



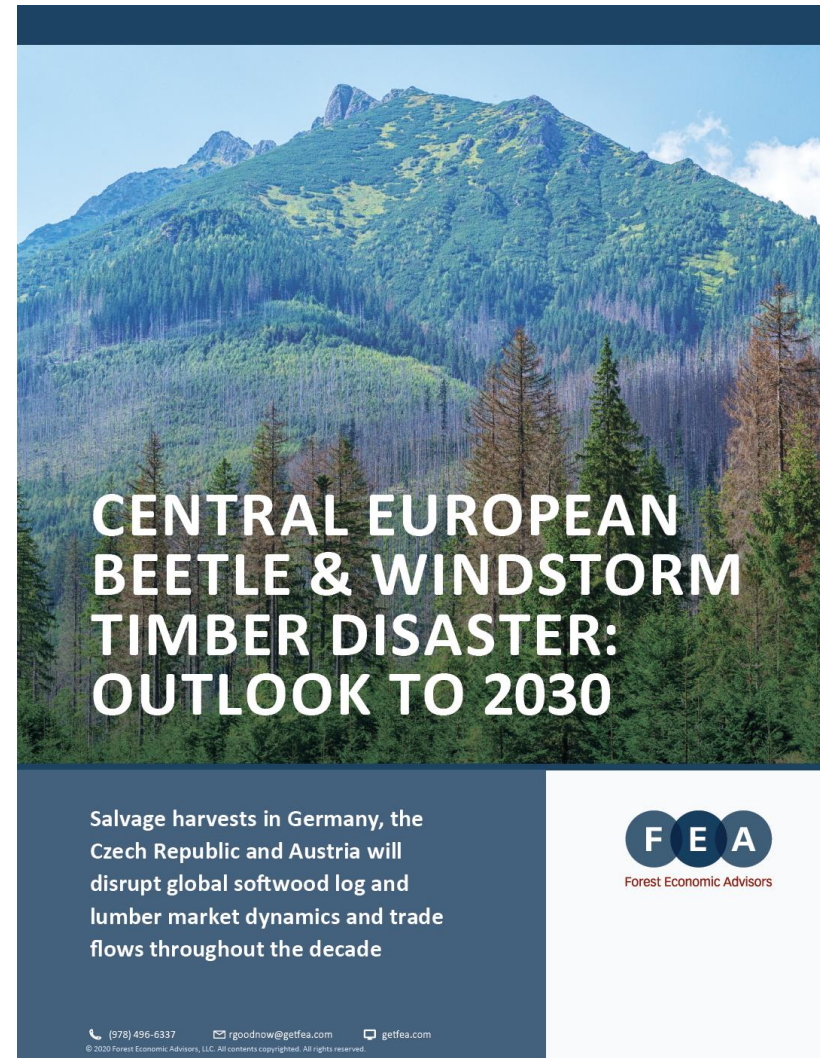
Forest Economic Advisors

# How Similar Are The Central European Spruce Bark Beetle And British Columbia Mountain Pine Beetle Epidemics?

**Paul Jannke**  
**International Softwood Conference**  
**October 8<sup>th</sup>, 2020**

# FEA's Central European Beetle and Windstorm Timber Disaster Outlook to 2030

- The data and information in this presentation come from FEA's recent report on the Central European spruce bark beetle epidemic as well as four studies FEA has done on British Columbia's MPB, and our ongoing work on Global Sawtimber Markets.
- Special thank you to Gerd Ebner at Holzkurier for assistance in compiling the report.

