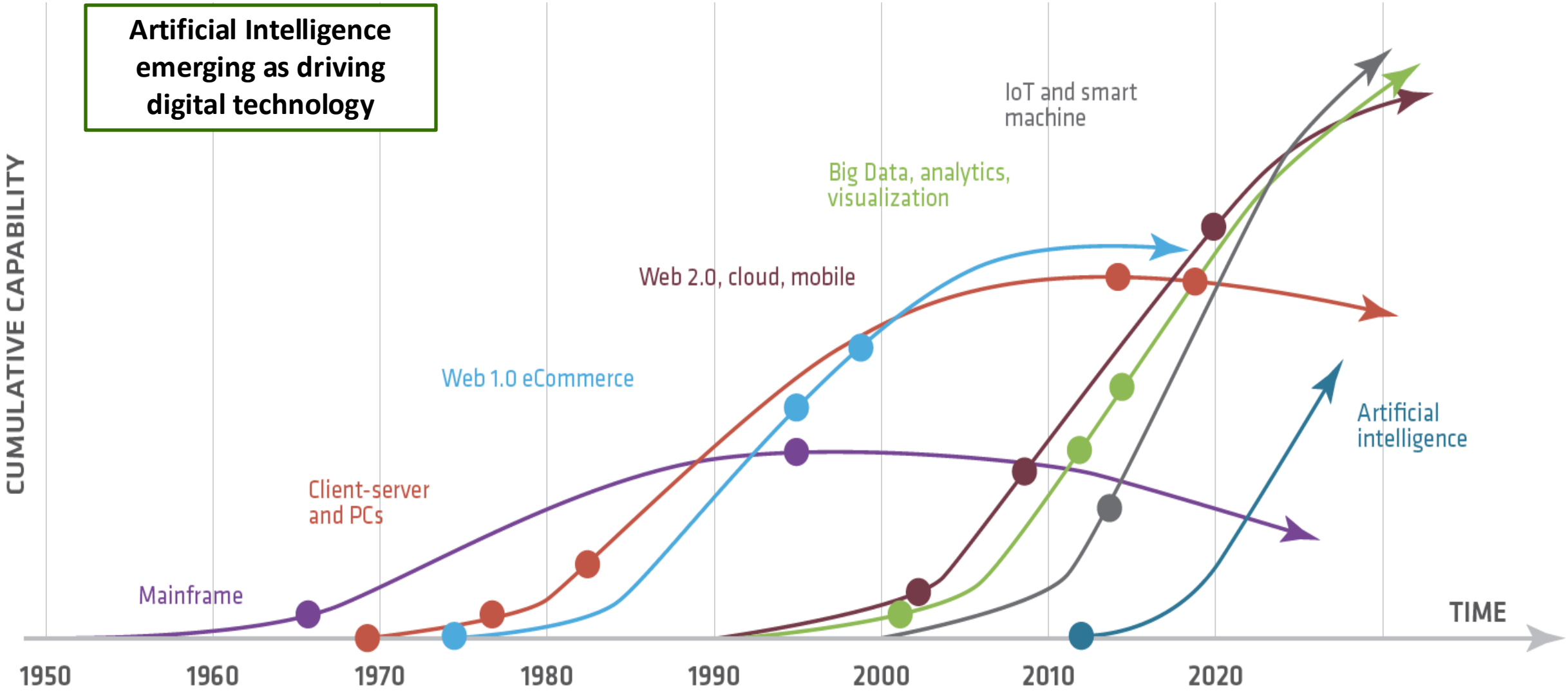
What does this mean for the
the future of Sugar Land?

