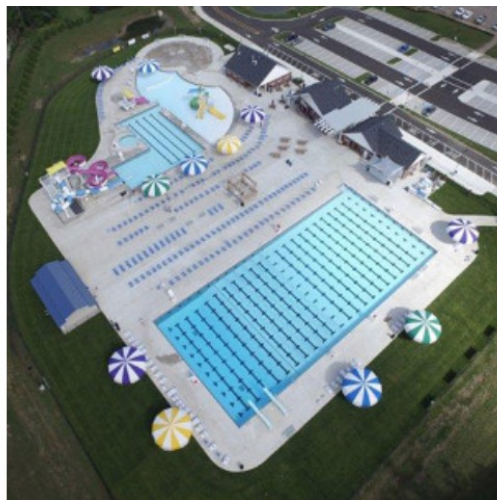




# Lorain County Strategic Action Plan Future Think-Tank PART 1





# PROJECT OBJECTIVES

- Create **5-year Strategic Action Plan** for Lorain County
- Extensive research/**benchmarking** with peer counties
- Robust **community engagement** and outreach
- Clarification to community of **scope of services** provided by Lorain County Government
- Identify needs and wants of Lorain County to be met by Lorain County Government



## LORAIN COUNTY STRATEGIC ACTION PLAN

# Project stages and opportunities to engage

### Importance of Future Thinking

- Project Portal
- Project promotion
- Community Survey #1
- Benchmark work

Aug – Dec 2023

### Exploring Future Trends and Scenarios

- Survey results
- Think Tank
- Countywide workshops

Oct – Dec 2023

### Strategic Positioning and Validating

- Topic focus groups
- Community Survey #2

Jan – Feb 2024

### Preferred Future and Roadmap

- Strategic insights
- Future Summit

Mar – Apr 2024

Building understanding and insights into the future

# Lorain County – Future Think-Tank

## Part 1 – Explore Future Trends

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

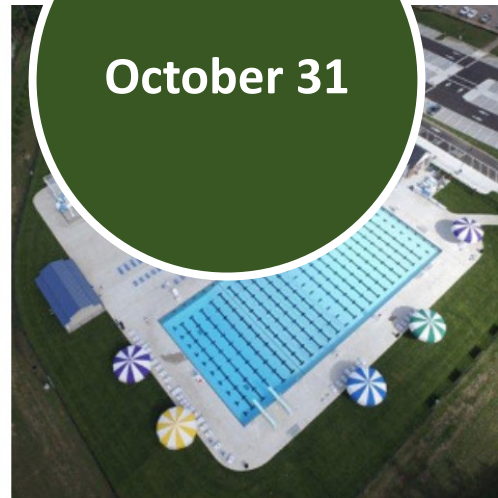
## Part 2 – Build regional scenarios

- Develop plausible scenarios of the future
- Identify expected and preferred futures
- Build strategic pillars

October 30



October 31





# Key emerging trends shaping the future of Lorain County





WELCOME TO THE  
**LORAIN COUNTY 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).



## LORAIN COUNTY STRATEGIC ACTION PLAN

future→iQ

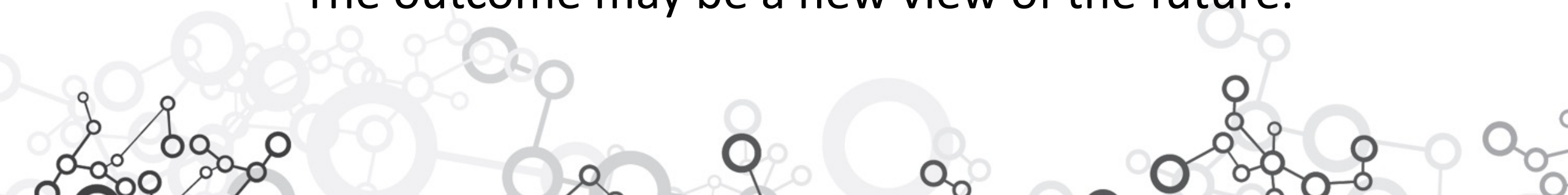
Create Future Intelligence™

[www.future-iq.com](http://www.future-iq.com)

# 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.





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



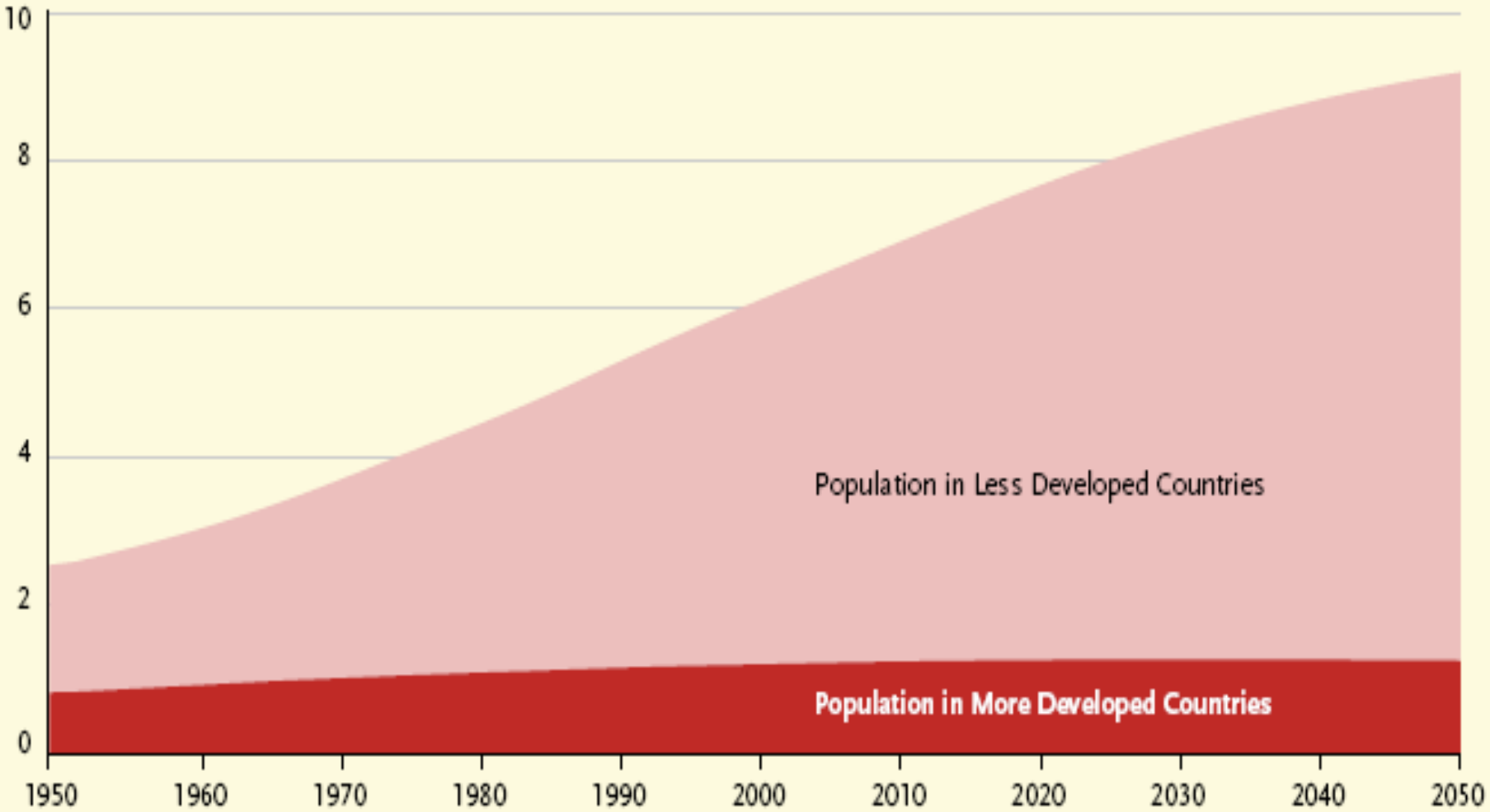


# Demographics, population and mass urbanization

future→iQ

# Global Population Growth Is Driven By Developing Countries.

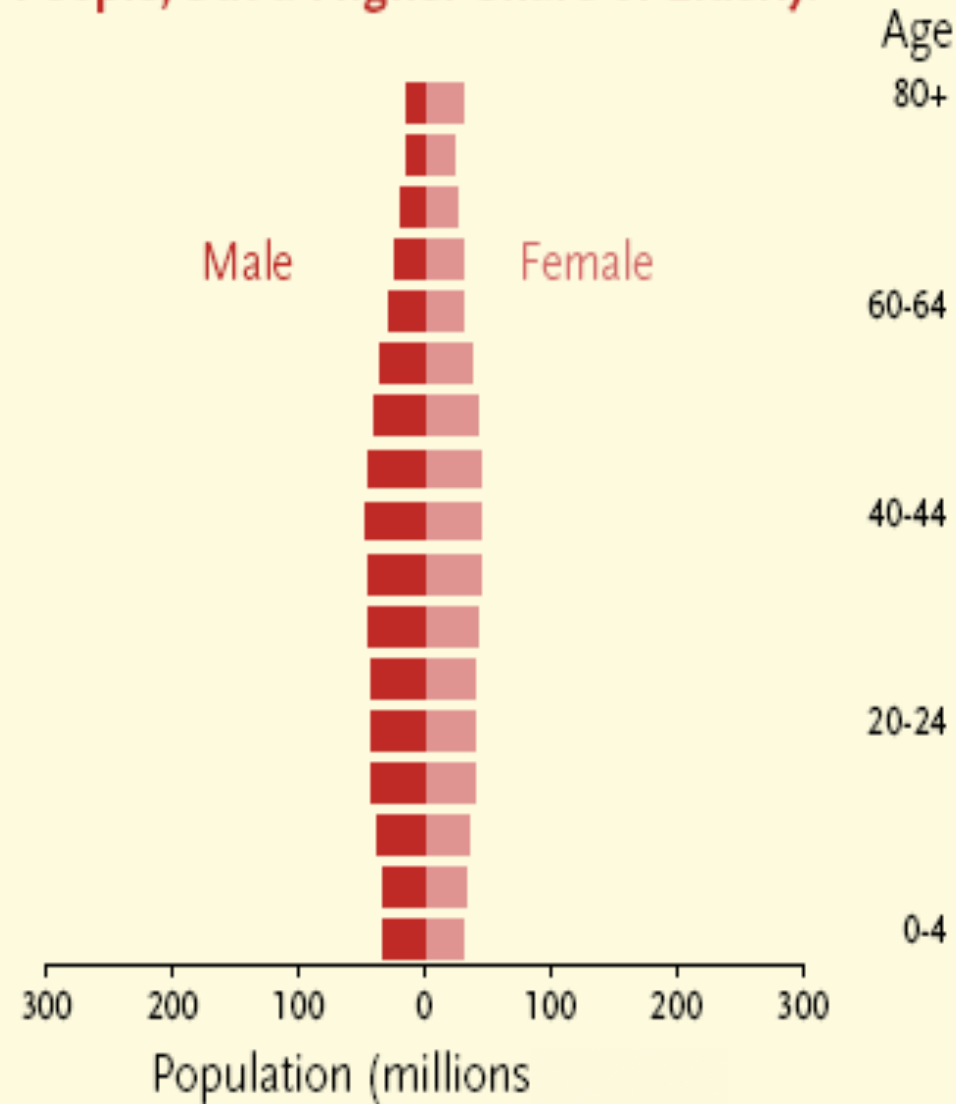
World population in billions, 1950-2050 (projected)



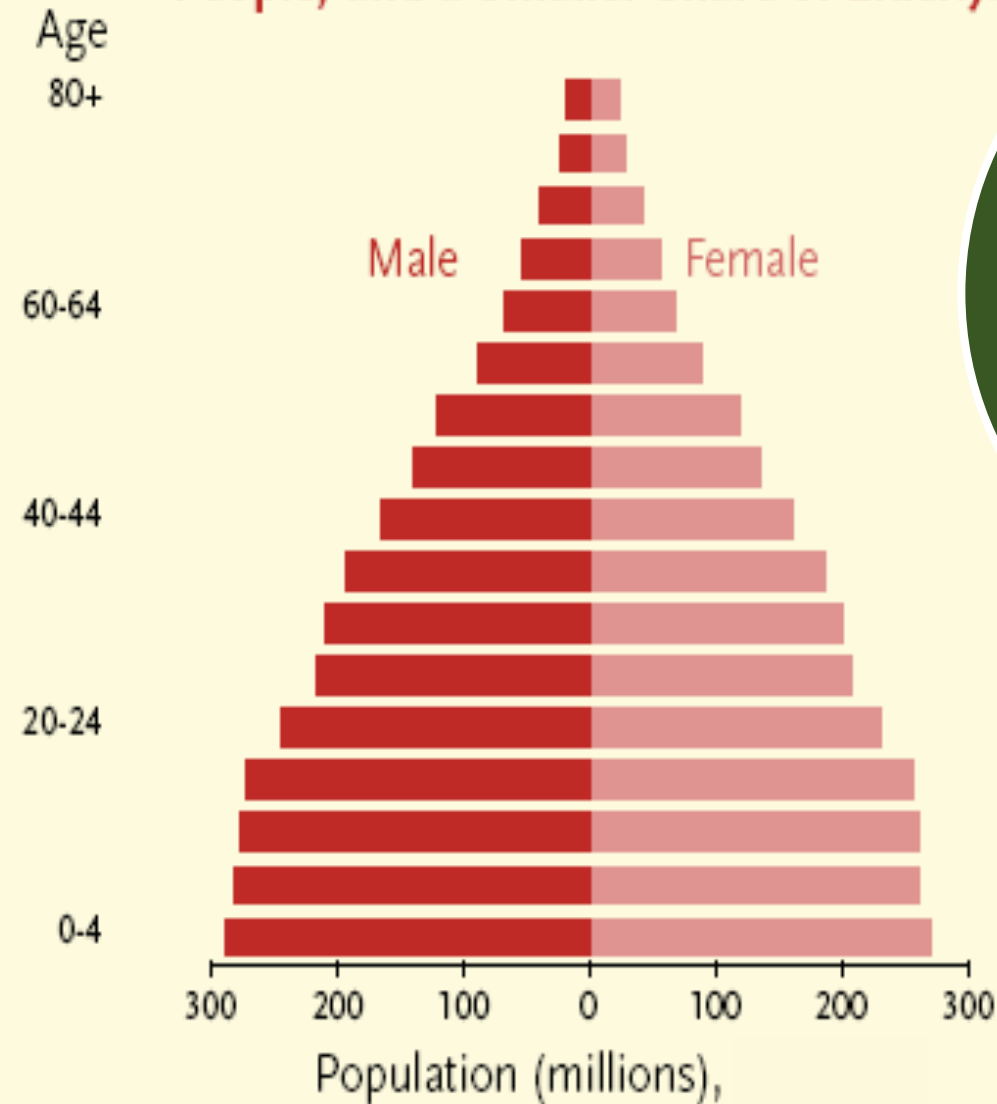
**Global population**

SOURCE: United Nations, *World Population Prospects*.

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

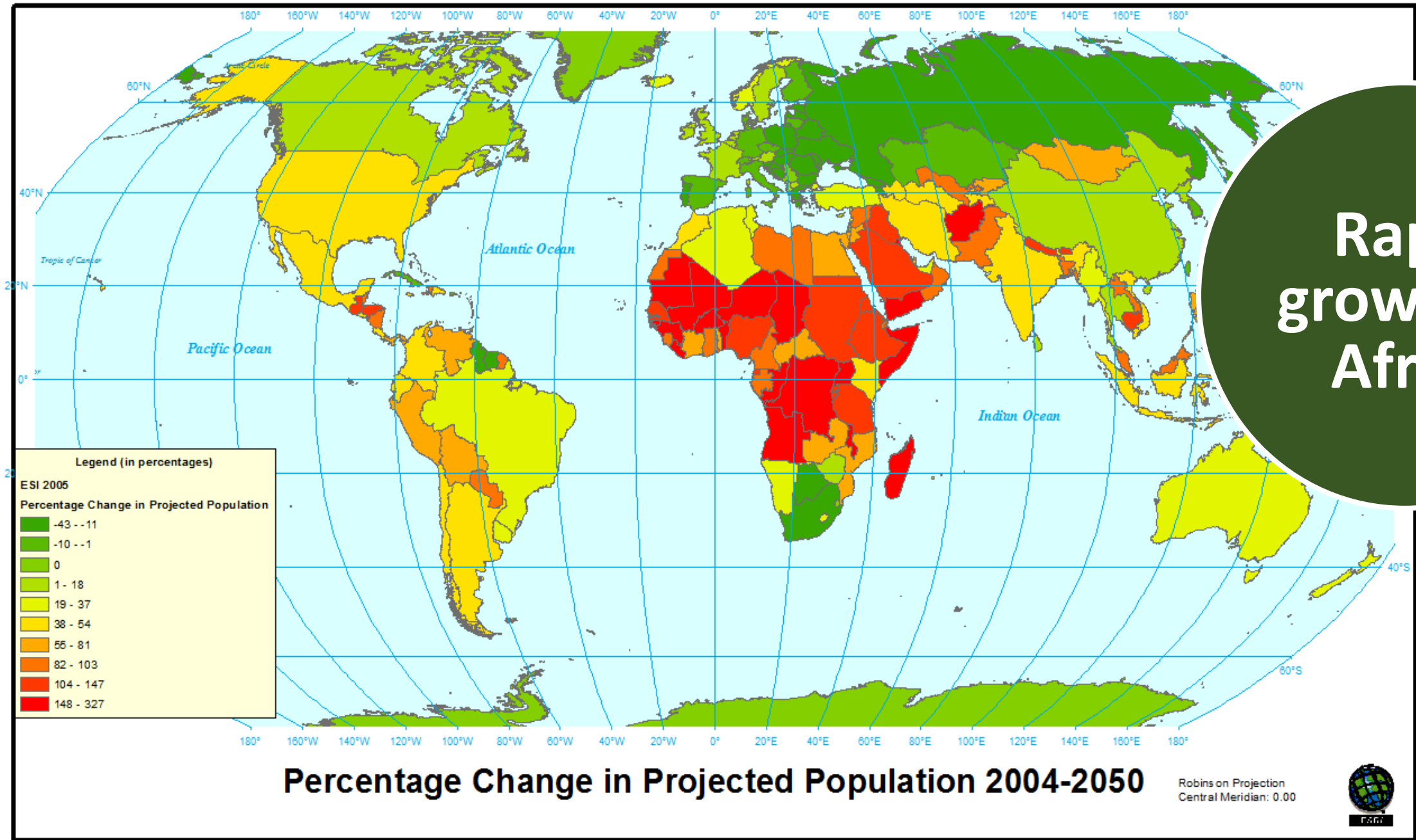


Developing Countries Have More Young People, and a Smaller Share of Elderly.