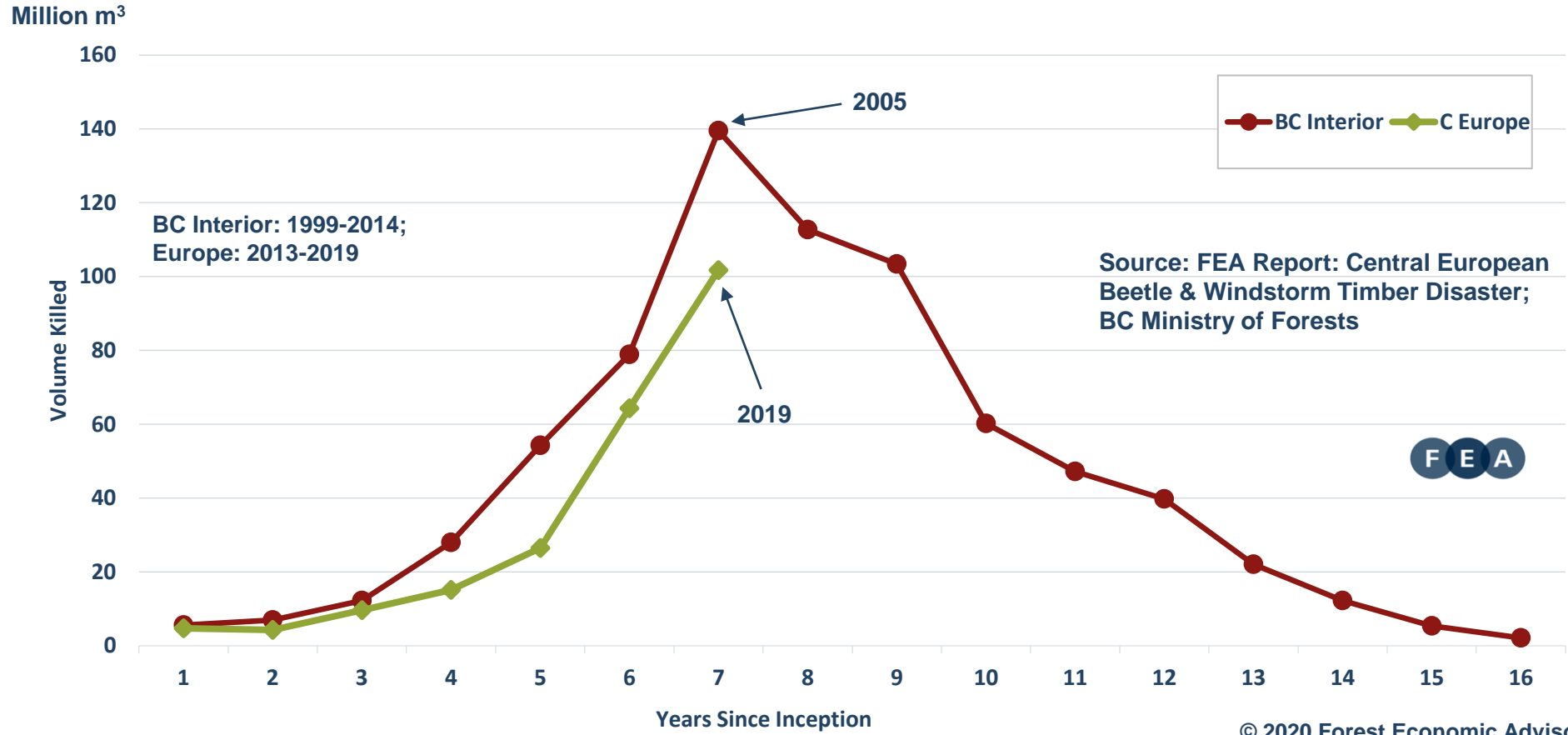


# Outline Of Presentation

- The similarities between the two epidemics
  - The scale and scope
  - Causes, both of the outbreaks and factors exacerbating them
  - Effects of the epidemics in the marketplace
- The differences between the two epidemics
  - Shelf life
  - Economic environment in which the epidemic is taking place
- Implications of the difference for both production and pricing over the next five years

# The Main Similarity Between British Columbia's Mountain Pine Beetle Outbreak and Europe's Spruce Bark Beetle Epidemic Is The Scale Of The Devastation