Technology and the speed of change



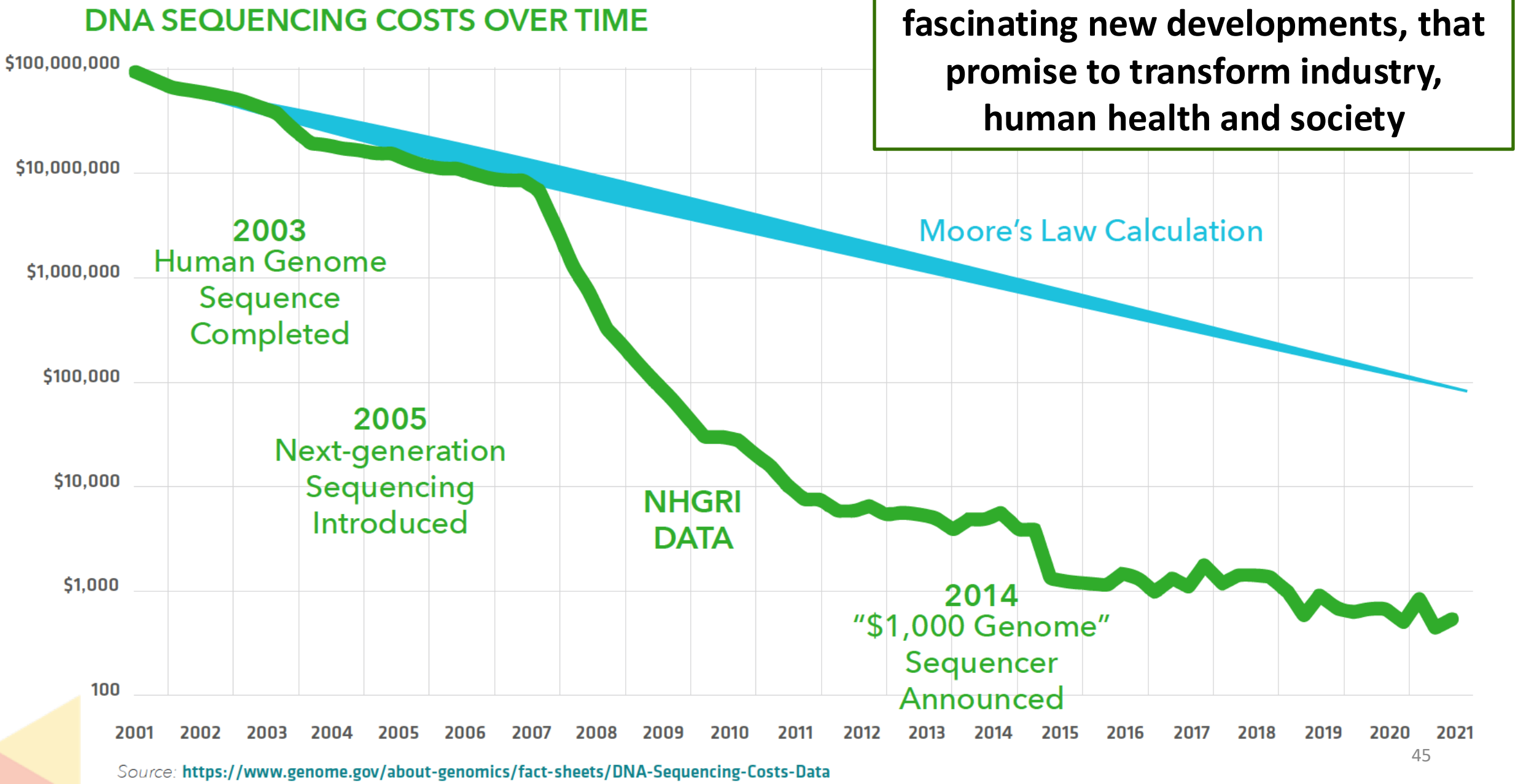
THE INCREASING CAPABILITY OF DIGITAL TECHNOLOGIES

Artificial Intelligence emerging as driving digital technology



Digital Transformation Initiative Mining and Metals Industry, White Paper, World Economic Forum / Accenture analysis, January 2017