Global population age profiles

SOURCE: United Nations, *World Population Prospects*:



**Rapid growth in Africa**

# 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



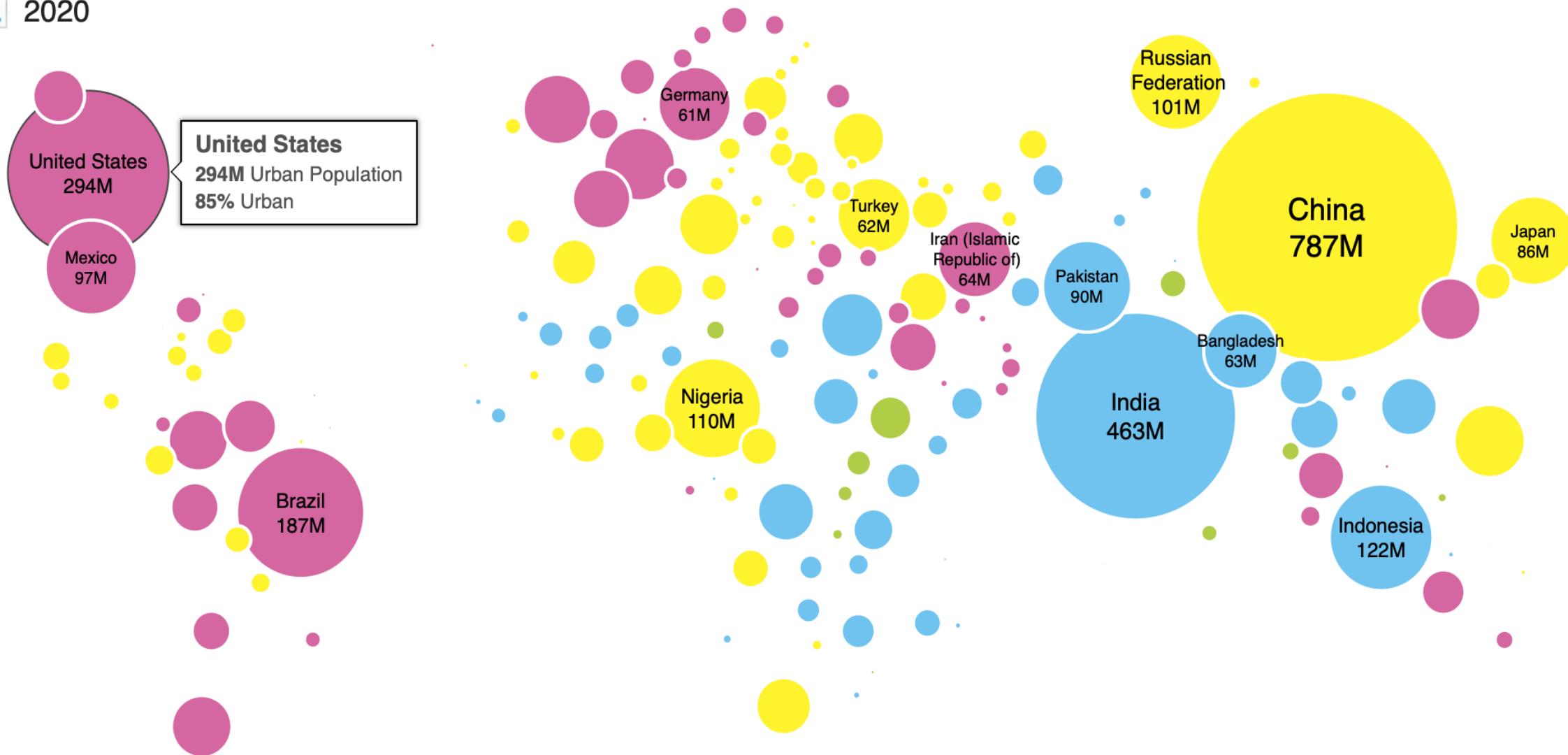
# AN URBAN WORLD

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## Urban Population

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- Less than 25%

2020



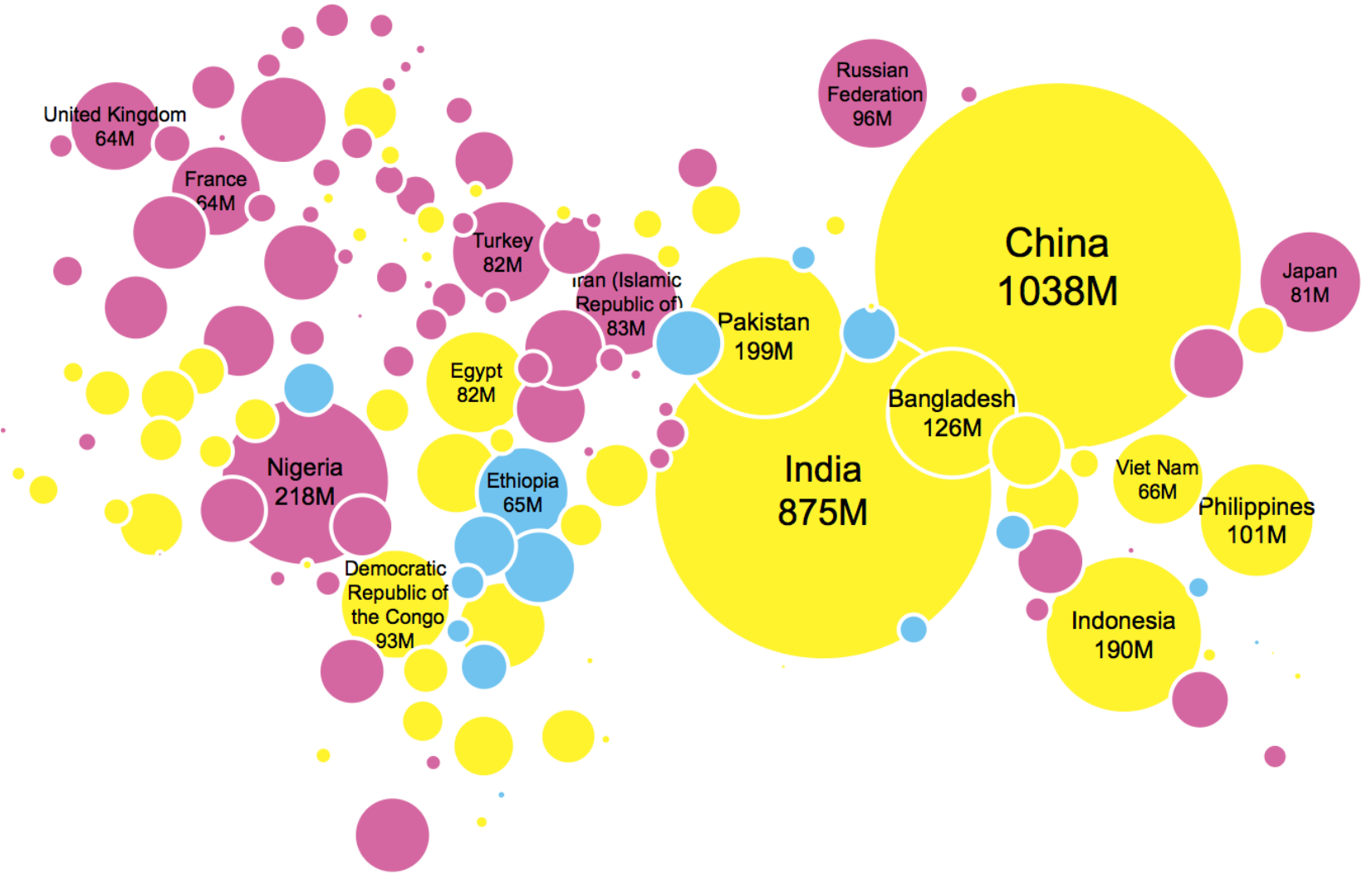
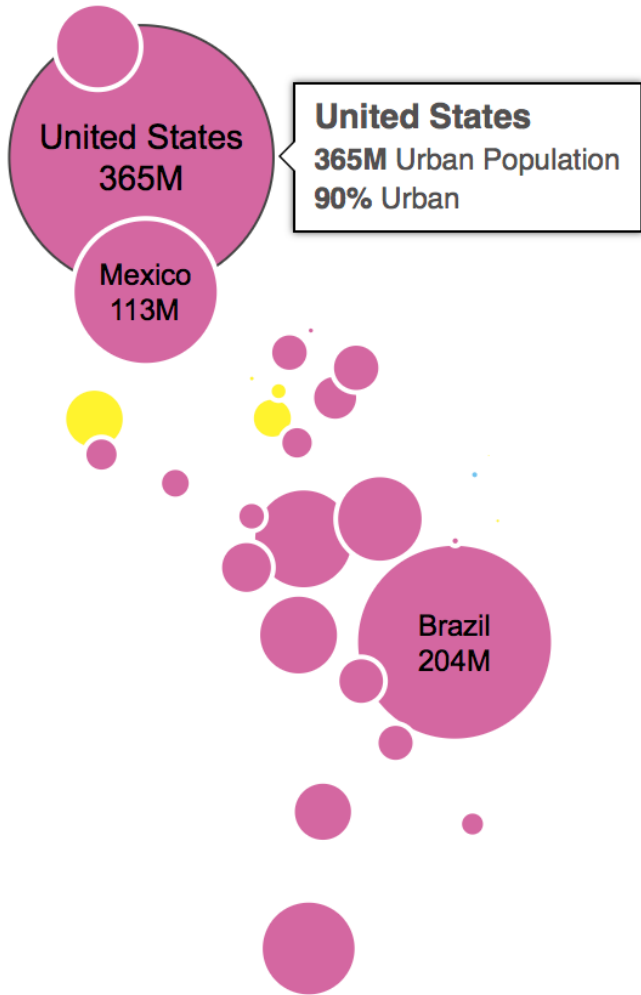
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## Urban Population

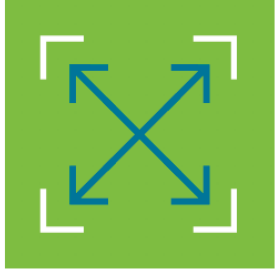
- Greater than 75%
- 50% - 75%
- 25% - 50%
- Less than 25%

2050

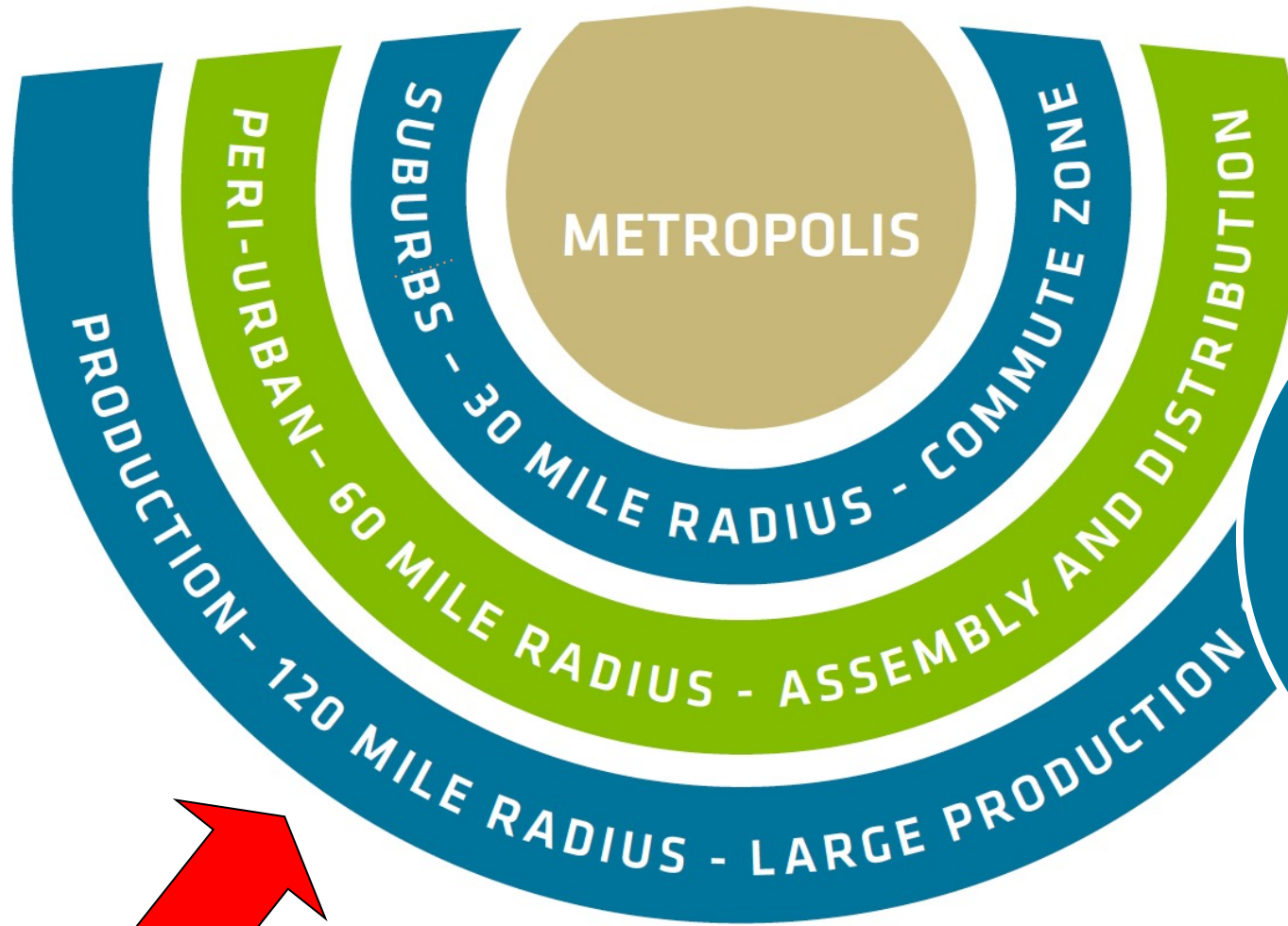




Arc of Innovation



Future-Splitting  
Questions™



Does this strengthen  
the strategic  
proposition for  
Lorain County?

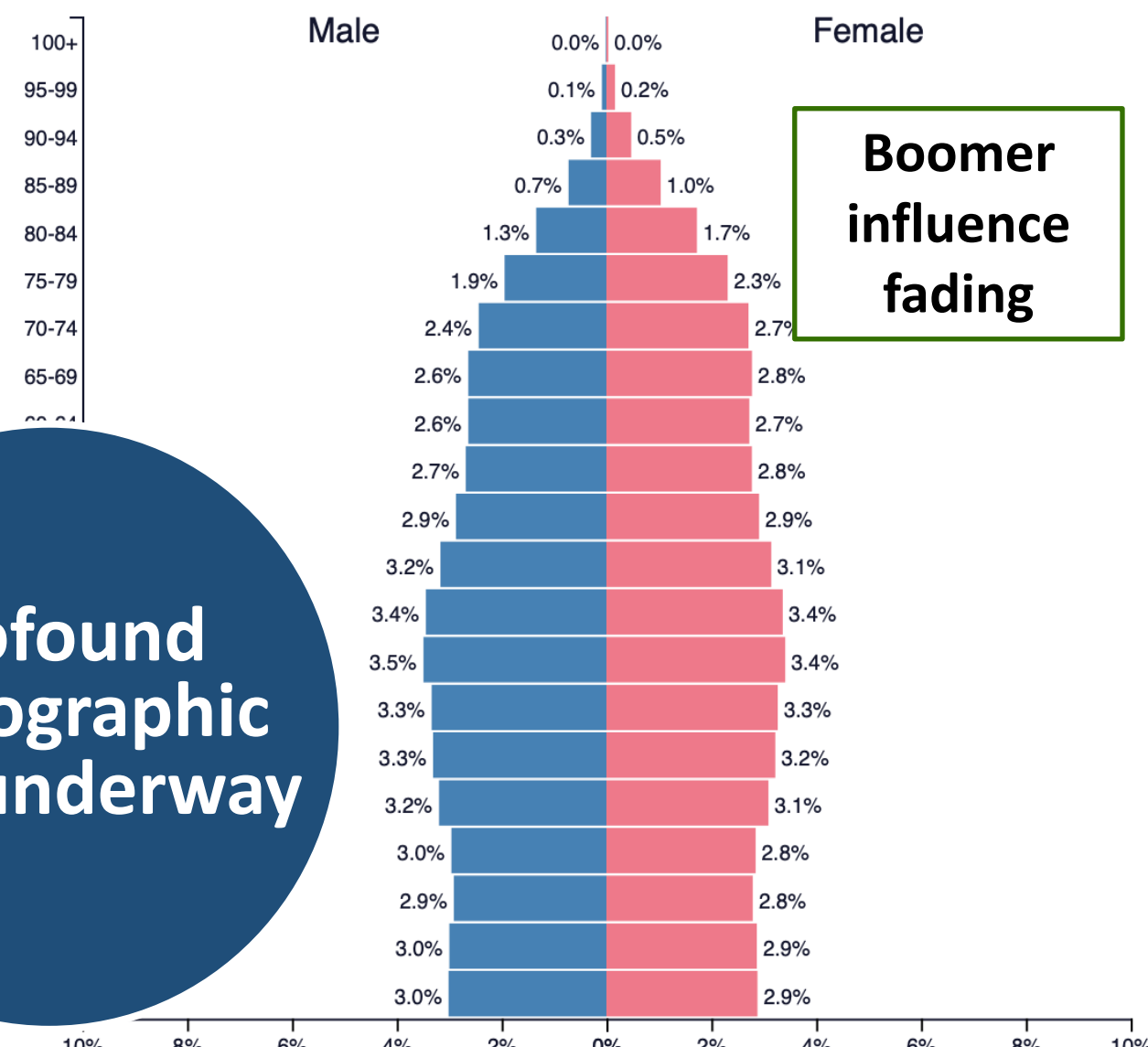
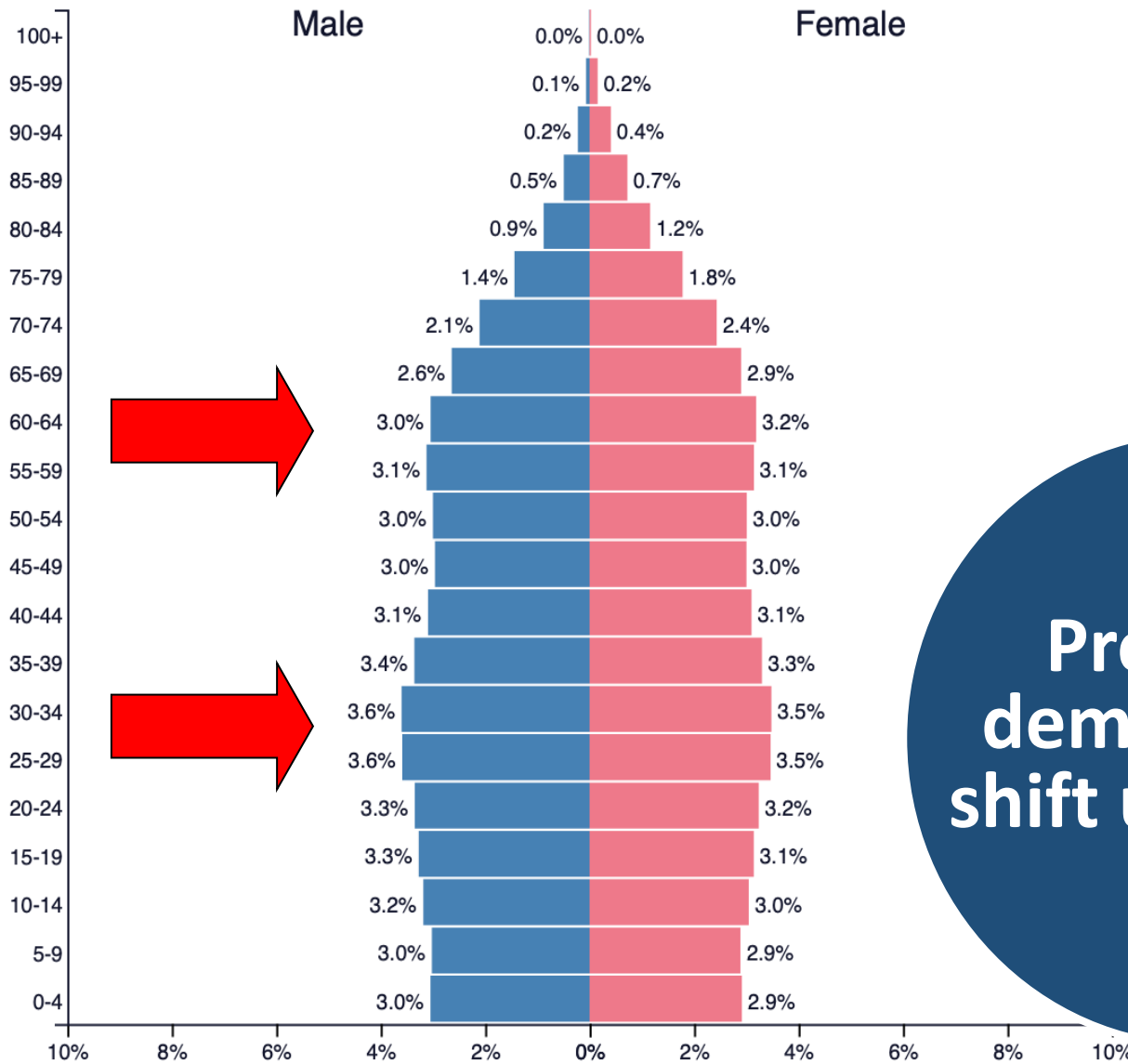
**Society is re-distributing into and  
around mega-cities**