Years Since the Inception of Bark Beetle Epidemics

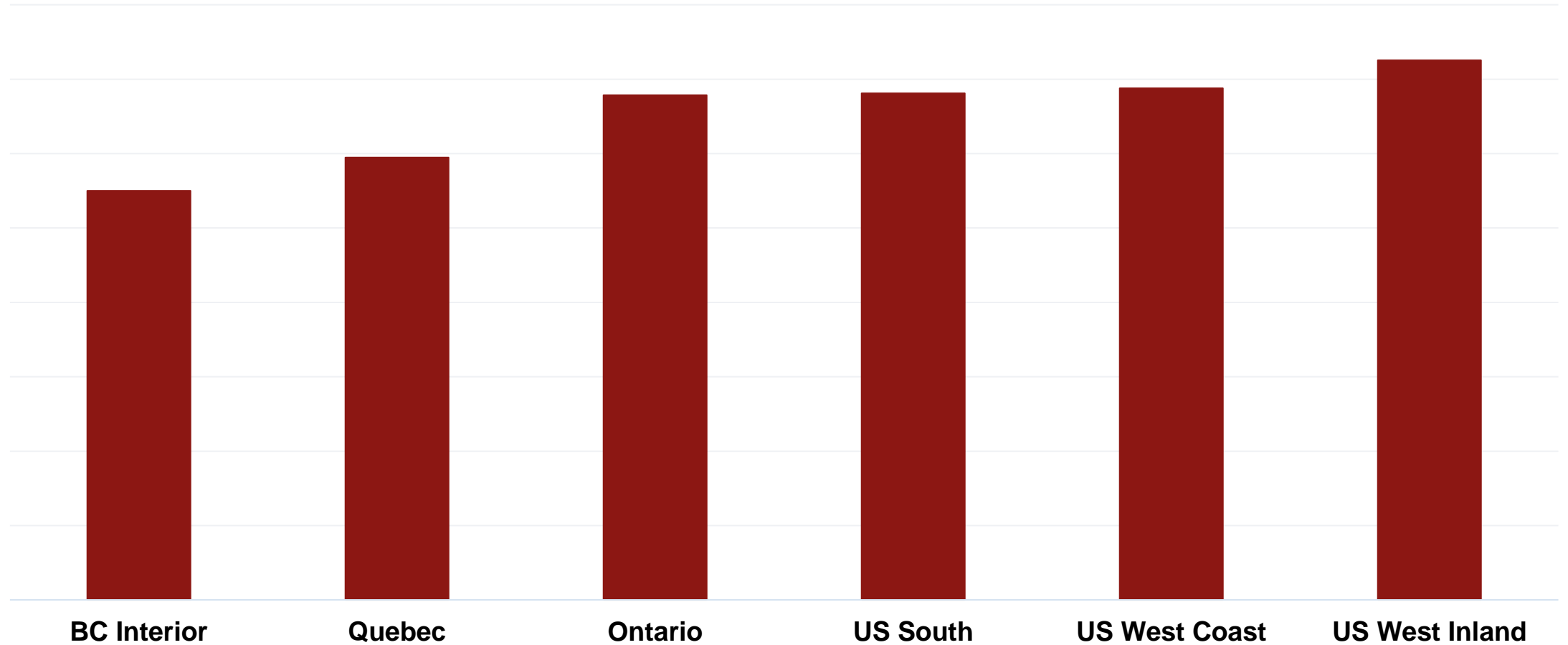


# There are a Number of Similarities Between the European Spruce Bark Beetle and British Columbia's Mountain Pine Beetle Epidemics.

- Climate change involving hotter, drier summers, lower rainfall, and warmer winters.
- Monoculture forests that were often even-aged and mature to over-mature (100+ years old).
- The outbreaks expanded quickly, and the dead timber could not be harvested fast enough to control the spread of the beetle (very similar to the situation in the Czech Republic).
- Harvesting capacity was a limiting factor relative to the annual volume of beetle-attacked timber.
- Domestic log prices dropped to essentially cost levels in areas with heavy beetle kill.
- Sawmills increased shifts to process more of the beetle-killed timber, causing an oversupply of lumber that created lower prices in some markets.
- At the end of the mountain pine beetle cycle in BC, 750 million m<sup>3</sup> of lodgepole pine forests were killed, and this resulted in 35 sawmills (an average of 200 million BF or 300,000 m<sup>3</sup> of sawtimber) closing from 2006 to 2019. This last chapter has yet to be written for Central Europe.