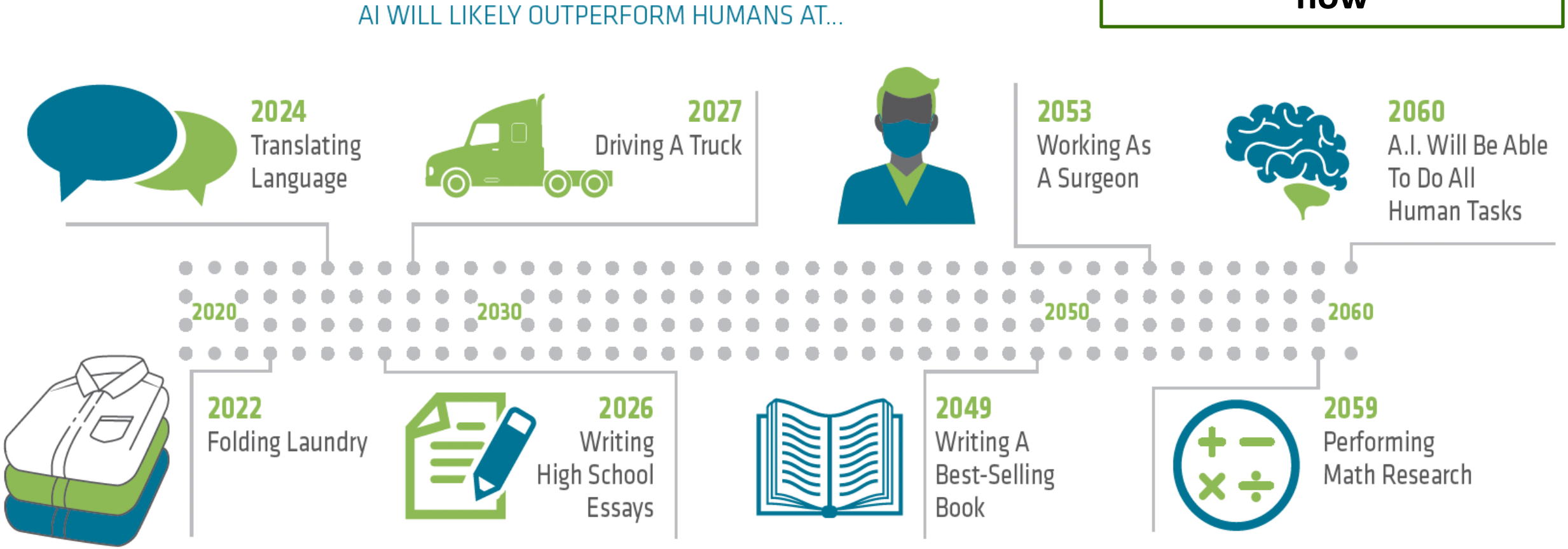
Technology is driving down cost of fascinating new developments, that promise to transform industry, human health and society



Source: New Yorker Oct 23, 2017, and Max Planck Research 2009

When will AI outperform people?

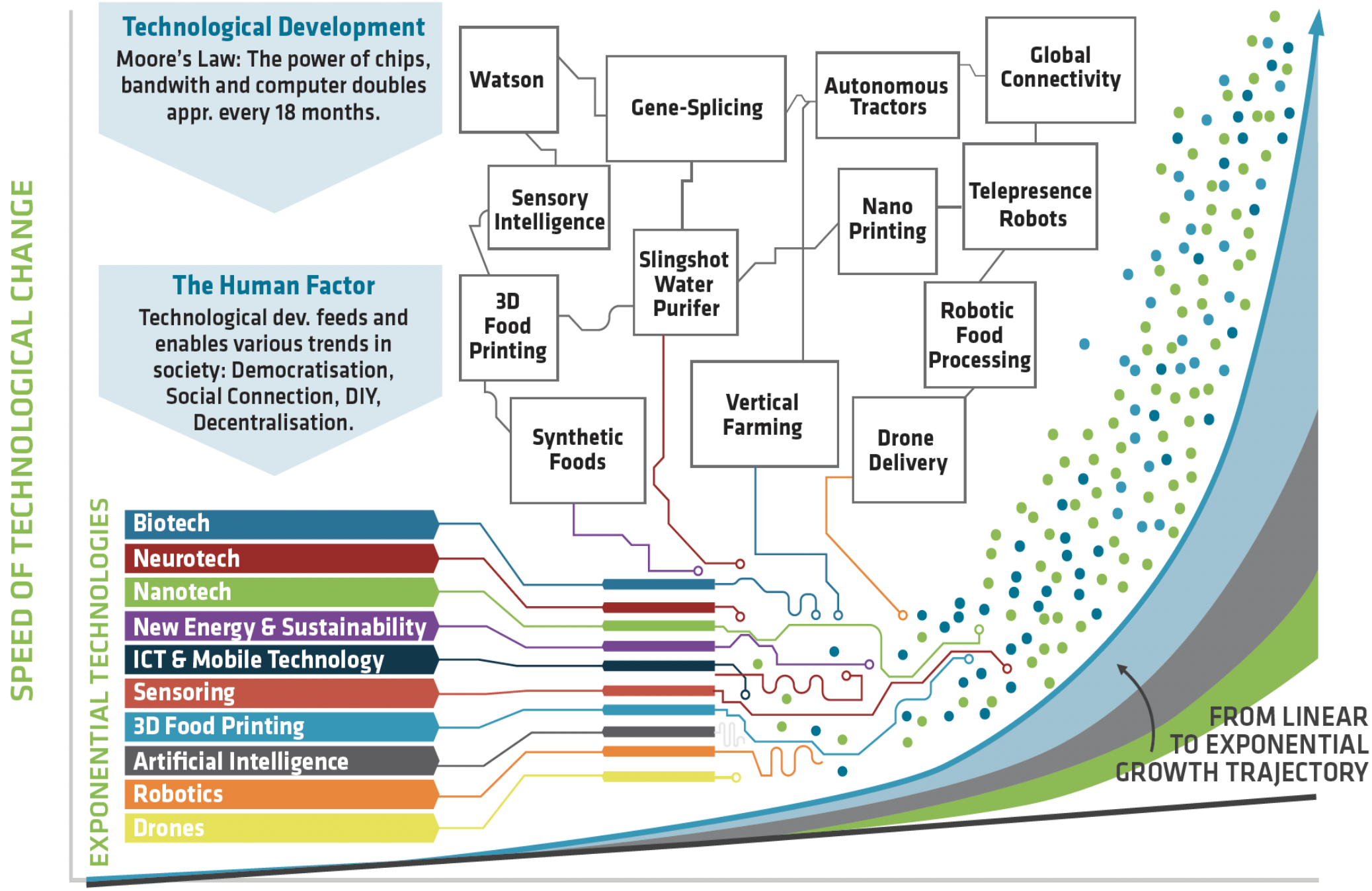
AI is reshaping our lives and industries – right now