# United States of America ▼ 2022

Population: 334,805,268

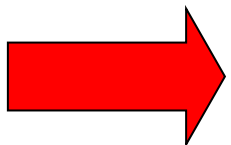
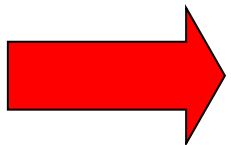
# United States of America ▼ 2032

Population: 353,335,452



**Boomer  
influence  
fading**

**Profound  
demographic  
shift underway**

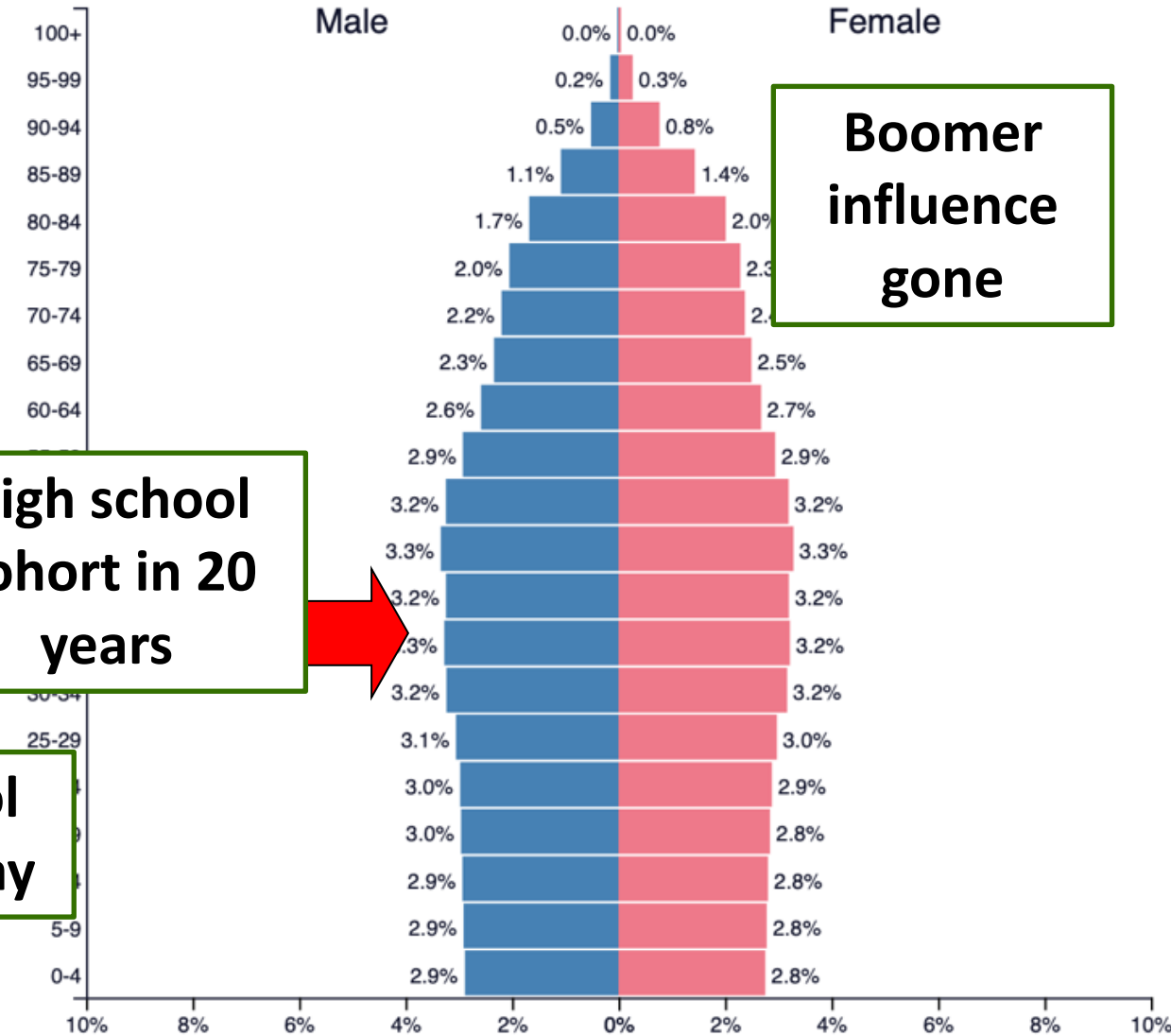
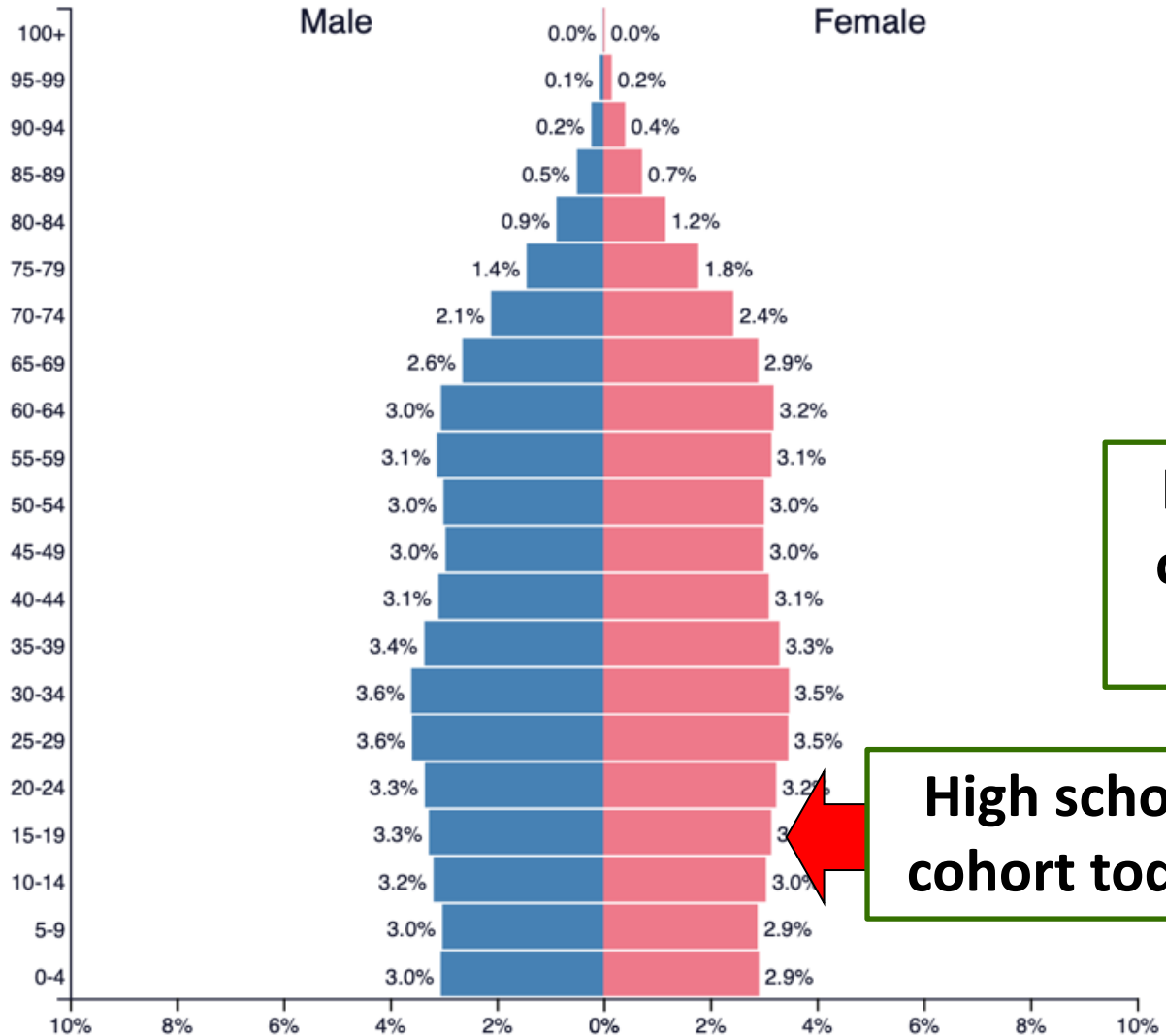


# United States of America ▼ 2022

Population: 334,805,268

# United States of America ▼ 2042

Population: 369,396,554



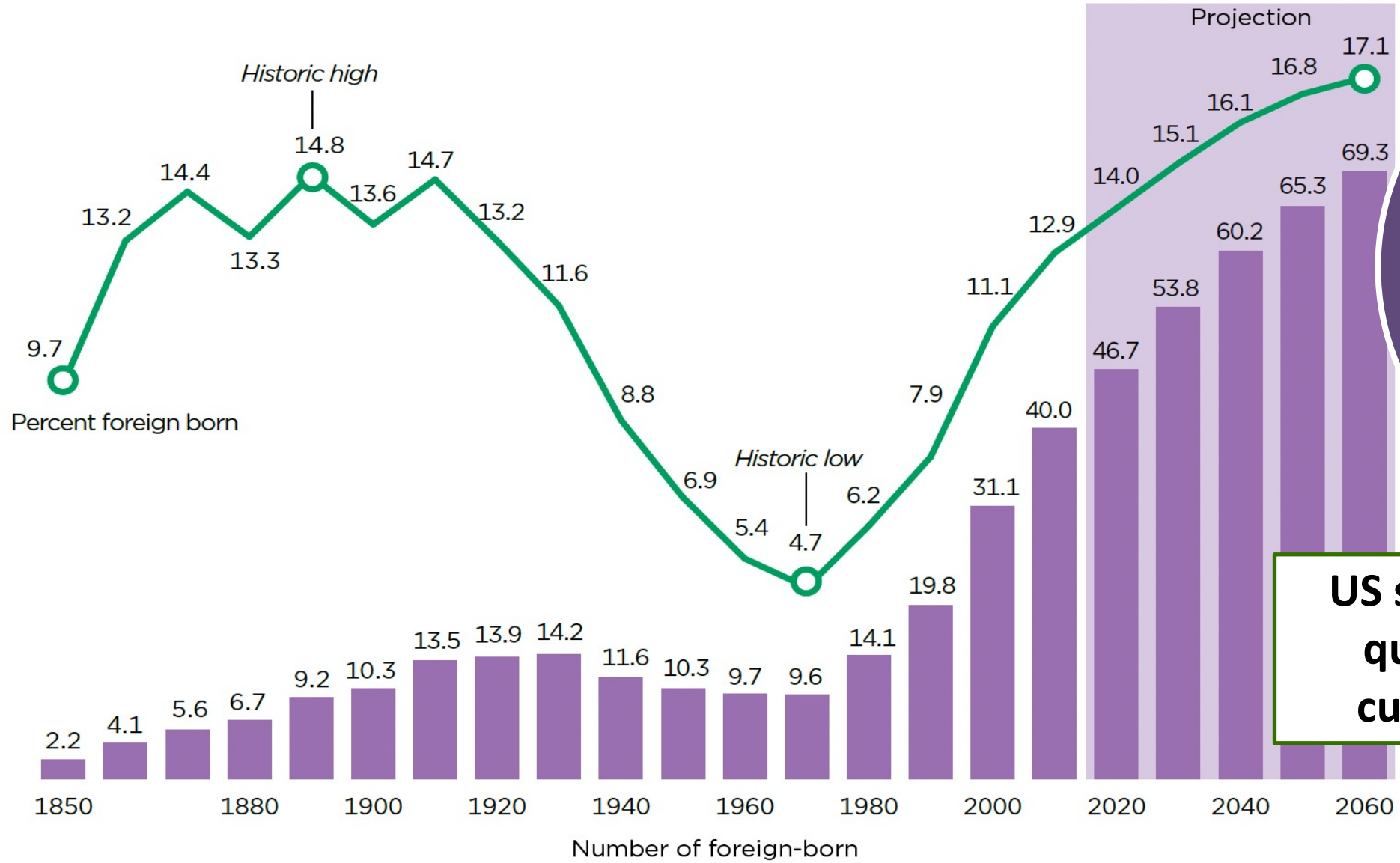
High school cohort in 20 years

High school cohort today

Boomer influence gone

# Foreign-Born People Living in the United States: 1850 to 2010, Projected 202 to 2060

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.

Blow in her face and she'll follow you anywhere

Hit her with tangy Tipalet Cherry. Or rich, grape-y Tipalet Burgundy. Or luscious Tipalet Blueberry. It's Wild! Tipalet. It's new. Different. Delicious in taste and in aroma. A puff in her direction and she'll follow you, anywhere. Oh yes.... you get smoking satisfaction without inhaling smoke.

Smokers of America do yourself a flavor. Make your next cigarette a **Tipalet**

New from Muriel. About 5 for 25¢.

For a better start in life  
**start COLA earlier!**

**How soon is too soon?**

Not soon enough. Laboratory tests over the last few years have proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and "fitting in" during those awkward pre-teen and teen years. So, do yourself a favor. Do your child a favor. Start them on a strict regimen of sodas and other sugary carbonated beverages right now, for a lifetime of guaranteed happiness.

**The Soda Pop Board of America**  
1515 W. Hart Ave. - Chicago, ILL.

- Promotes Active Lifestyle!
- Boosts Personality!
- Gives body essential sugars!

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 Lorain County?

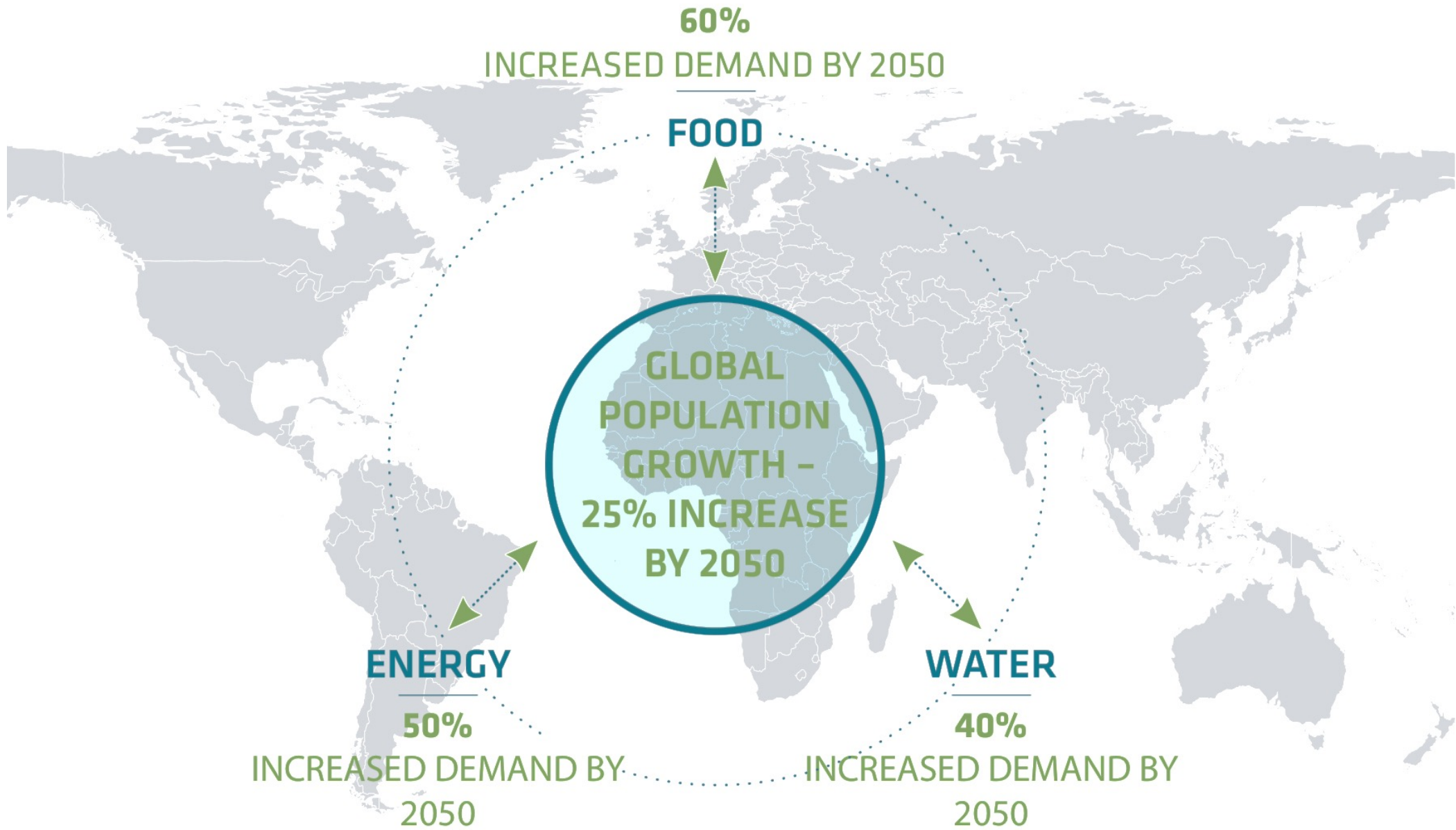


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Create Future Intelligence™

# Energy + Water + Food + Climate Change







# 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

- Irrigation uses 70% of the world's fresh water
- Water scarcity will be the chief constraint to increased food production
- The threat to water resources stands as one of the major crises facing the planet