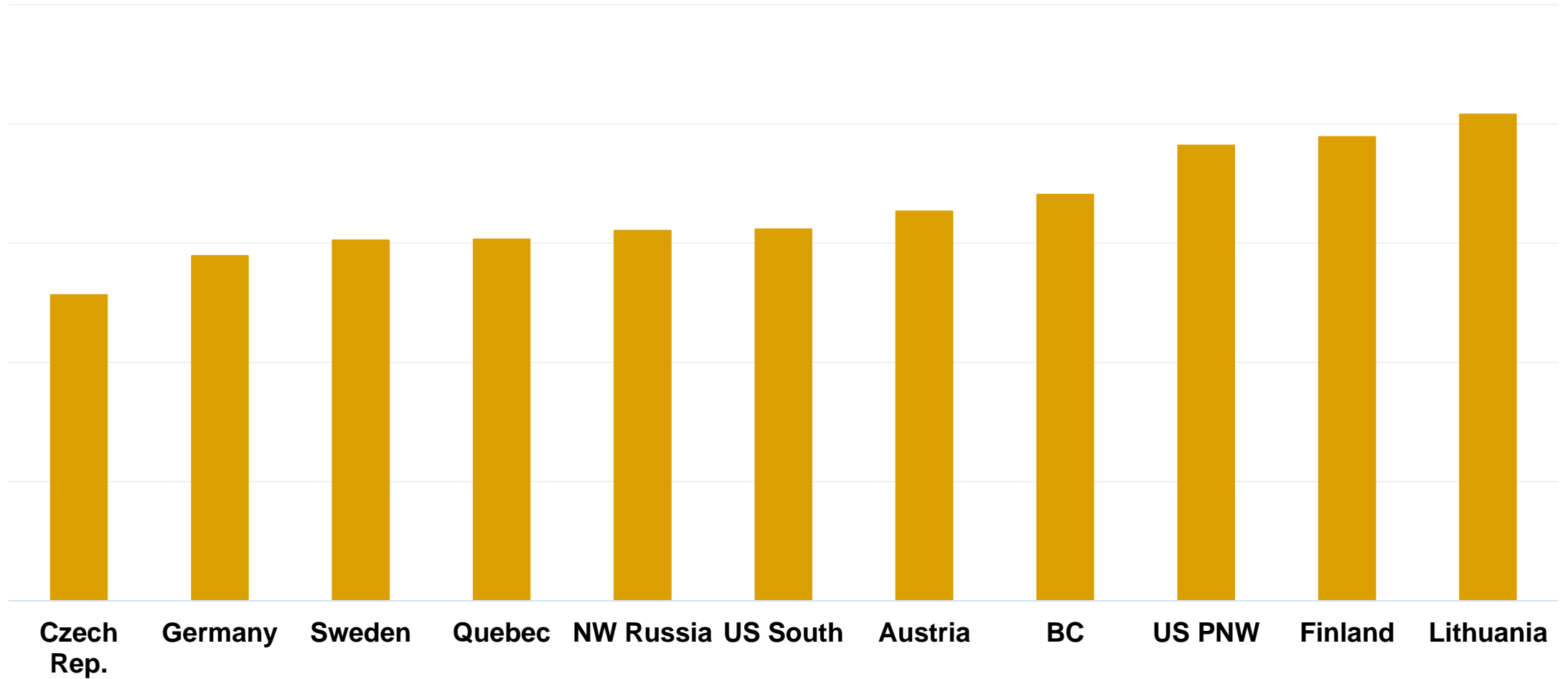
# Abundant Timber Drove British Columbia Costs To The Low End of the Cost Curve in 2010