Source: 'You Will Lose Your Job to a Robot–and Sooner Than You Think'. Kevin Drum, Mother Jones, November / December Issue, 2017. (adapted from 'When will AI exceed human performance? Evidence from AI Experts', Oxford and Yale University 2017) [112]

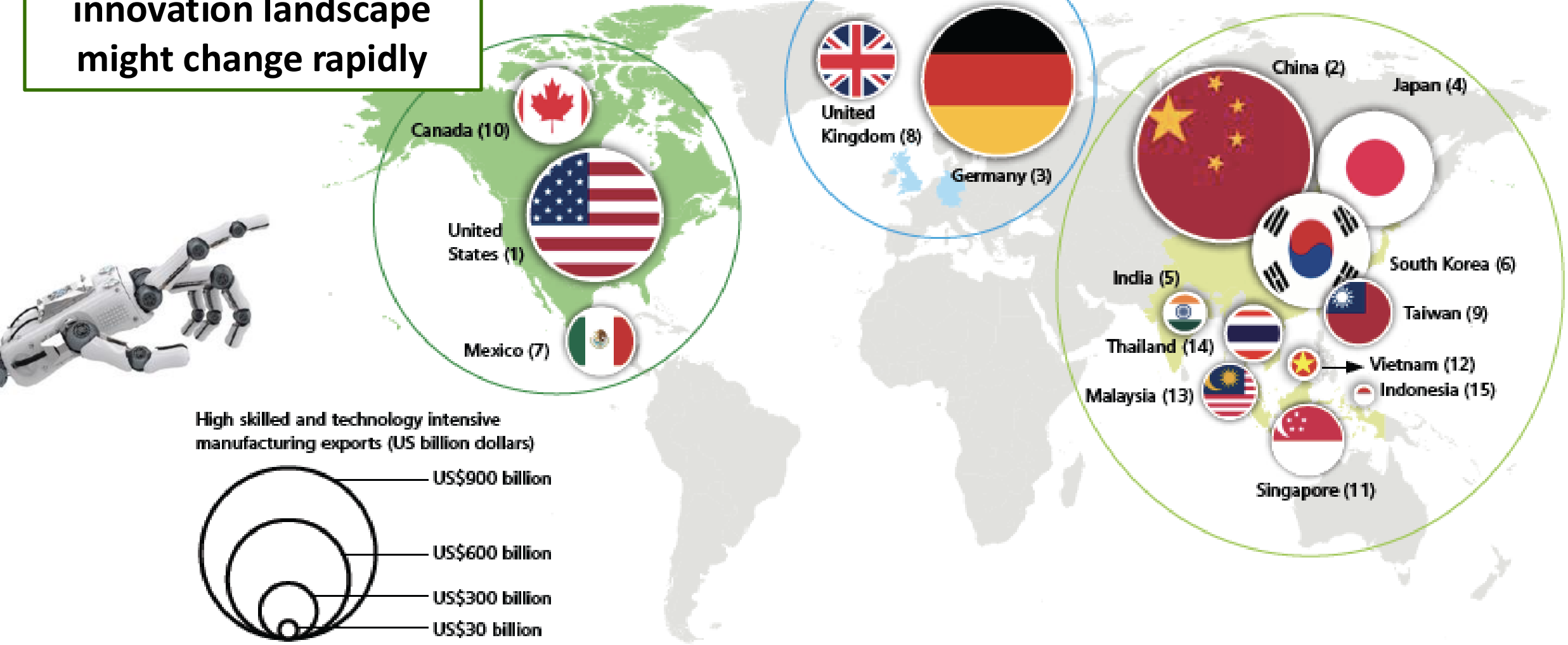
Reproduced from Next Industrial Revolution, Future iQ, 2018