Upper-middle and northeast USA has 20% of global surface freshwater resources



**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**

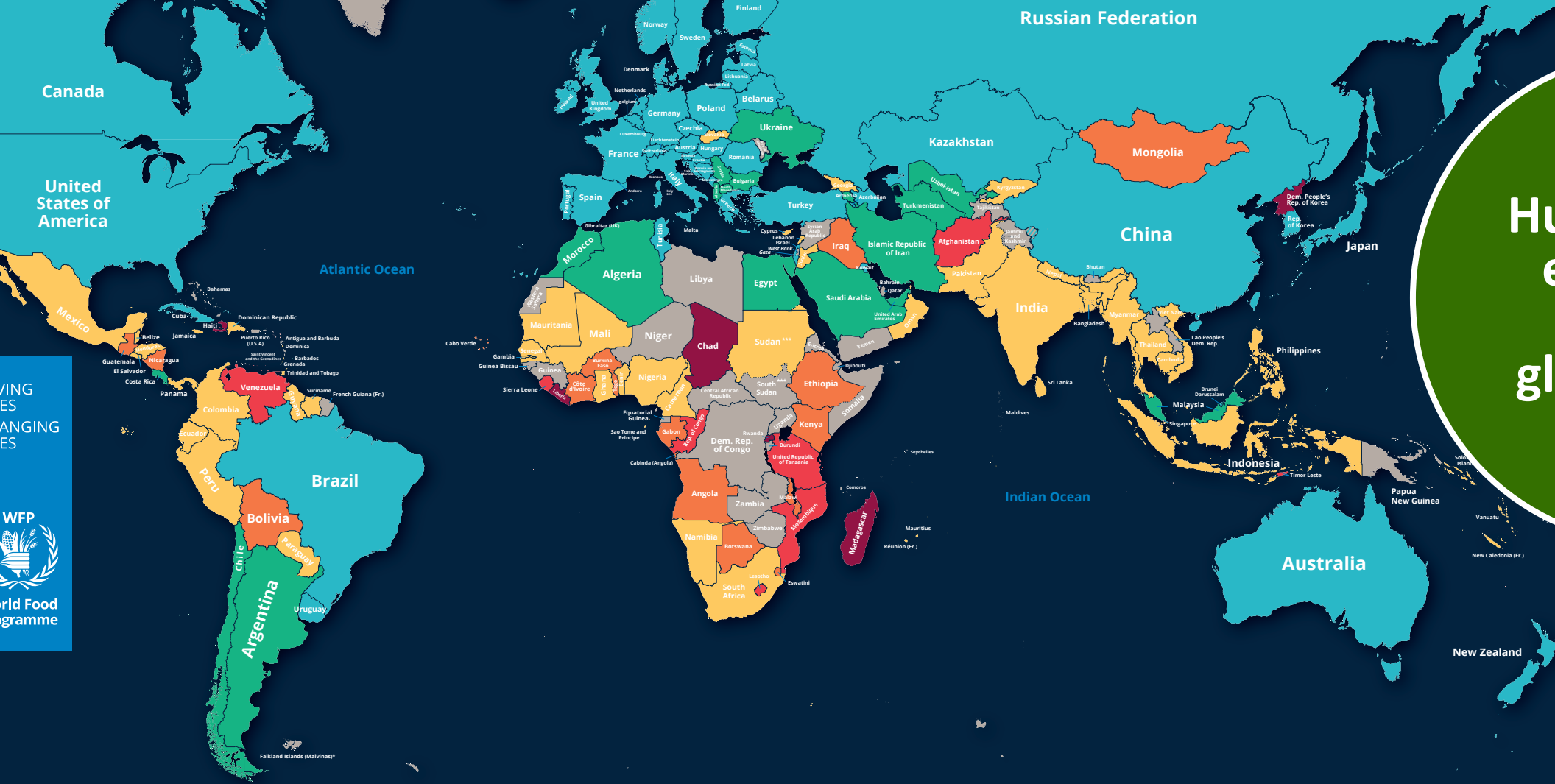
ADULTS ARE OVERWEIGHT OR OBESE

**1 in 12**

ADULTS HAVE DIABETES

**42 MILLION**

CHILDREN ARE OVERWEIGHT



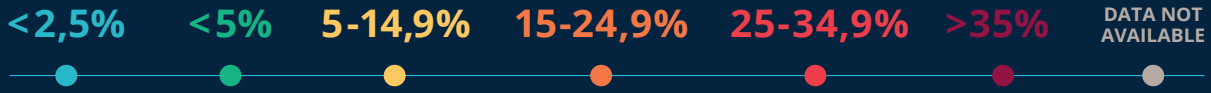
Hunger is an emerging critical global issue



# Hunger Map 2020

**CHRONIC HUNGER**

If current trends continue, the number of hungry people will reach 840 million by 2030



Prevalence of undernourishment in the total population (percent) in 2017-19

Undernourishment is defined as the condition in which an individual's habitual food consumption is insufficient to provide the amount of dietary energy required to maintain a normal, active, healthy life. The indicator is reported as the prevalence of undernourishment (POU), which is an estimate of the percentage of individuals in the total population that are in a condition of undernourishment. To reduce the influence of possible estimation errors in some of the underlying parameters, national estimates are reported as a three-year moving average. Source: FAO, IFAD, UNICEF, WFP and WHO, 2020. The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets. Rome, FAO. Further information is available at <https://www.wfp.org/publications/state-food-security-and-nutrition-world-sofi-report-2020>

© World Food Programme 2020

The designations employed and the presentation of material in this map do not imply the expression of any opinion whatsoever on the part of WFP concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

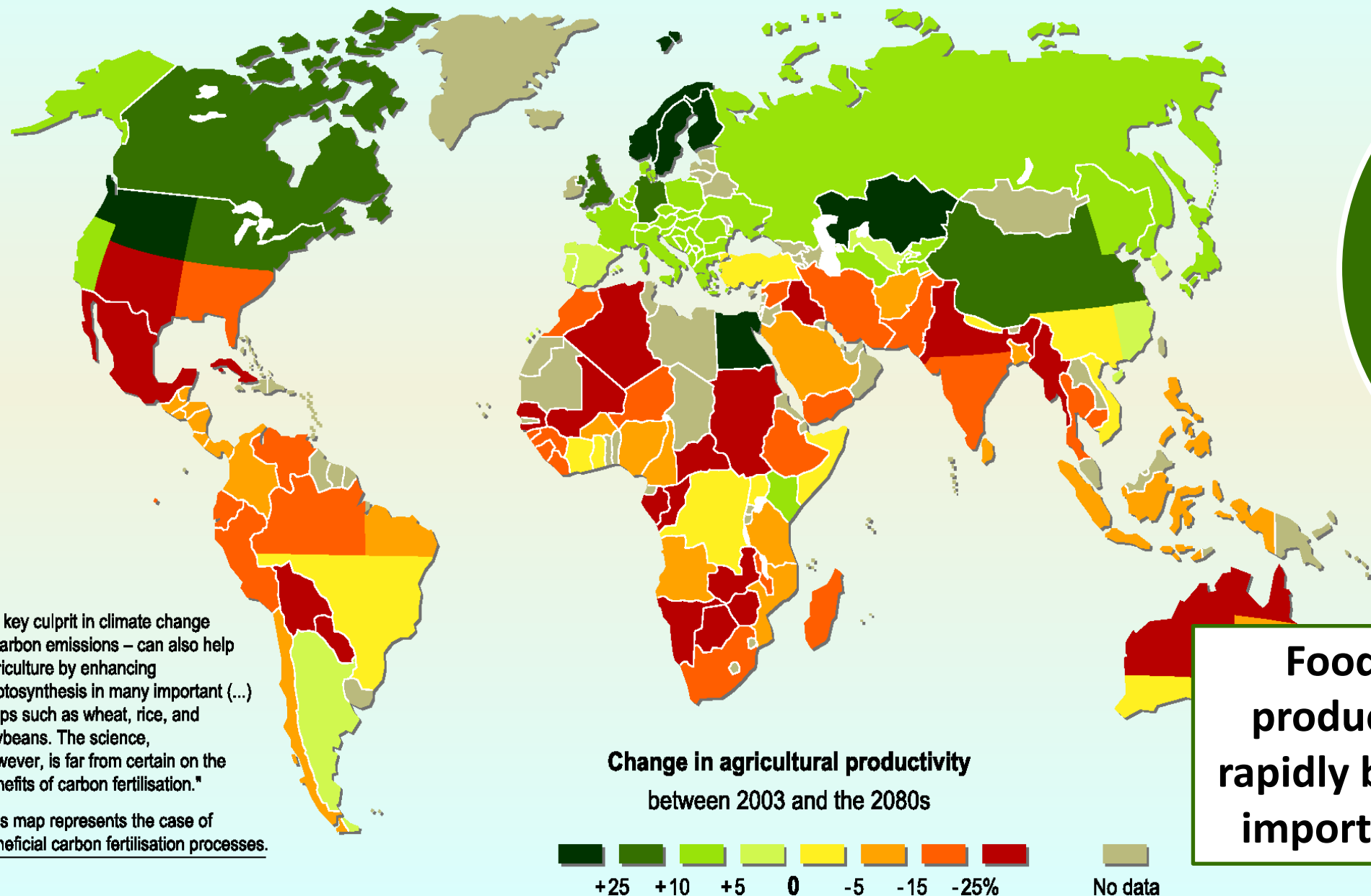
\* A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

\*\* Dotted line represents approximately the line of control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

\*\*\* Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

— International Boundary    - - - - - Armistice or International Administrative Line    ——— Other Line of Separation    ····· Special boundary line

# Projected impact of climate change on agricultural yields



**Increases  
and  
decreases**

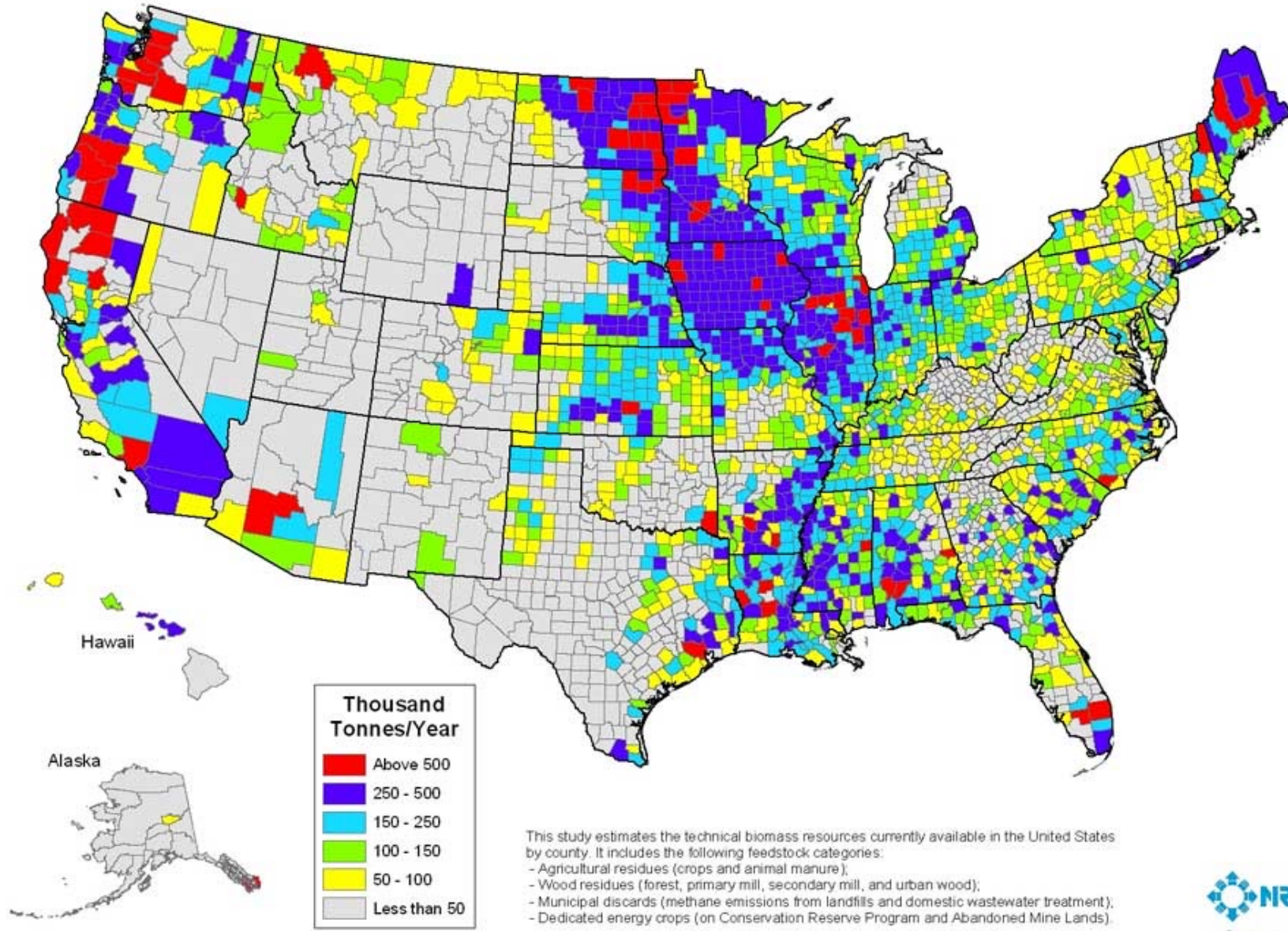
**Food security and  
production capability  
rapidly becoming a more  
important global issue**

" 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*.

## Biomass Resources Available in the United States



**Unique  
biomass  
capability**

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

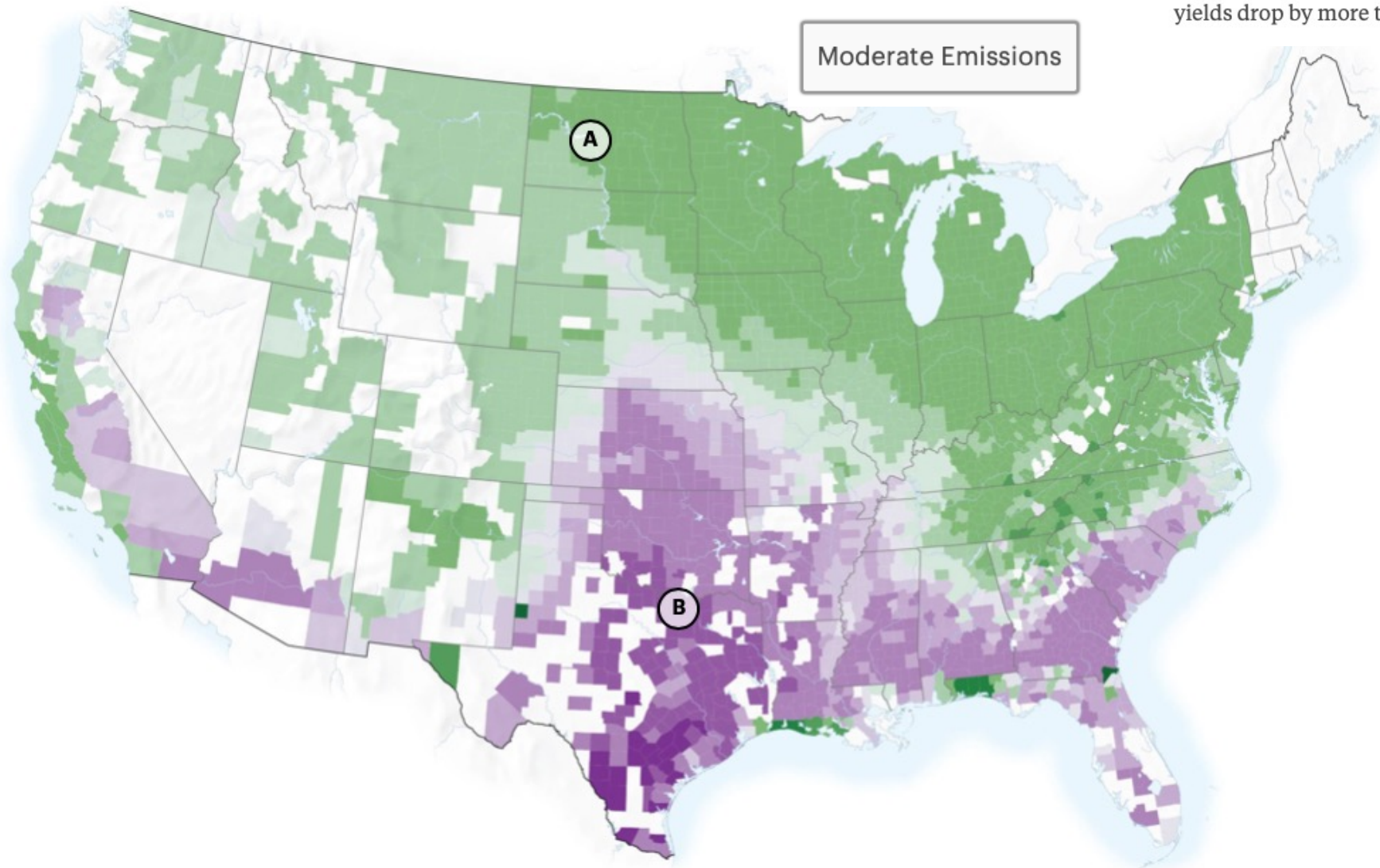


September 2005





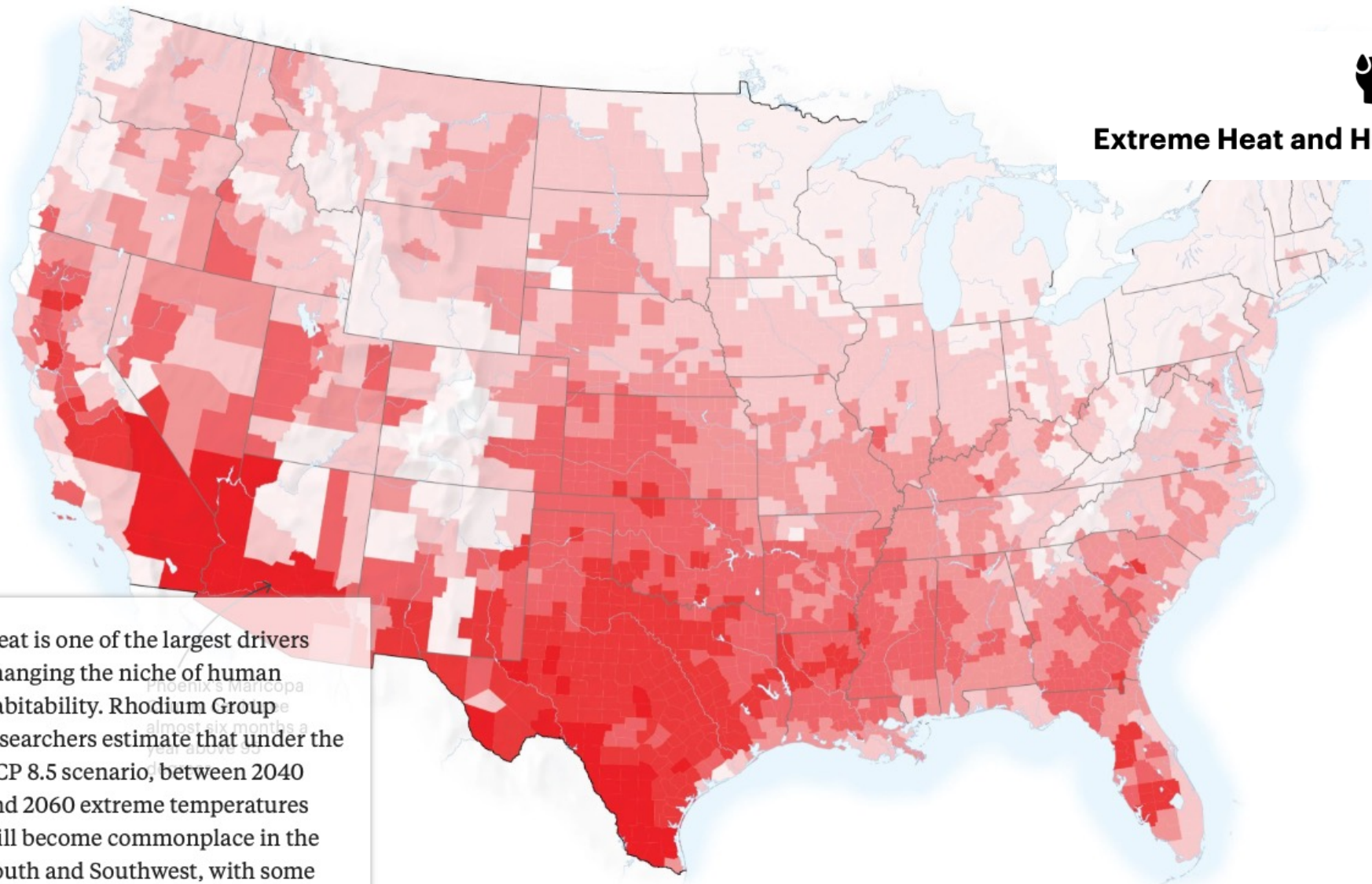
## Farm Crop Yields: 2040-2060



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%.