\$US/M3, Net

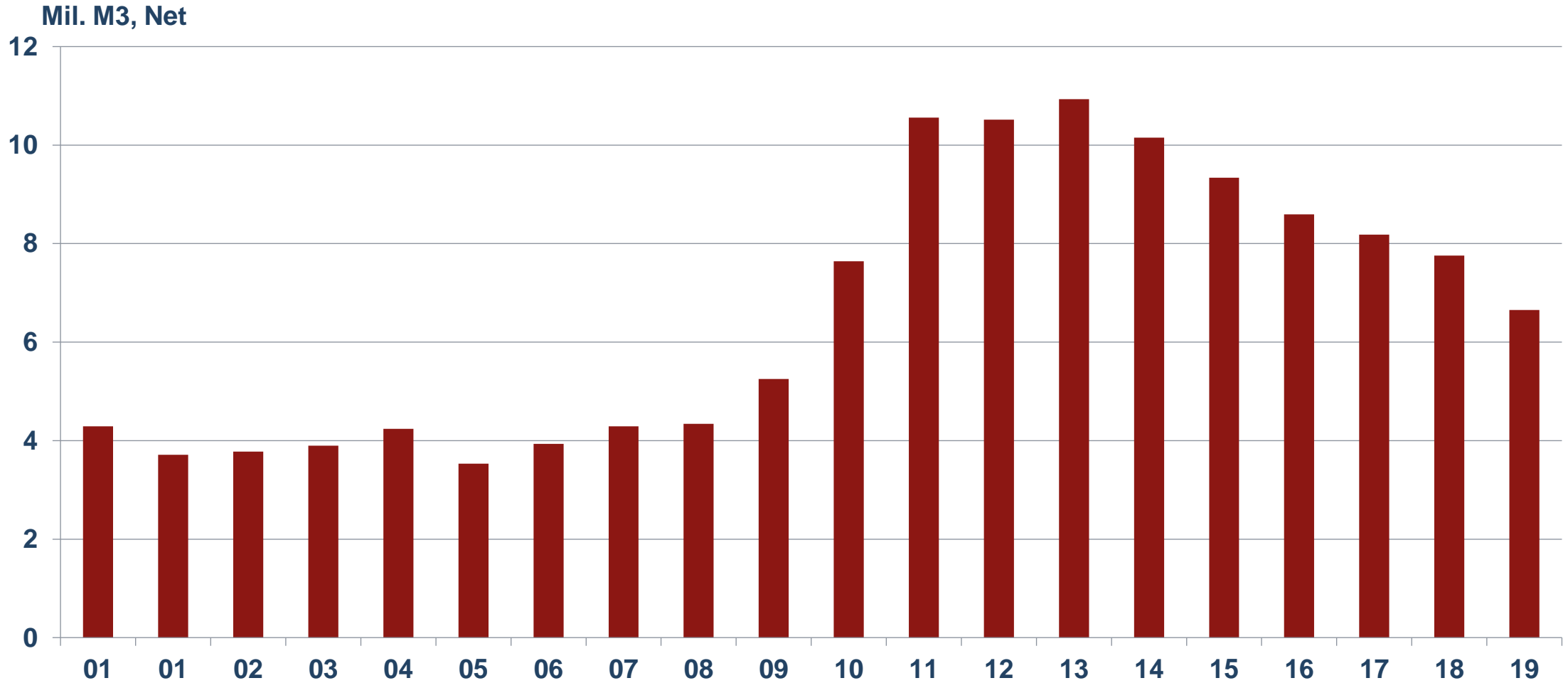


# The Same has Happened for Central European Producers

\$US/M3, Net

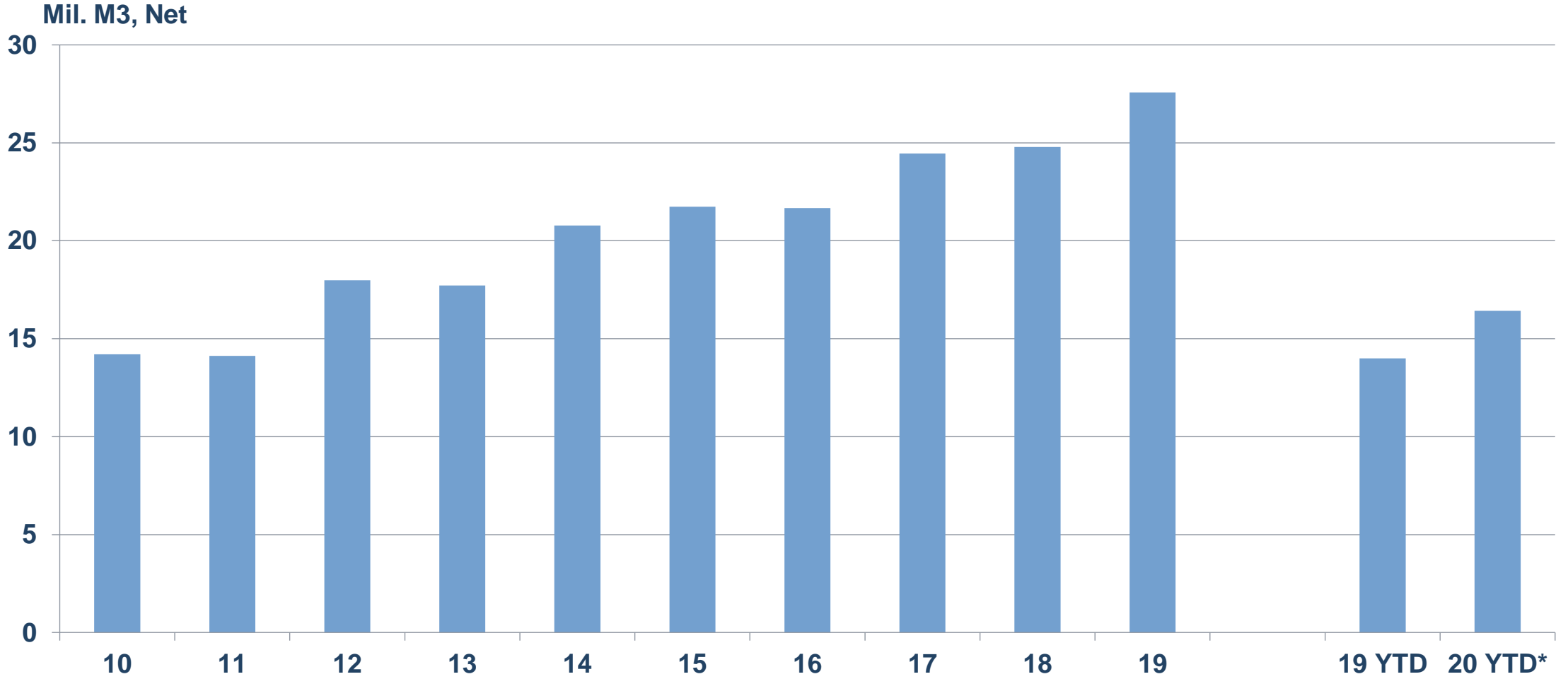


# Canadian Exports Surged During the MPB Epidemic





# European Offshore Exports Continue To Rise