Rapid systemic change and technology integration



Adapted from: Source: Deloitte. 2014. Industry 4.0 Challenges and solutions for the digital transformation and use of exponential technologies

Global technology and innovation landscape might change rapidly



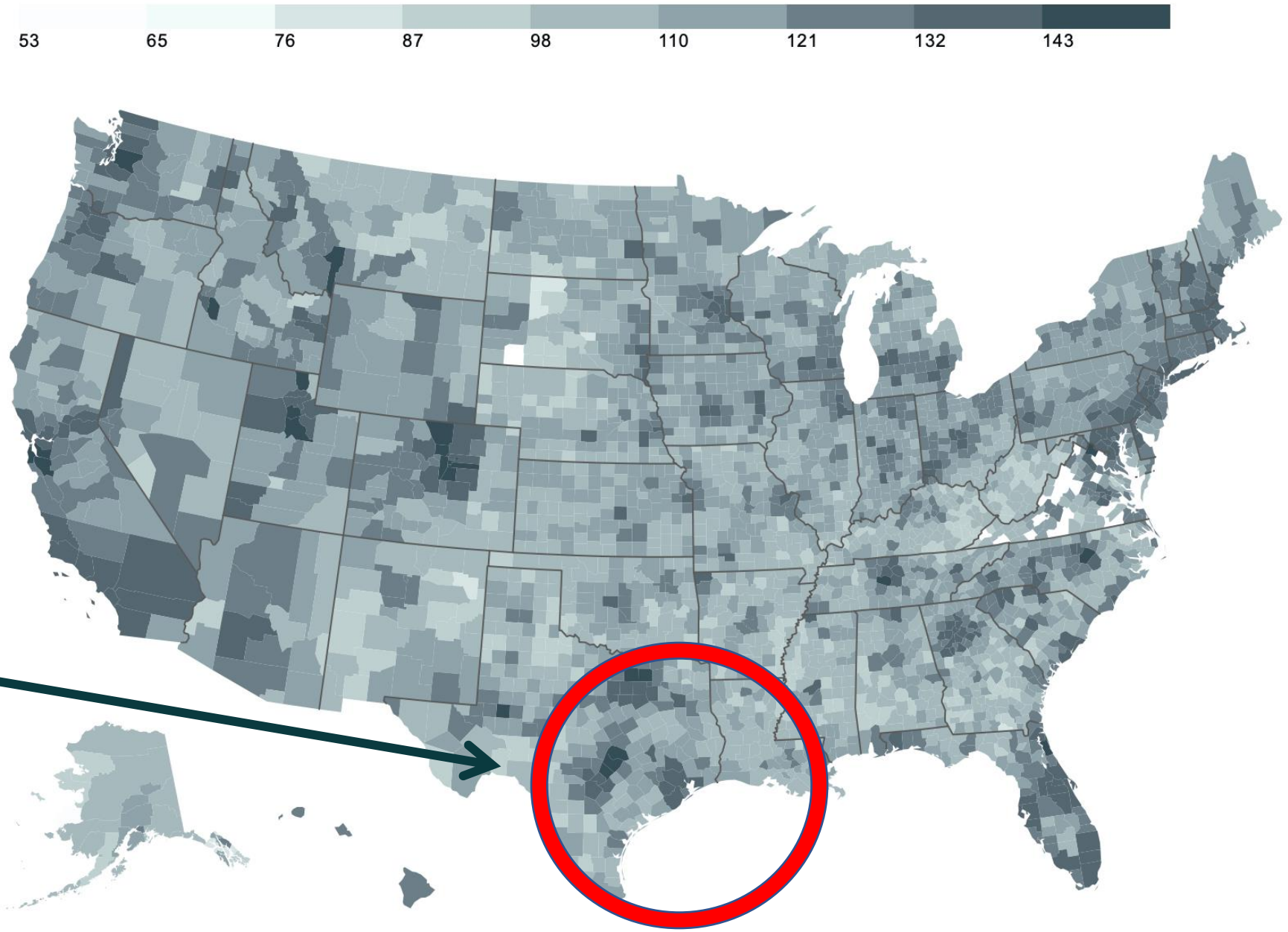
Note: Figure in parenthesis represent the projected 2020 GMCI rank by CEOs