## Extreme Heat and Humidity: 2040-2060



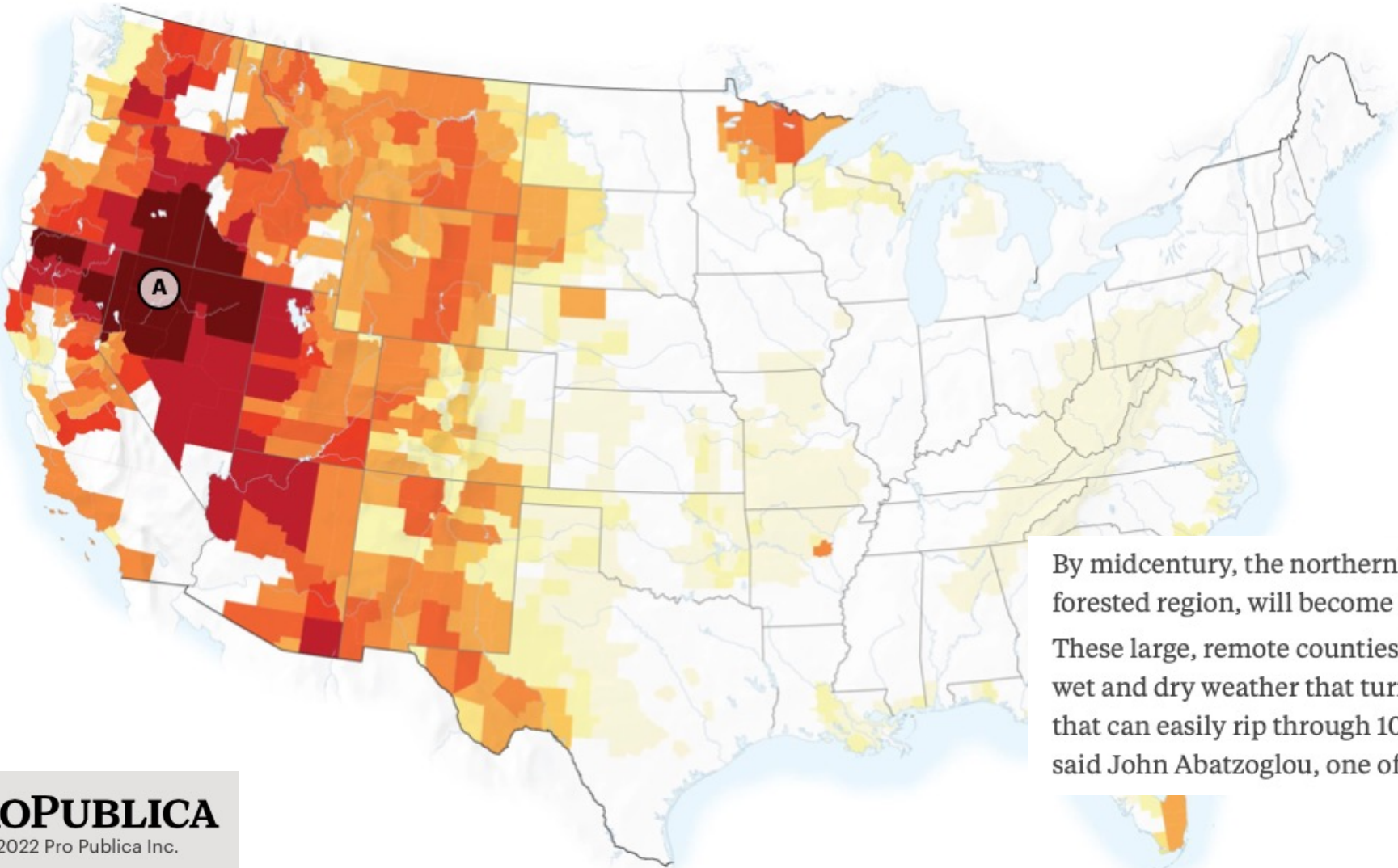
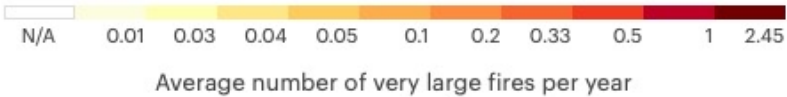
Heat is one of the largest drivers changing the niche of human habitability. Rhodium Group researchers estimate that under the RCP 8.5 scenario, between 2040 and 2060 extreme temperatures will become commonplace in the South and Southwest, with some counties in Arizona experiencing temperatures above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



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.

High Emissions

Moderate Emissions



## Sea Level Rise: 2040-2060



Percentage of property below high tide



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

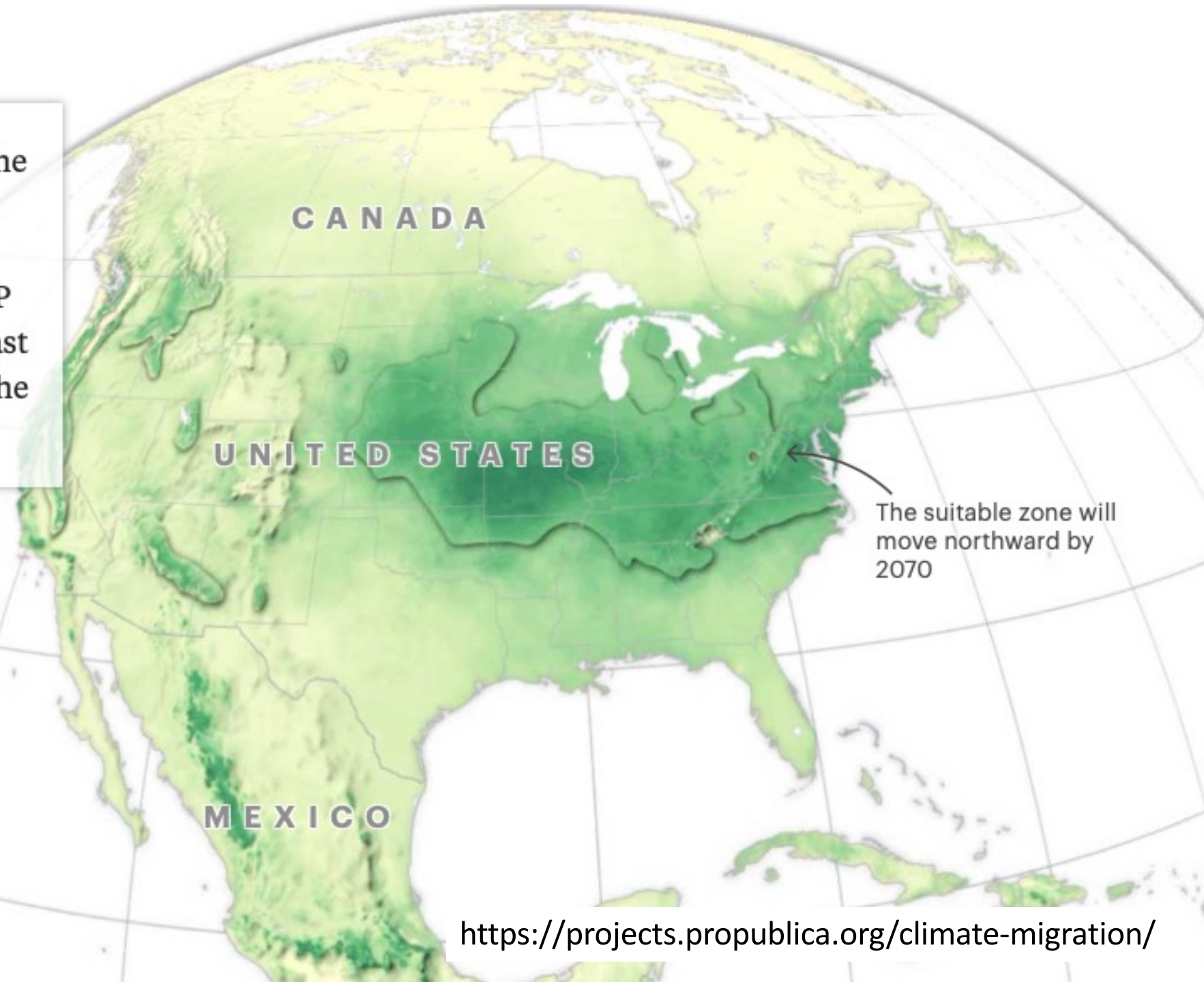
by Al Shaw, Abrahm Lustgarten, ProPublica, and Jeremy W. Goldsmith,  
Special to ProPublica, September 15, 2020.

In 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.

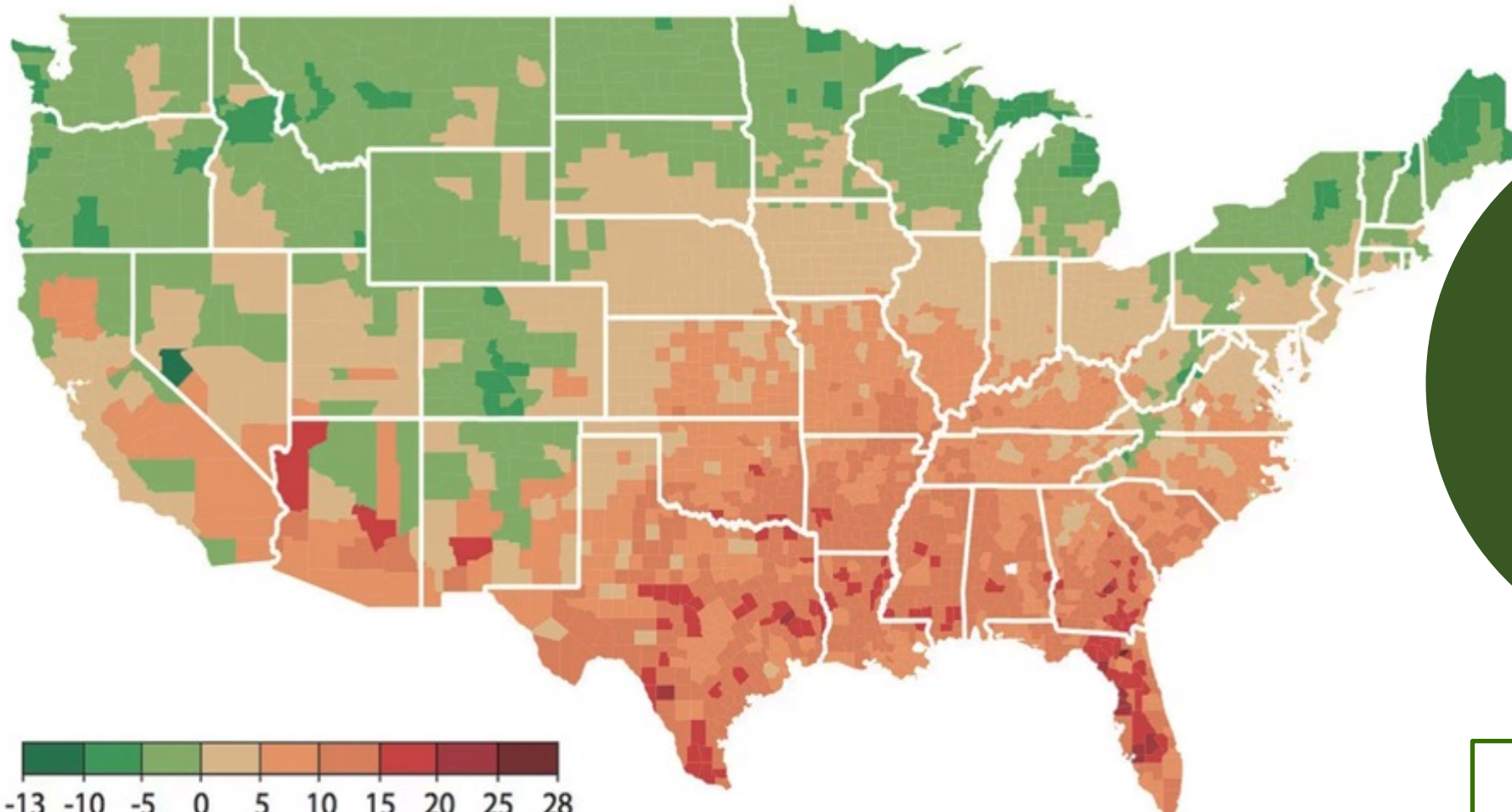
According to new data from the Rhodium Group analyzed by ProPublica and The New York Times Magazine, warming temperatures and changing rainfall will drive agriculture and temperate climates northward, while sea level rise will consume coastlines and dangerous levels of humidity will swamp the Mississippi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



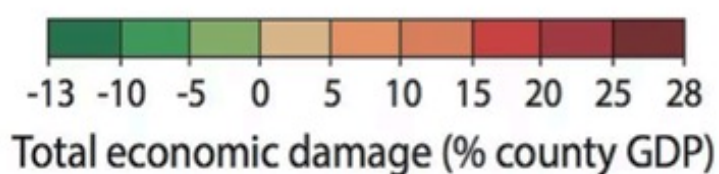
But as the climate warms, the niche could shift drastically northward. Under even a moderate carbon emissions scenario (known as RCP 4.5), by 2070 much of the Southeast becomes less suitable and the niche shifts toward the Midwest.



The suitable zone will move northward by 2070



**Long term  
GDP impact  
positive in  
north**



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

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](#)

# Predictions and observations

- Growing disconnect between where food will be consumed, and where it can be grown.
- Upper Midwest poised to capitalize on intersect of water, energy and biomass / food production capability.
- New migration patterns are emerging





A decorative graphic at the top of the slide featuring a network of interconnected circles and lines, resembling a molecular structure or a data network. The circles vary in size and are connected by thin lines, creating a complex, web-like pattern.

## **Food, Energy, Water and Climate Change**

What do these trends mean for the  
the future of Lorain County?

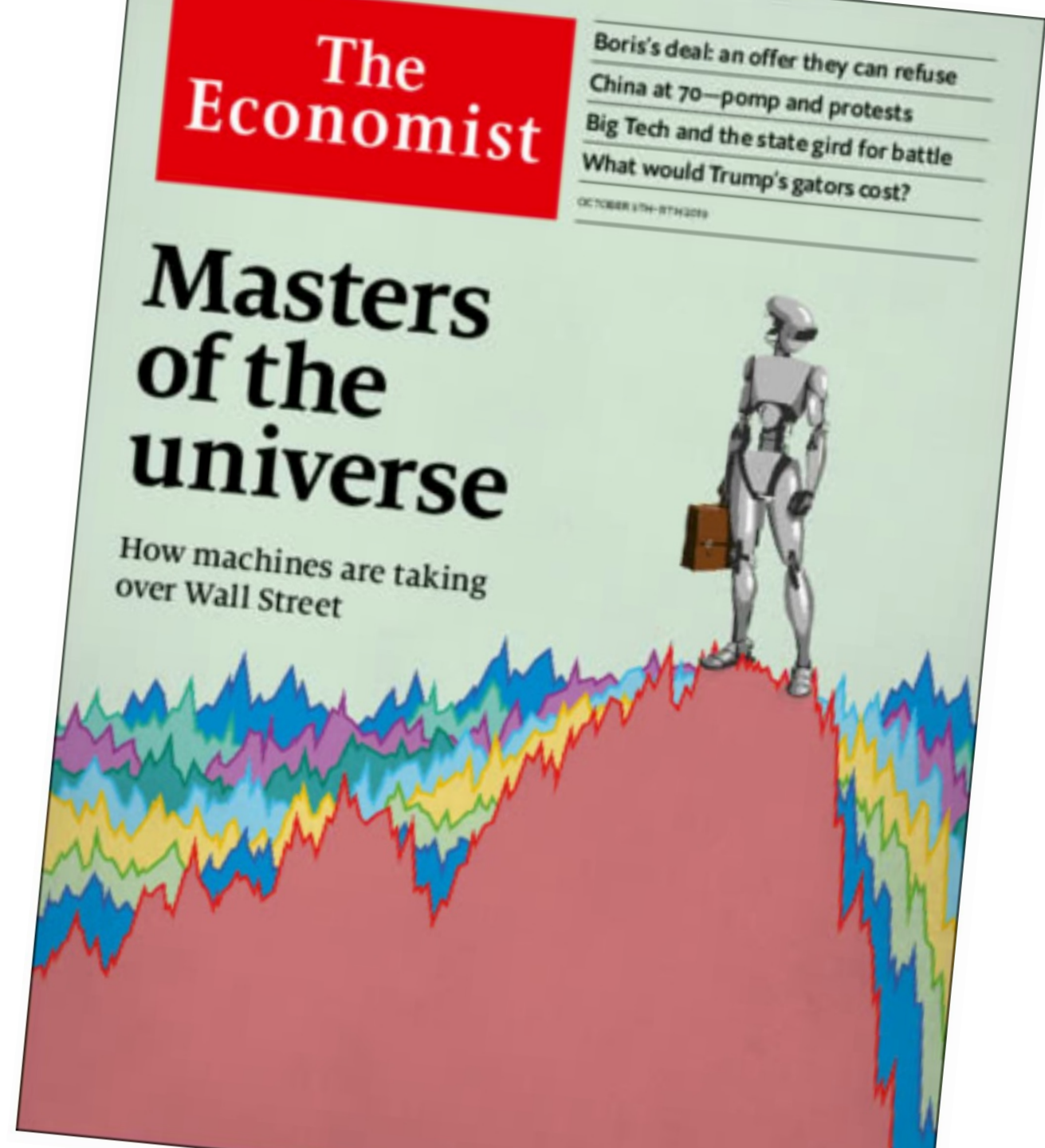
A decorative graphic at the bottom of the slide showing a field of corn plants. The plants are rendered in a light, semi-transparent style, creating a soft, textured background for the lower portion of the slide.