Despite COVID-19 Recession

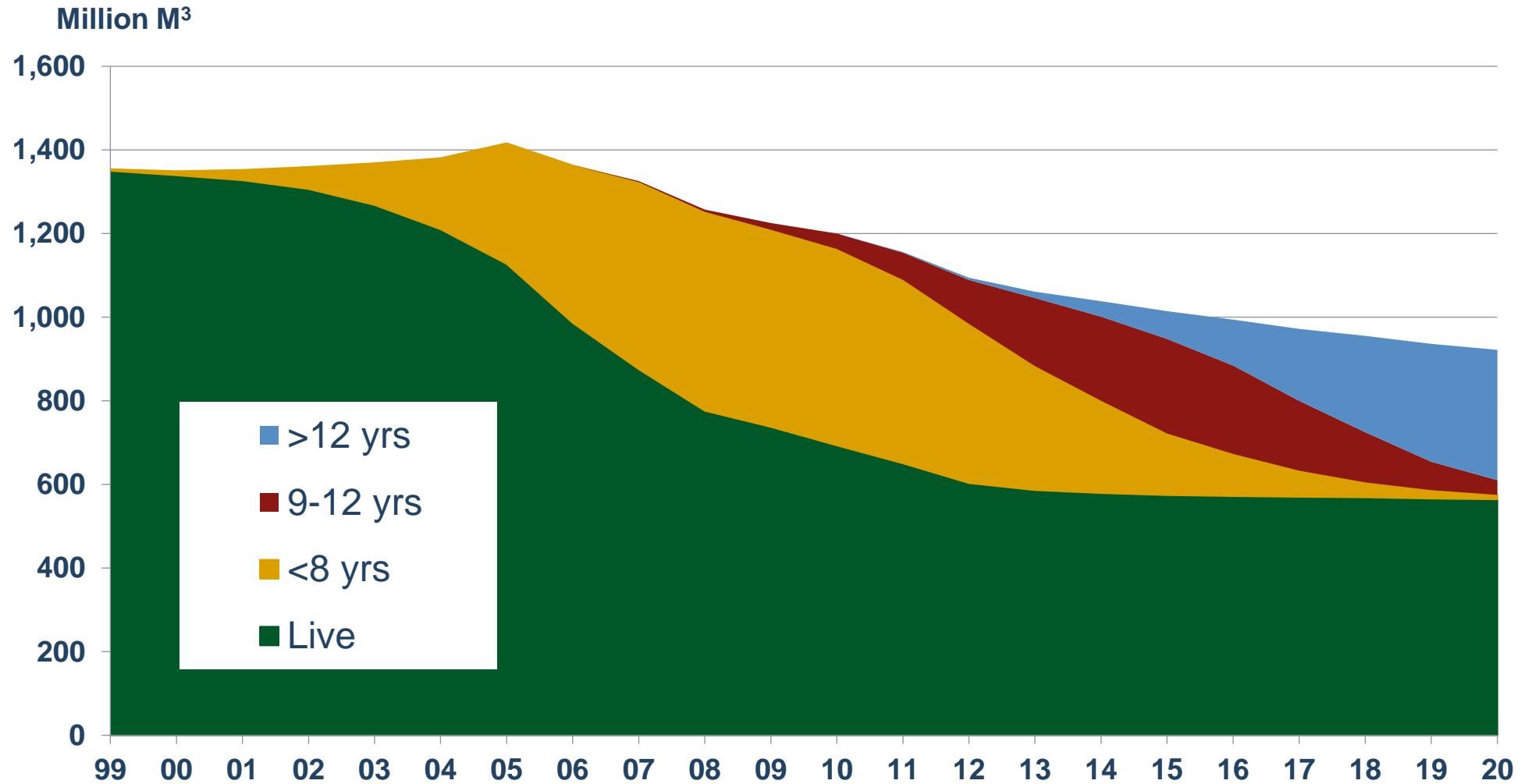


\*YTD, June

# Central Europe: Shelf-life <1 Year

- Shelf-life varies by country
- Germany
  - Killed logs usually unusable after one year
- Czech Republic
  - Shelf-life measured in weeks (especially summer)