Source: Deloitte Touche Tohmatsu Limited and US Council on Competitiveness, 2016 Global Manufacturing Competitiveness Index, Deloitte analysis based on UNCTAD data[40]

Headline Innovation Index

- Headline Innovation Index
- Human Capital and Knowledge Creation
- Business Dynamics
- Business Profile
- Employment and Productivity
- Economic Well-Being

The Innovation Index includes both innovation inputs and outputs in order to measure both innovation capacity and innovation outcomes.



How does Sugar Land best leverage the proximity to the local innovation cluster?

Technology and speed of change

- Waves of disruption and technology are reshaping education, industries and economies
- Speed of change is exponential

Demographics + Resources + Technology

What do all these future trends mean for the future of Sugar Land?

City of Sugar Land Strategic Action Plan

IDENTIFYING KEY DRIVERS

Key Drivers:

What key drivers do you think are most important for the future of Sugar Land?

(Key drivers are events, trends, developments, catalysts or forces that actively influence or cause change.)

Table brainstorm

KEY DRIVERS

City of Sugar Land Think-Tank Day 1 | September 5, 2024

What are the most important KEY DRIVERS shaping the future of the City?

(Key drivers are events, trends, developments, catalysts, or forces that actively influence or cause change.)

1.

2.

3.

Table brainstorm – key drivers

Key Drivers

1. Suburban Safety
2. Population Growth in the County
3. Transportation Options
4. Access to Worldclass Healthcare
5. Quality of Education
6. Sense of Community
7. Infrastructure Capacity
8. Reliable Power
9. Climate Change
10. Technology Infrastructure
11. Budget Constraints
12. Importance of Mental Health
13. Demand for Recreation
14. Aging Infrastructure
15. Cultural and Lifestyle Diversity
16. Level of Volunteerism
17. Quality of Amenities
18. Community Engagement
19. Family Atmosphere
20. High Quality Job Availability

KEY DRIVER DETAILS

City of Sugar Land Think-Tank Day 1 | September 5, 2024

DRIVER NAME: _____

Key emergent high-level trends associated with this driver:

1.

2.

Potential impacts on the City of Sugar Land over the next decade:

1.

2.

Building an understanding of each driver

KEY DRIVER DETAILS

City of Sugar Land Think-Tank Day 1 | September 5, 2024

What is the big "FUTURE-SPLITTING QUESTION" for this driver?

Future predictions - how impacts may "play out" for this driver over the next decade:

1.

2.

Building an understanding of each driver

City of Sugar Land Strategic Action Plan

RANKING KEY DRIVERS

IMPACT MATRIX

City of Sugar Land Think-Tank Day 1 | September 5, 2024

Rate each driver in terms of likely future impacts on the following dimensions for the City of Sugar Land.

IMPACT SCALE: 1 = Low relative future impact; 10 = Very high relative future impact

	Dimensions			
Driver	Overall City performance and services	Adaptability and resilience to change	Social fabric and community cohesion	Quality of life and opportunity
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Rating the future impact of each driver – individual scoring

City of Sugar Land Strategic Action Plan

THINK-TANK PART 2

Think-Tank
Part 2

WELCOME TO THE CITY OF SUGAR LAND STRATEGIC ACTION PLAN PROJECT

Part 1 Agenda: Explore Future Trends

Date: Thursday, September 5, 2024

Time: 6:00pm – 9:00pm

Location: T.E. Harman Center, 226 Matlage Way, Sugar Land, TX 77478

Part 2 Agenda: Build Future Scenarios

Date: Saturday September 7 2024

Time: 10:00am – 1:00pm

Location: T.E. Harman Center, 226 Matlage Way, Sugar Land, TX 77478