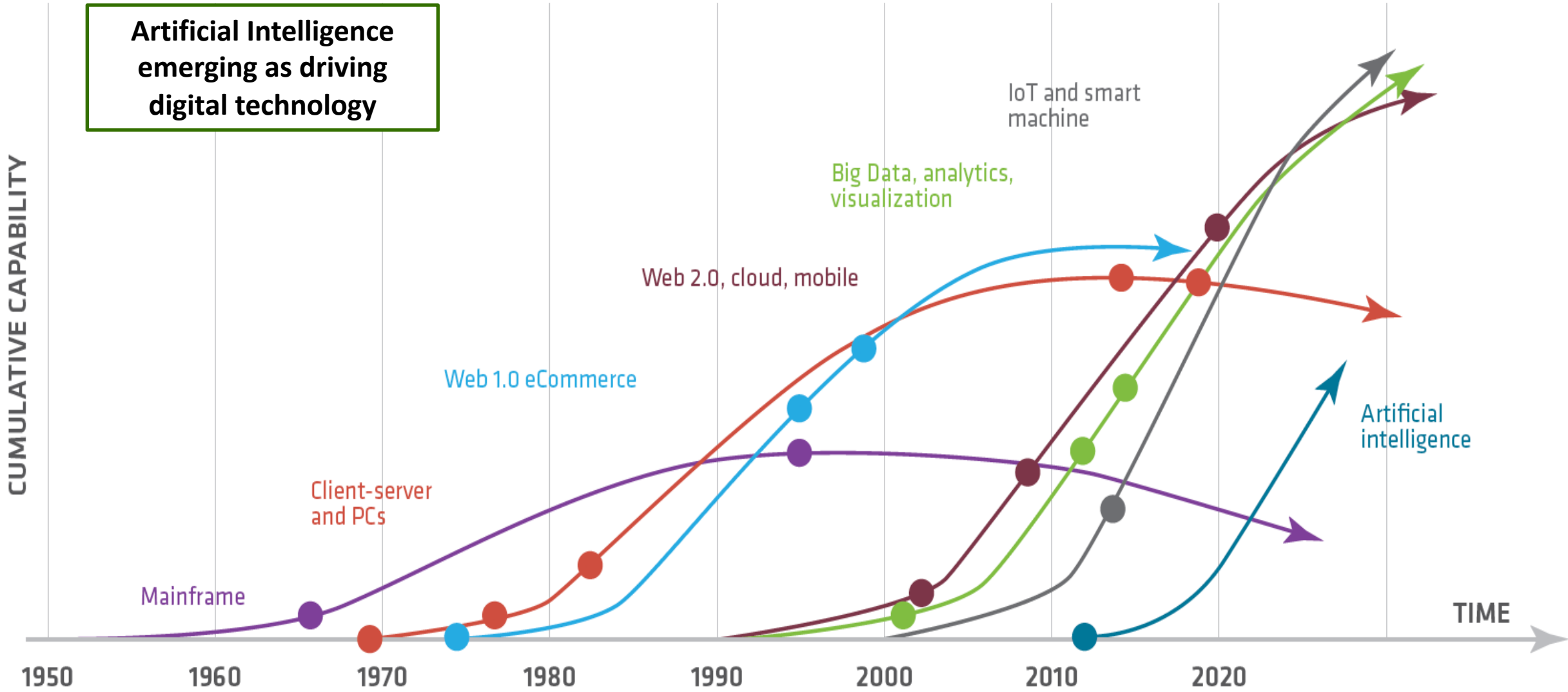
# Technology and the speed of change

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# THE INCREASING CAPABILITY OF DIGITAL TECHNOLOGIES

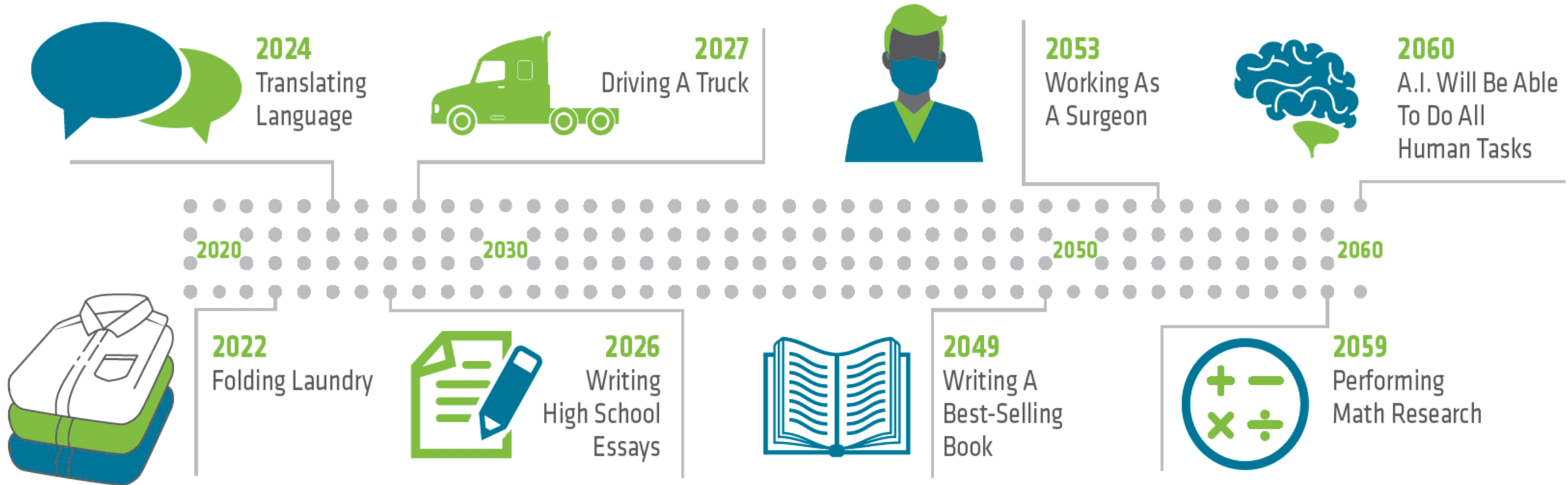


Digital Transformation Initiative Mining and Metals Industry, White Paper, World Economic Forum / Accenture analysis, January 2017

# When will AI outperform people?

**AI is reshaping our lives  
and industries – right  
now**

AI WILL LIKELY OUTPERFORM HUMANS AT...



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) <sup>12</sup>

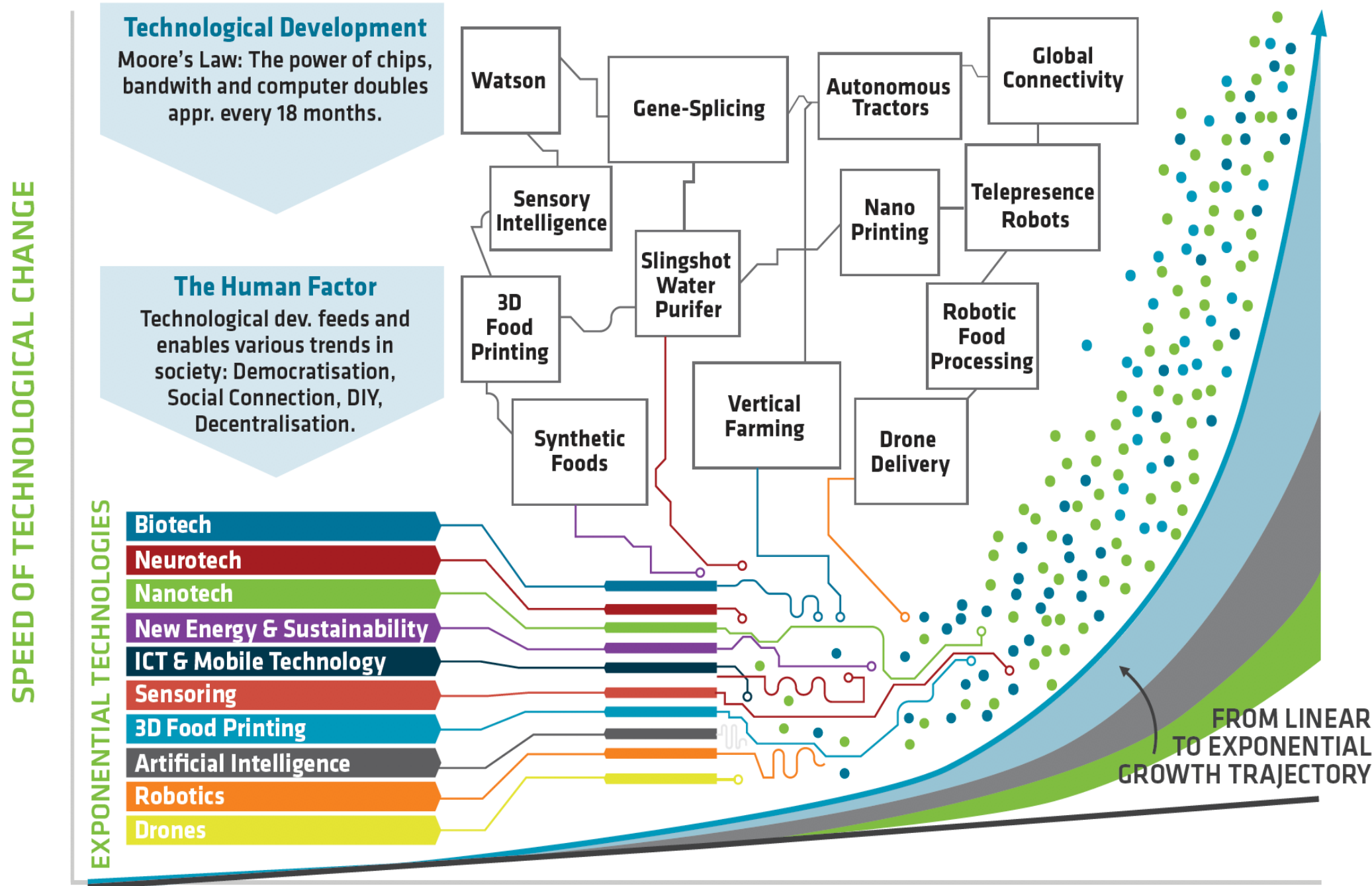
Reproduced from Next Industrial Revolution, Future iQ, 2018



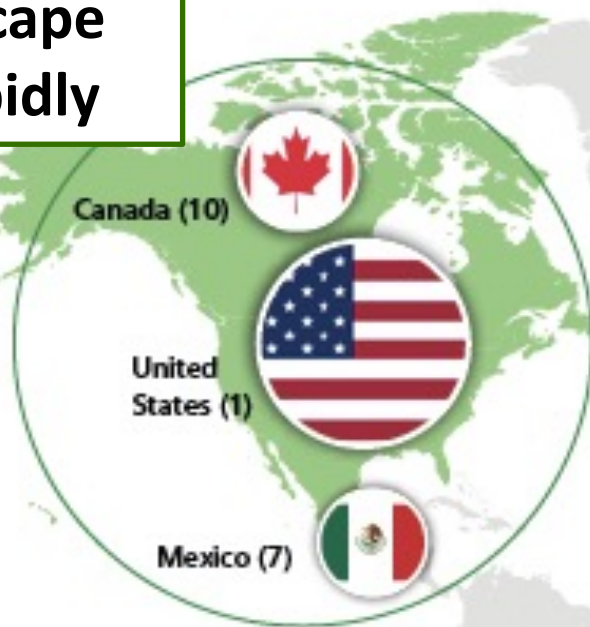
Source: New Yorker Oct 23, 2017, and Max Planck Research 2009

# 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<sup>10</sup>

# Technology and speed of change

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



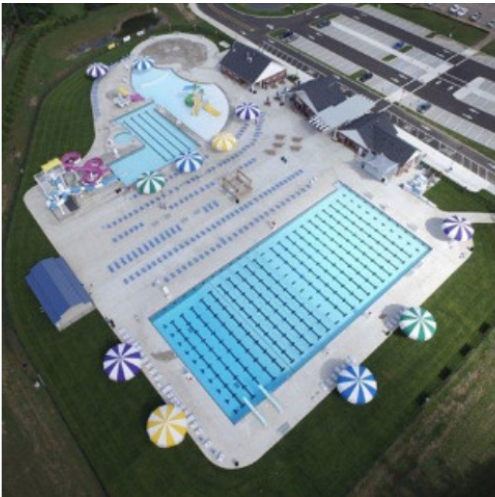


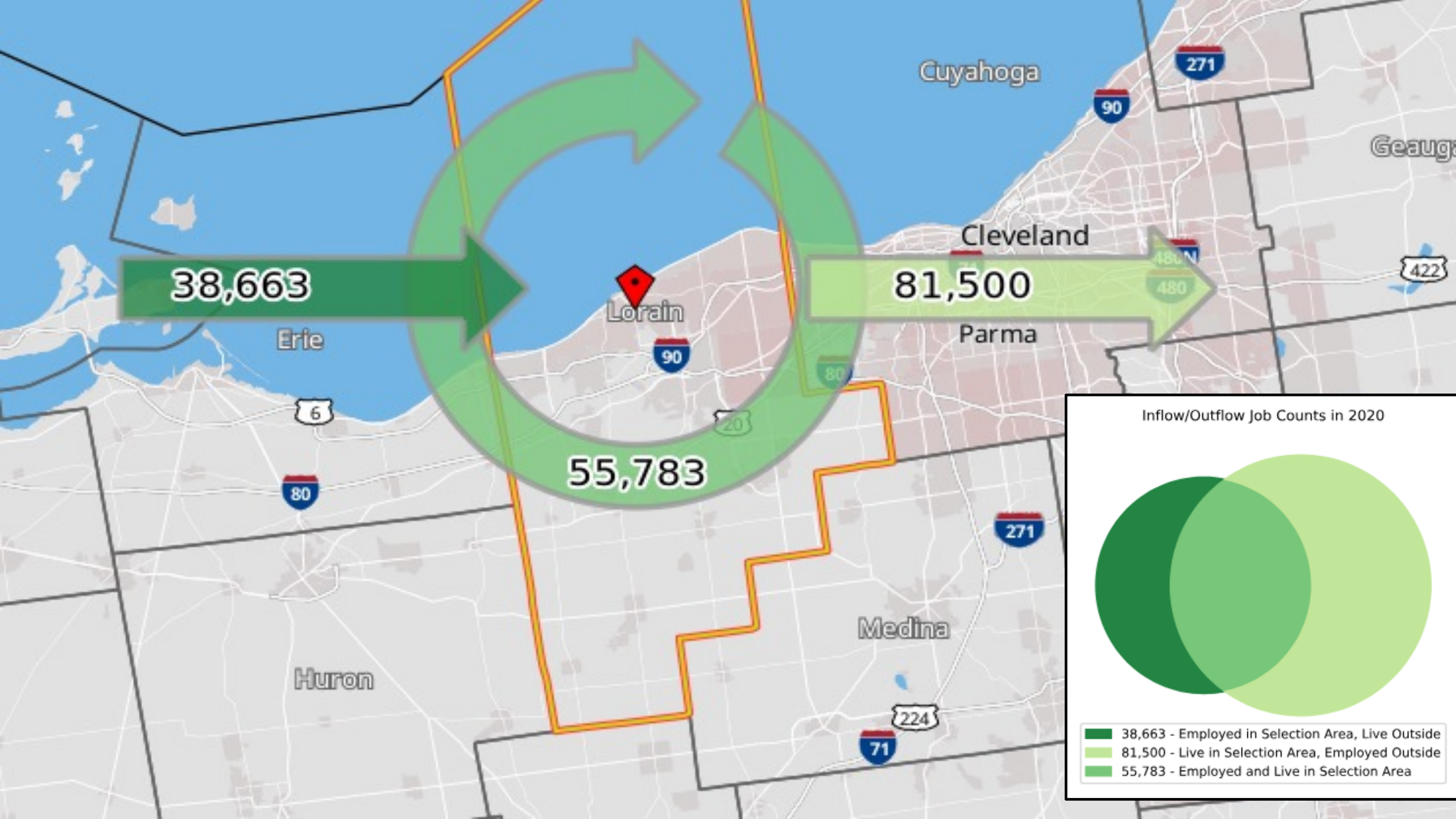


**What do these trends mean for the  
the future of Lorain County?**

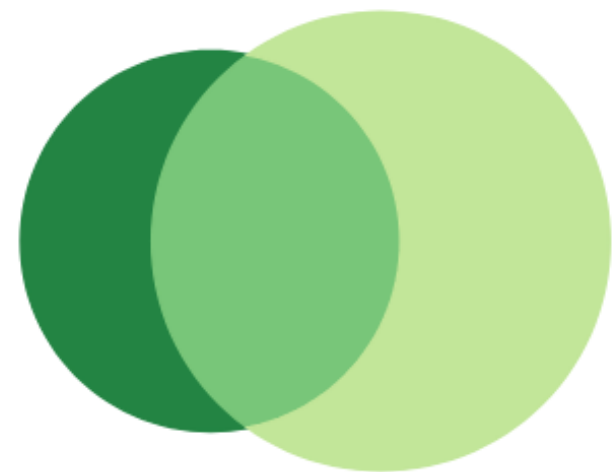
# Lorain County Strategic Action Plan

## SNAPSHOT DATA

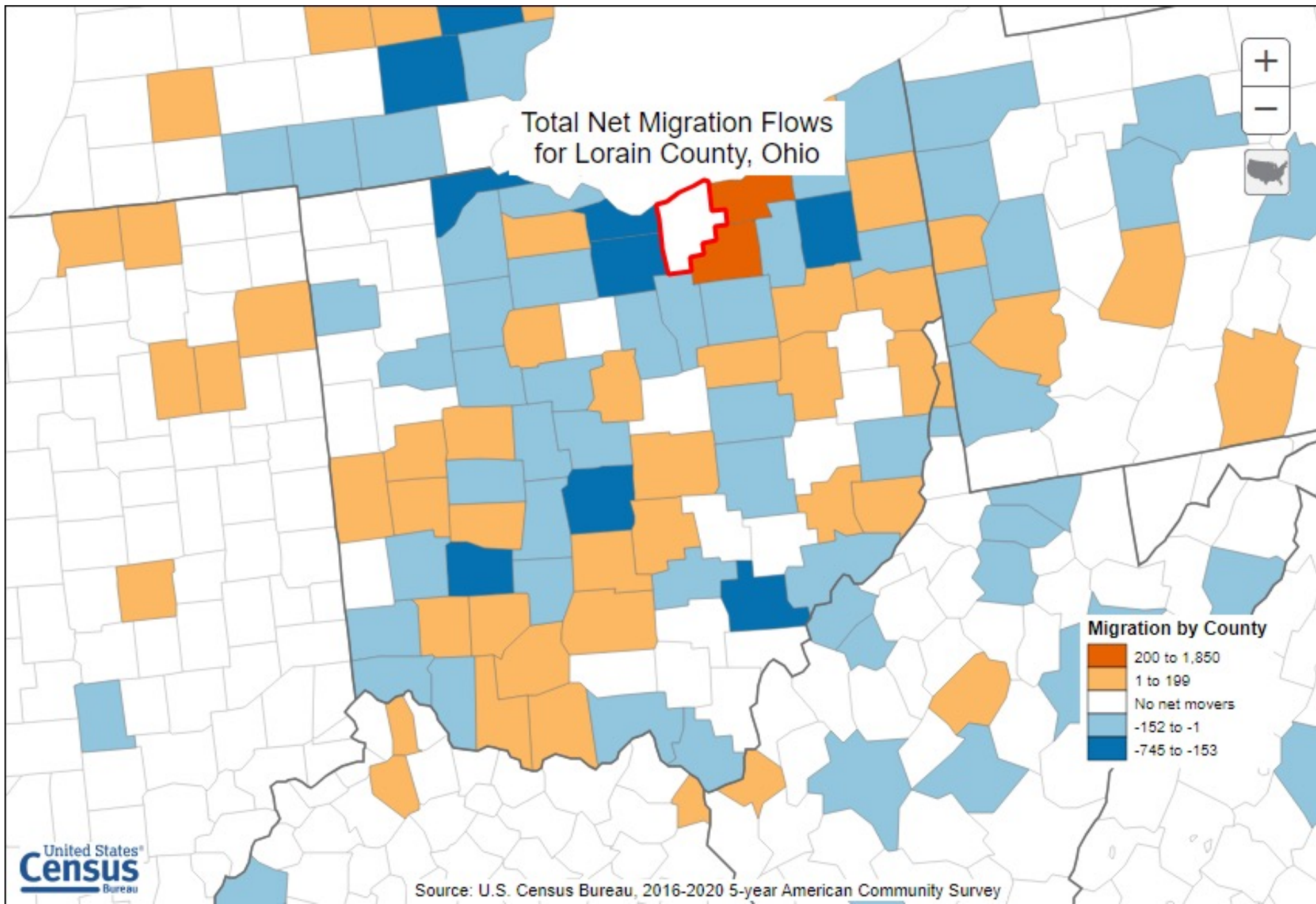




Inflow/Outflow Job Counts in 2020



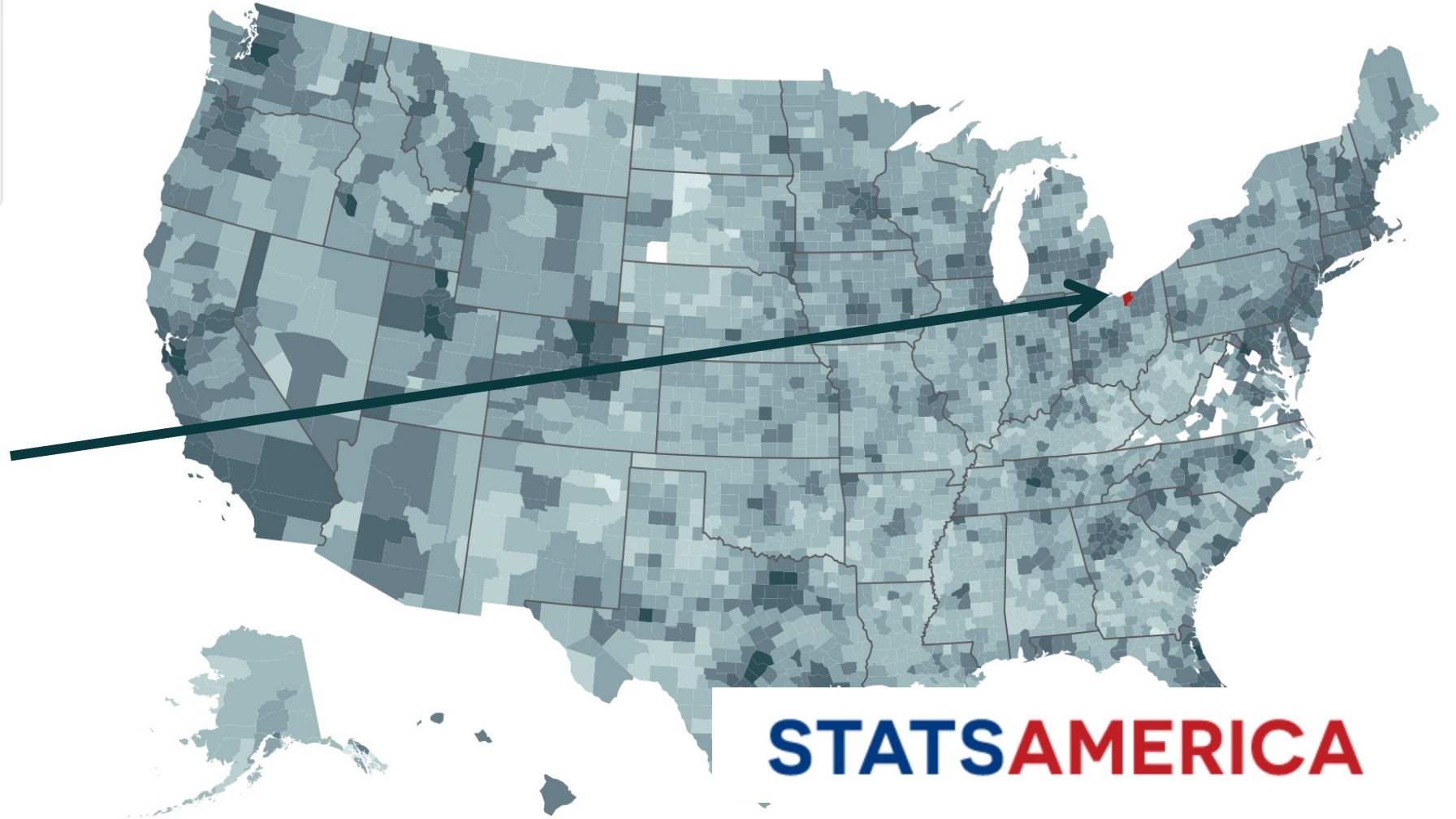
- 38,663 - Employed in Selection Area, Live Outside
- 81,500 - Live in Selection Area, Employed Outside
- 55,783 - Employed and Live in Selection Area