  - Can be months at higher elevations
  - Highly weather dependent
- Austria
  - Sawmills estimate shelf-life is up to one year

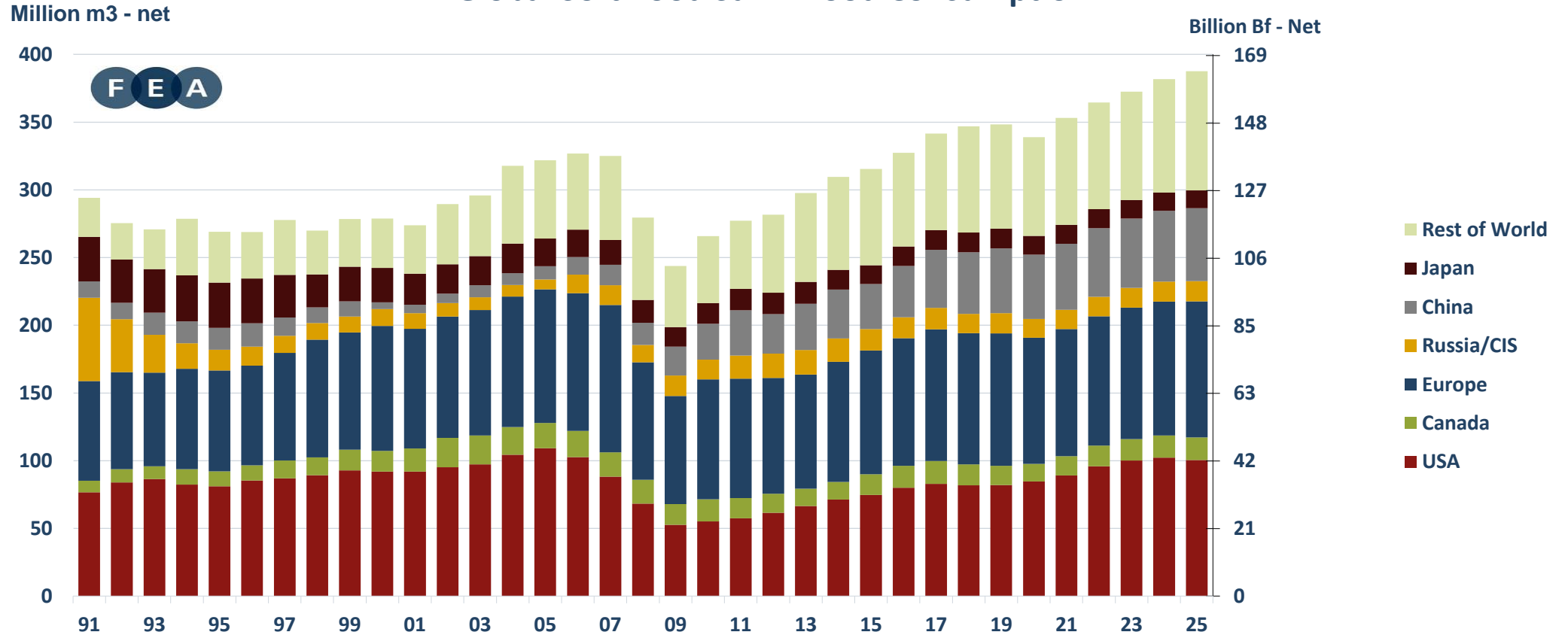
# Inventory of Available Live and Dead Lodgepole Pine, by Years Since Attack, 1999-2020