- ☐ 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.*

# Headline Innovation Index



**STATSAMERICA**



# The Innovation Capacity Profile

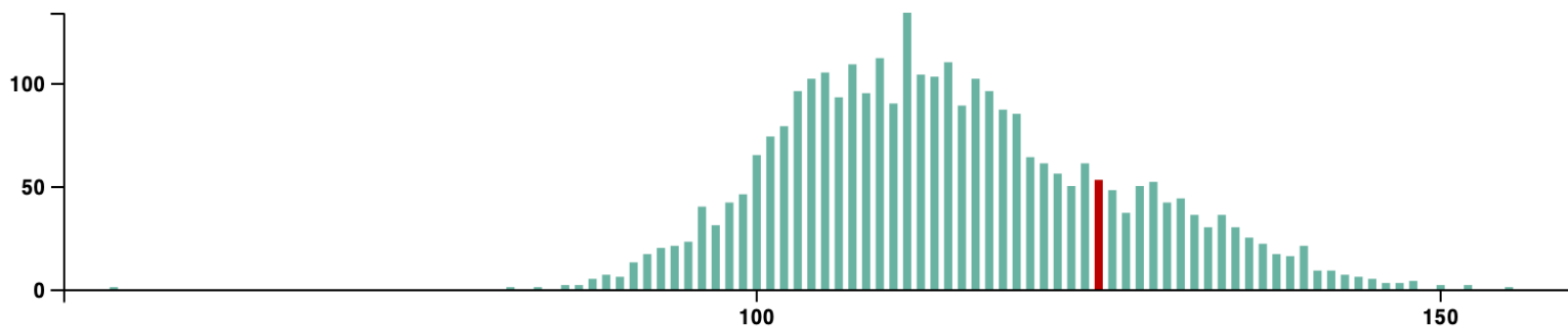
## Lorain County, OH

Population: **311,737** Per Capita Income: **\$54,452** Largest City: **Lorain**

### Innovation Intelligence Index

**125.9**

Rank: **558**



The graph above, and the similar graphs below, show the distribution of index values for all counties. The value for Lorain County, OH is highlighted in red.

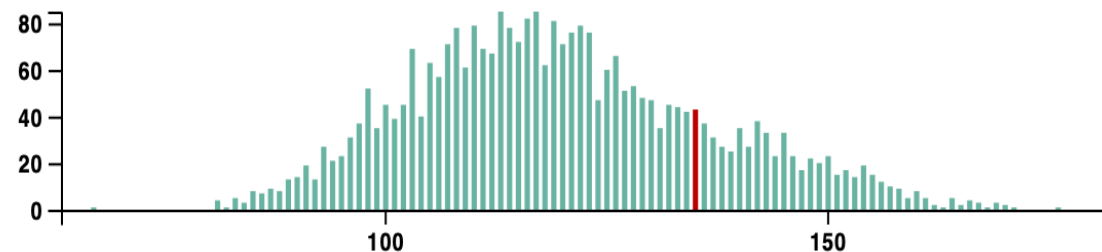
This area has **moderate** relative Innovation Capacity. The innovation index incorporates statistical data from a wide variety of sources. Review the indexes below to learn more about how this number was determined.

# The Innovation Capacity Profile

## Human Capital and Knowledge Creation Index **135.2** (rank: 597)

### Key Takeaways

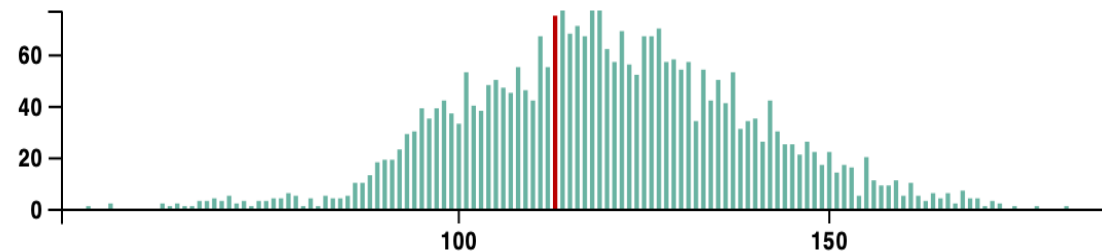
- Patterns of establishment formation and composition indicate a **moderate** level of business competitiveness.
- The top measures for this index are:
  1. University-Based Knowledge Spillovers (rank 106)
  2. Associate's Degree Attainment (rank 763)



## Business Dynamics Index **113.8** (rank: 1,976)

### Key Takeaways

- Patterns of establishment formation and composition indicate a **moderate** level of business competitiveness.
- The top measures for this index are:
  1. Average High-Tech, Early-in-Life-Cycle Establishment Ratio (rank 523)
  2. Jobs Attributed to Establishment Births to Total Employment Ratio (rank 1342)

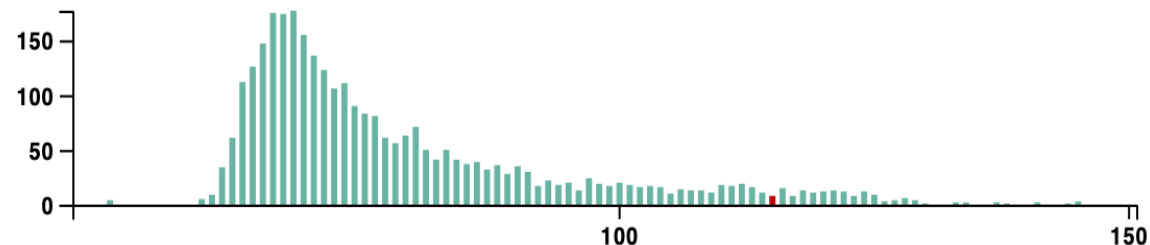


# The Innovation Capacity Profile

## Business Profile Index **115.0** (rank: 152)

### Key Takeaways

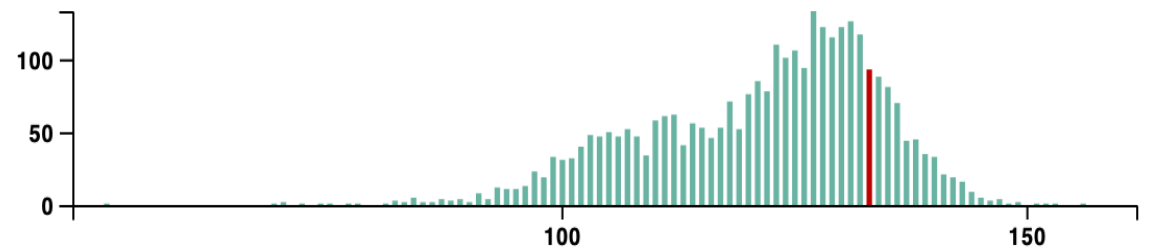
- The relative availability of resources for entrepreneurs and businesses is **high** in this area.
- The top measures for this index are:
  1. Farm Operators with Internet Access (rank 92)
  2. Industry Diversity (rank 259)



## Employment and Productivity Index **133.3** (rank: 534)

### Key Takeaways

- Industry performance in Lorain County, OH indicate a **moderate** level of positive outcomes from existing economic activity.
- The top measures for this index are:
  1. Patent Diversity (rank 357)
  2. Change in Average Patenting Rate (rank 839)



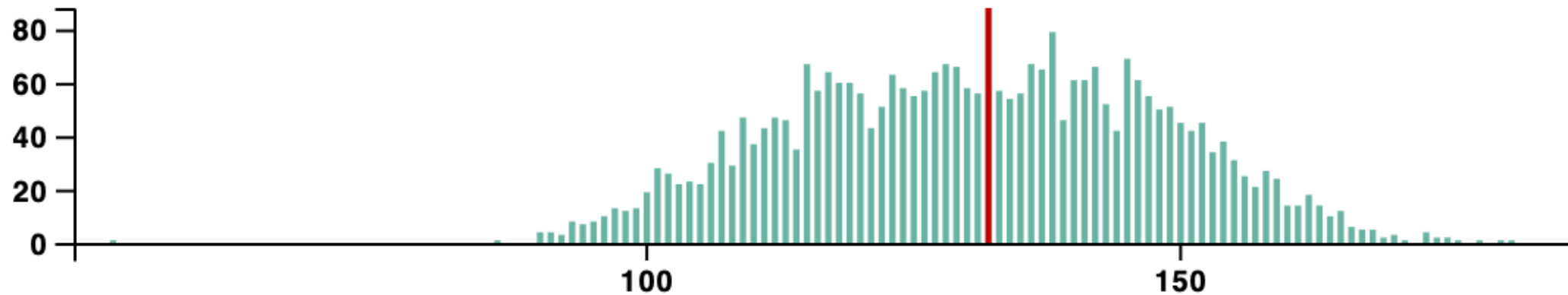


# The Innovation Capacity Profile

**Economic Well-Being Index** **132.3** (rank: 1,485)

## Key Takeaways

- As measured by residential internet connectivity and income, this area has a **moderate** standard of living.



A decorative graphic at the top of the slide featuring a network of interconnected circles and lines, resembling a molecular structure or a data network. The circles vary in size and are connected by thin lines, creating a complex, web-like pattern.

## **Demographics + Resources + Technology + Innovation**

What do these trends mean for the  
future of Lorain County?

A decorative graphic at the bottom of the slide showing a field of corn plants. The plants are rendered in a light, semi-transparent style, creating a textured, grassy appearance that spans the width of the slide.



# Lorain County Strategic Action Plan

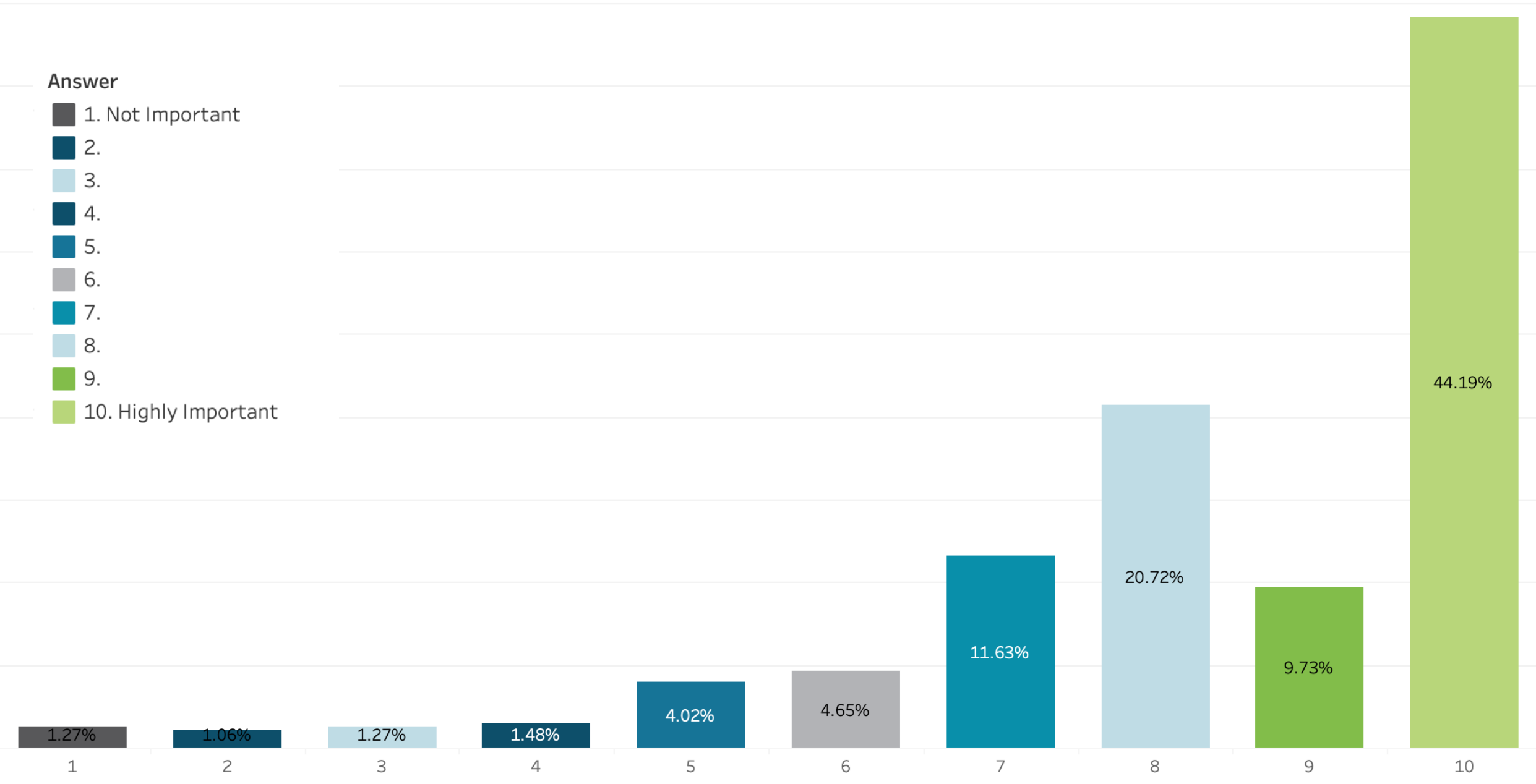
## Stakeholder Survey #1

Think-Tank  
Part 1

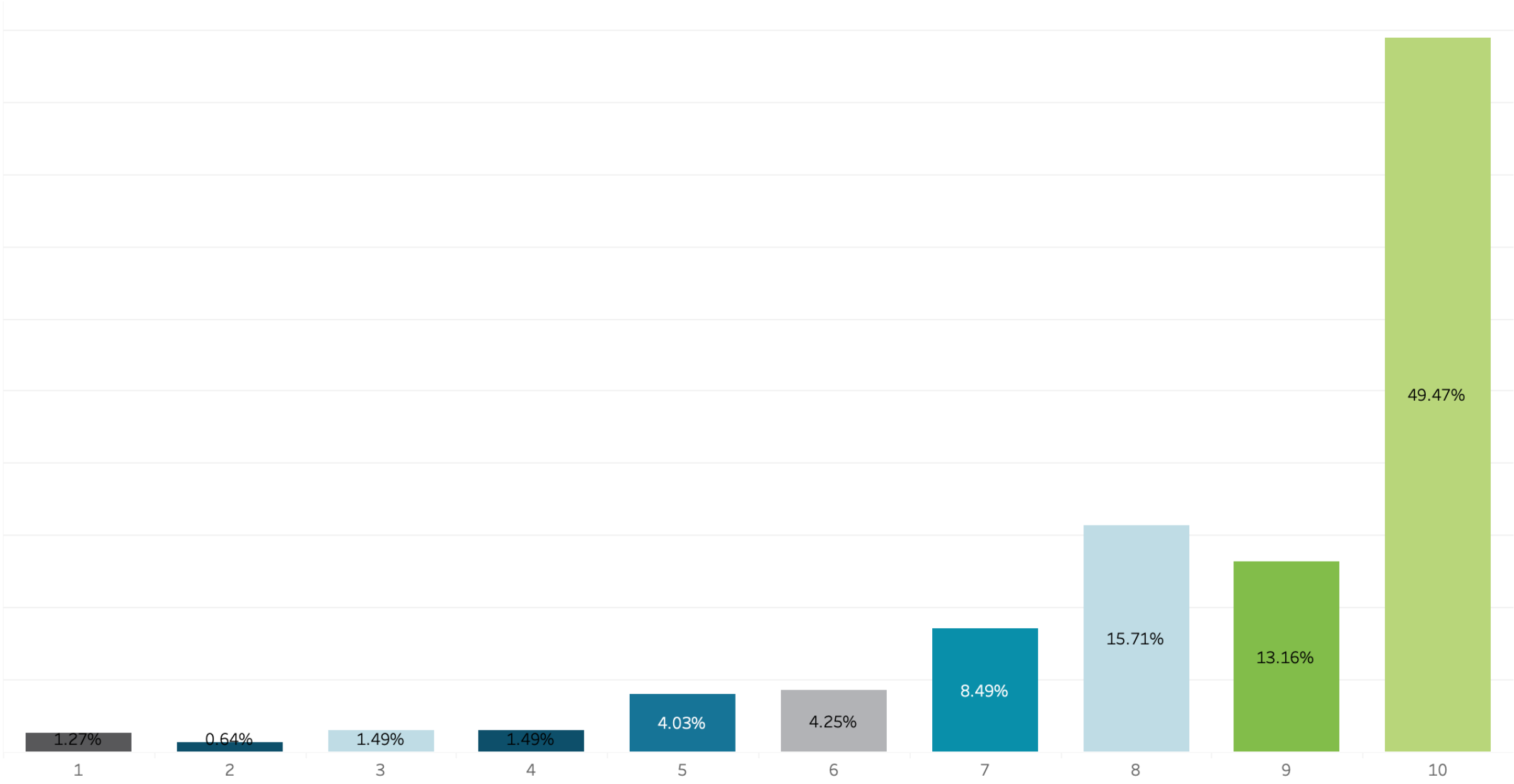


# How important is it to have a SHARED VISION for the future of Lorain County?

- Answer**
- 1. Not Important
  - 2.
  - 3.
  - 4.
  - 5.
  - 6.
  - 7.
  - 8.
  - 9.
  - 10. Highly Important

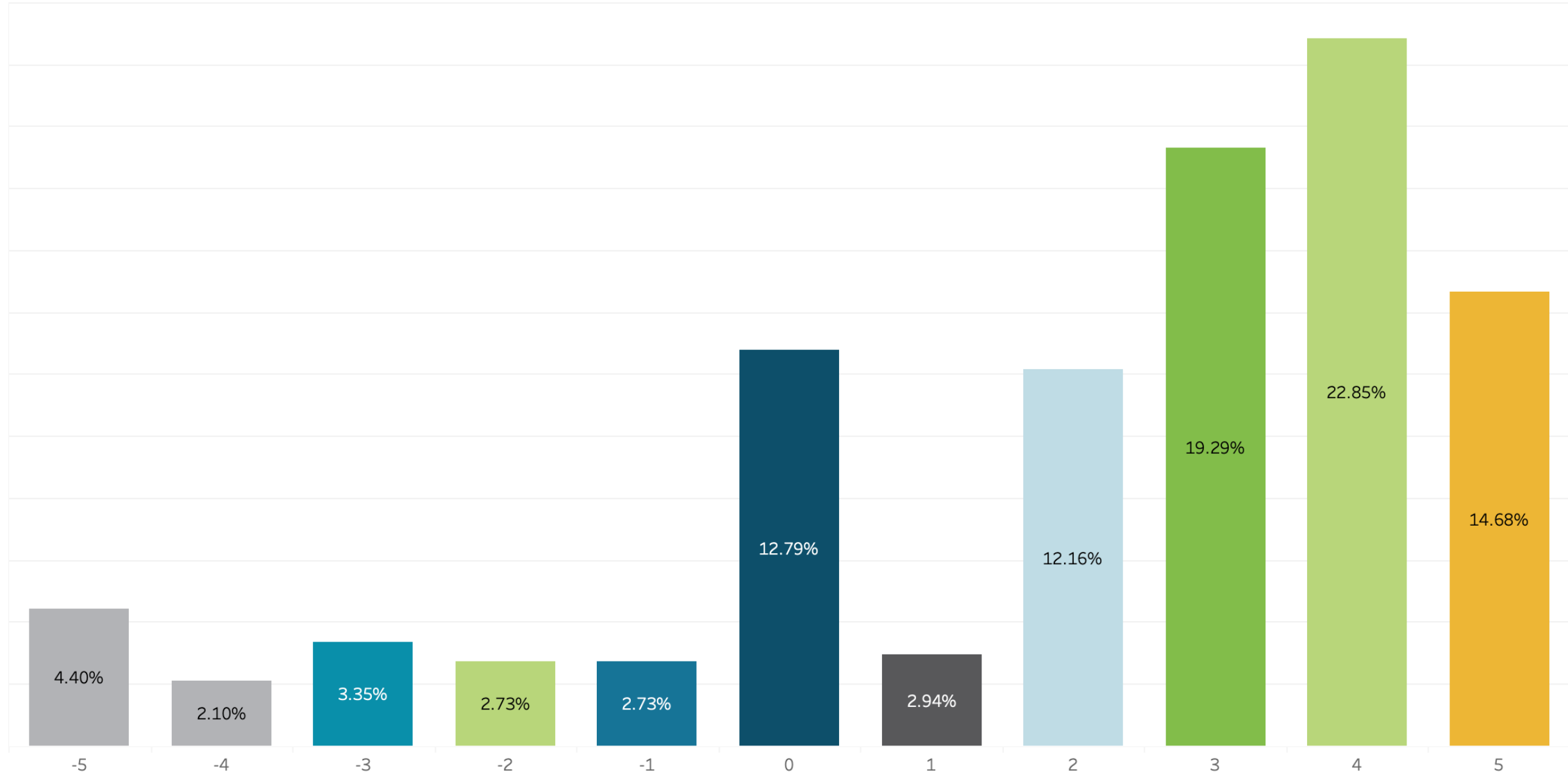


How important do you think it is to have a SHARED STRATEGIC ACTION PLAN that maps out a future for Lorain County?



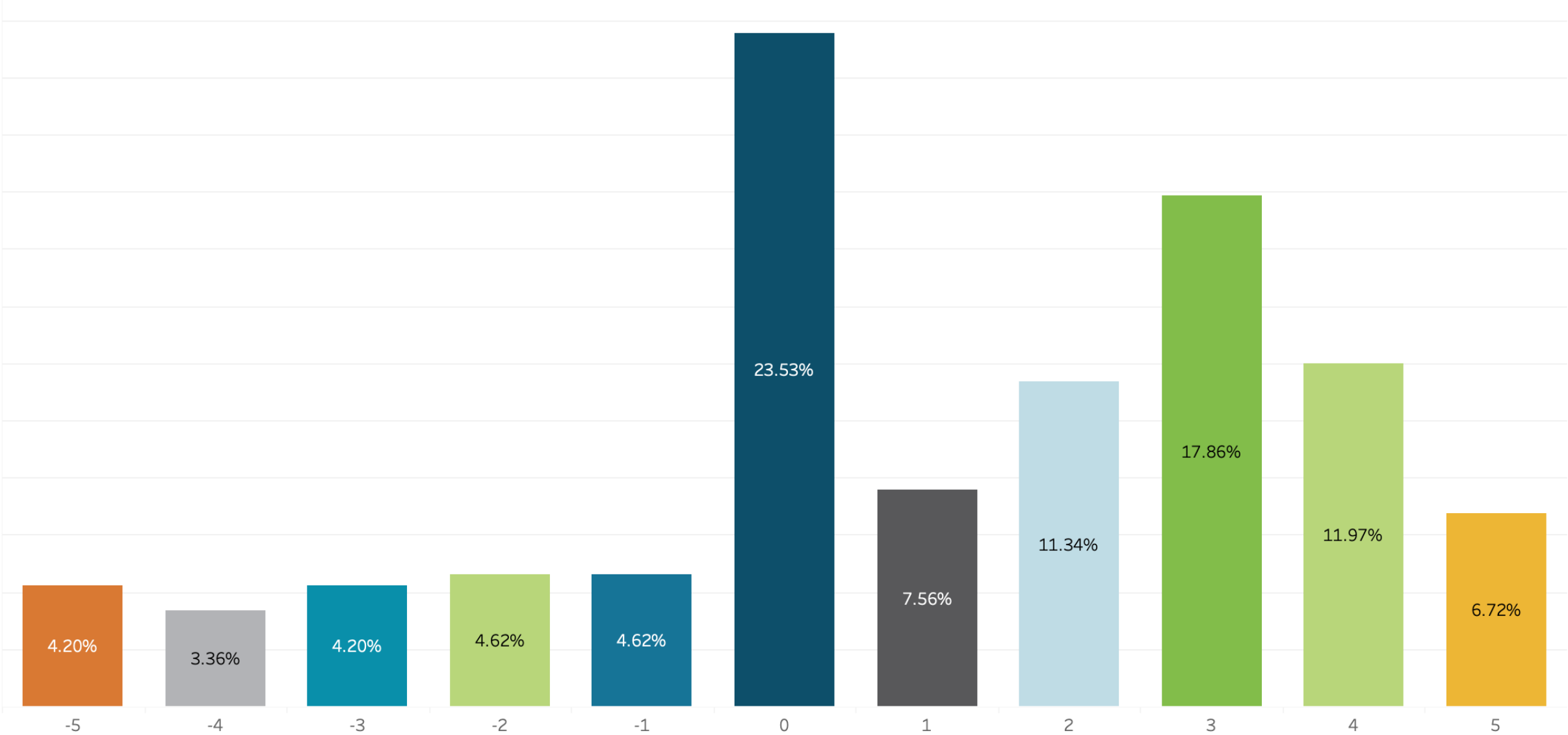
# How satisfied are you about living and/or working in Lorain County?

SCALE: -5 = Very unsatisfied; 0 = Neutral; +5 = Very satisfied

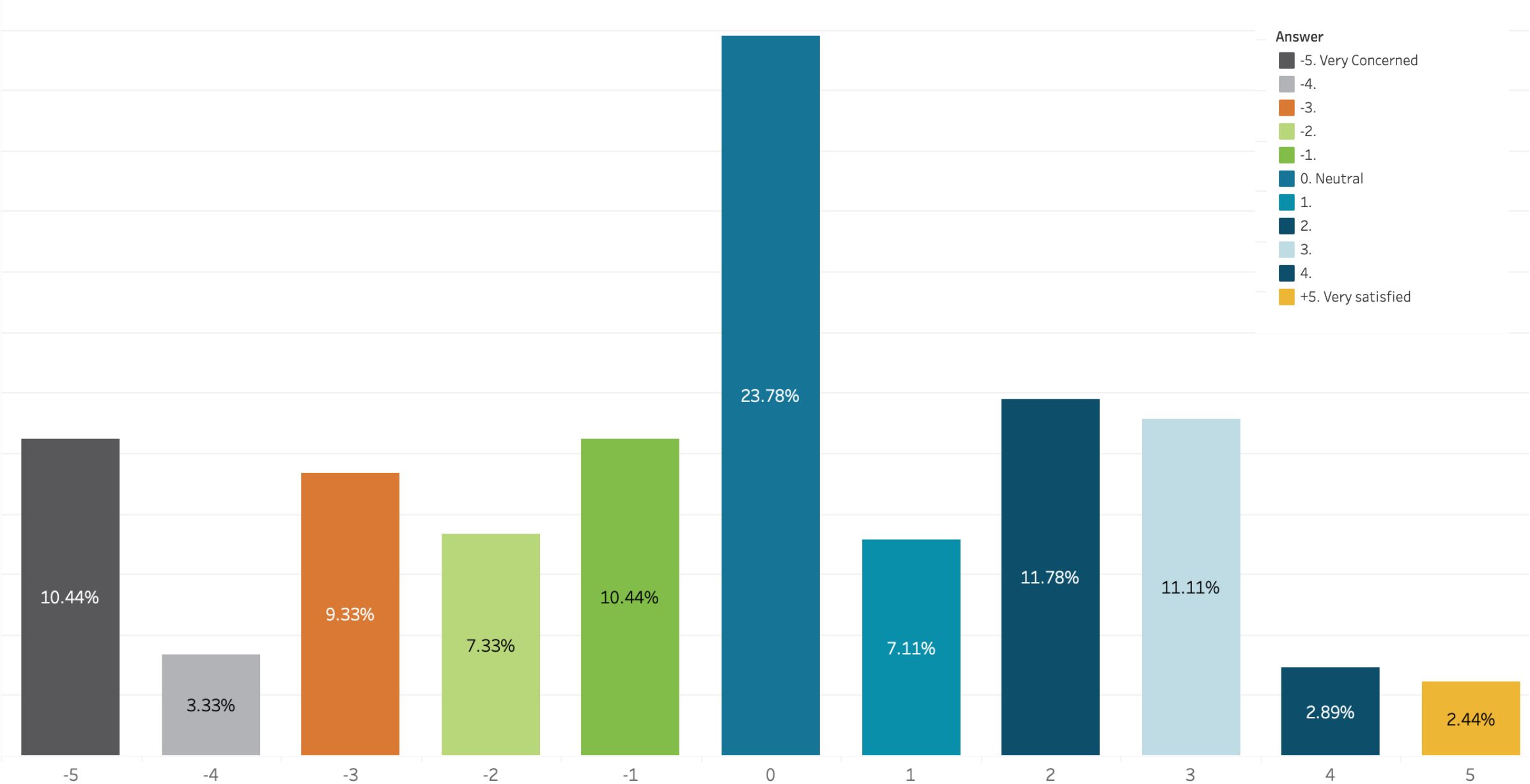


# Do you think Lorain County offers you future opportunities to grow and thrive, in your life, interests, career and/or business?

SCALE: -5 = Very little future opportunity; 0 = Neutral; +5 = Fantastic future opportunity

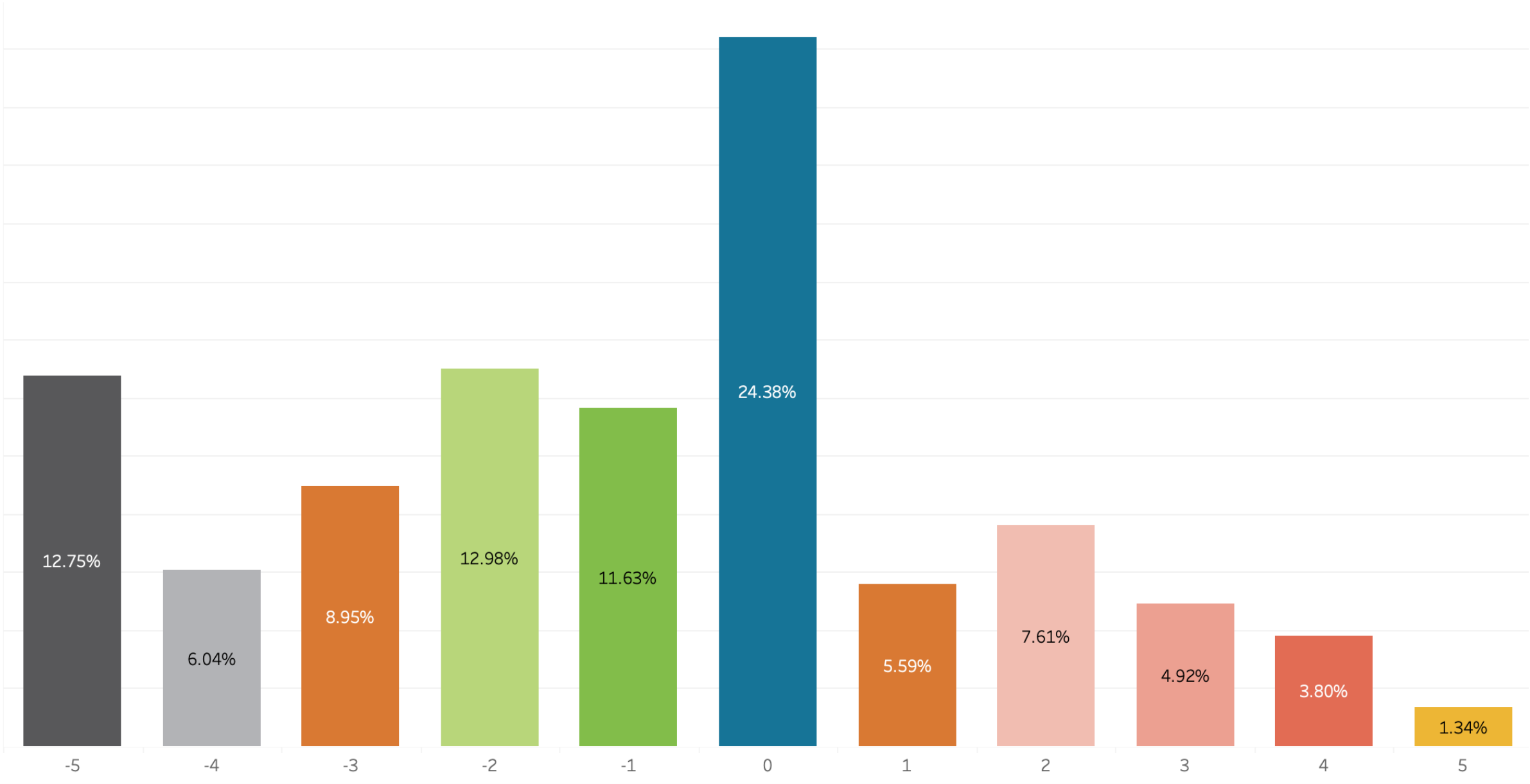


# CURRENT DIRECTION - How satisfied or concerned are you about the way Lorain County is changing and the overall current direction of Lorain County?





CURRENT ABILITY TO ADAPT – How satisfied or concerned are you about the ability of the Lorain County organization to adapt to current and future changes? SCALE: - 5 = Very concerned ; 0 = Neutral; +5 Very satisfied



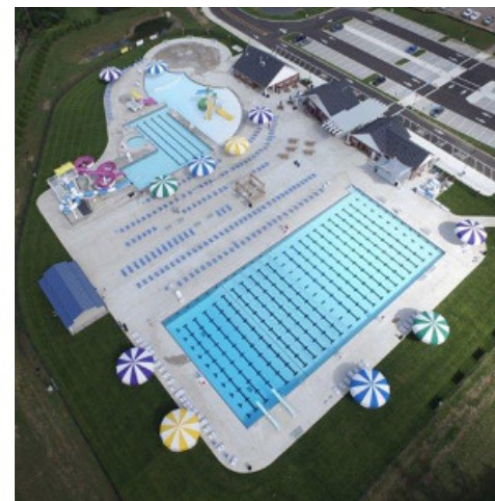


## LORAIN COUNTY STRATEGIC ACTION PLAN

## Think-Tank Part 1

# Lorain County Strategic Action Plan

## IDENTIFYING KEY DRIVERS



# Key Drivers:

What key drivers do you think are most important for the future of Lorain County?

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

Table brainstorm



Lorain County Strategic Action Plan  
**KEY DRIVERS HANDOUT**  
Think-Tank Workshop Day 1    Monday, October 30, 2023

## What are the most important KEY DRIVERS shaping the future of Lorain County?

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

- 1. \_\_\_\_\_
  
  
  
  
  
  
  
  
  
  
- 2. \_\_\_\_\_
  
  
  
  
  
  
  
  
  
  
- 3. \_\_\_\_\_

**Table brainstorm  
key drivers**

# Key Drivers – [list developed in Think-Tank]

1. xx

11. xx



# Lorain County Strategic Action Plan

## KEY DRIVERS HANDOUT

Think-Tank Workshop Day 1

Monday, October 30, 2023

DRIVER NAME: \_\_\_\_\_

Key emergent high-level trends associated with this driver:

1.

2.

**Building an  
understanding  
of each  
driver**

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**

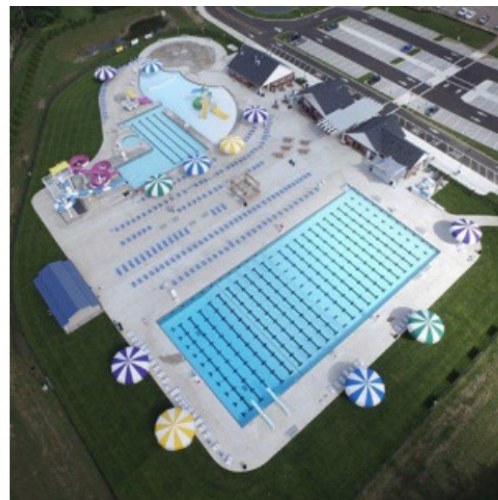


# LORAIN COUNTY STRATEGIC ACTION PLAN

## Think-Tank Part 1

# Lorain County Strategic Action Plan

## RANKING KEY DRIVERS







# Lorain County Strategic Action Plan

# IMPACT MATRIX HANDOUT

Think-Tank Workshop Day 1      Monday, October 30, 2023

Rate each driver in terms of likely future impacts on the following dimensions for Lorain County.

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

Driver	Dimensions			
	Overall economic size and relative performance	Adaptability and resilience of the economy	Social fabric and cohesion	Quality of life and opportunity
1				
2				
3				
4				
5				
6				

**Rating future impact of each driver – individual scoring**

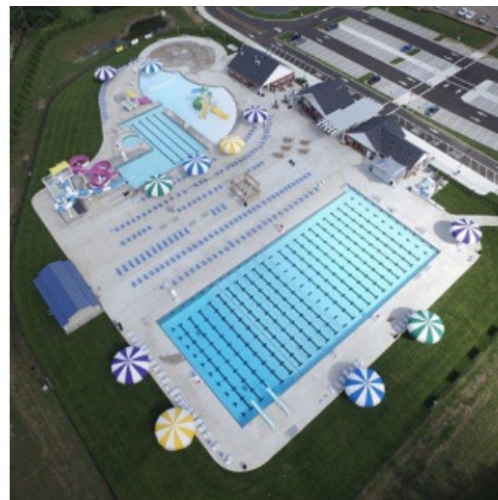


**LORAIN COUNTY  
STRATEGIC  
ACTION PLAN**

**Think-Tank  
Part 2**

**Lorain County Strategic Action Plan**

**THINK TANK PART 2**



## Lorain County Think-Tank Part 1

October 30, 2pm - 5pm

Lorain County Community College  
Reaser Grand Room, Spitzer Conference Room  
1005 Abbe Rd N  
Elyria, OH 44035

## Lorain County Think-Tank Part 2

October 31, 9am - 12pm

Lorain County Community College  
Reaser Grand Room, Spitzer Conference Room  
1005 Abbe Rd N  
Elyria, OH 44035