Source: FEA estimates

# Global Consumption Is Growing

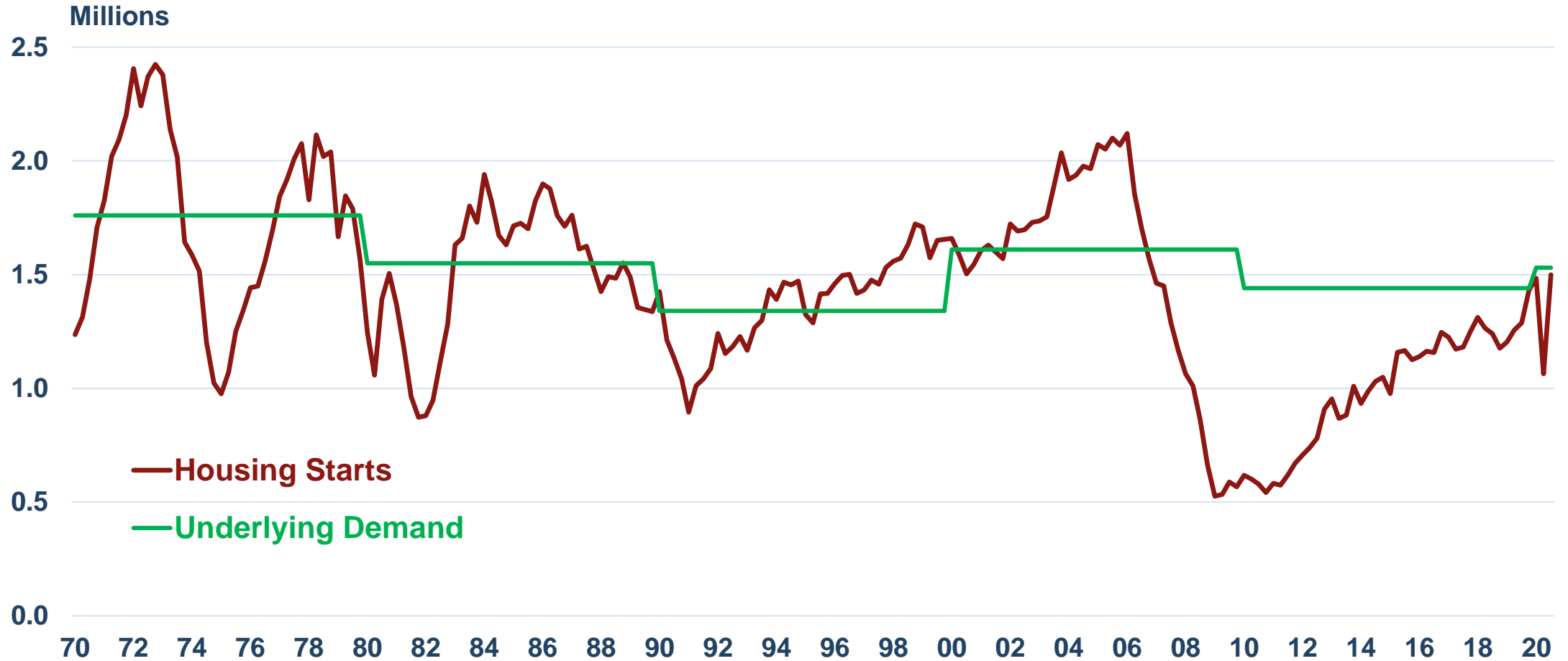
## Global Softwood Sawnwood Consumption



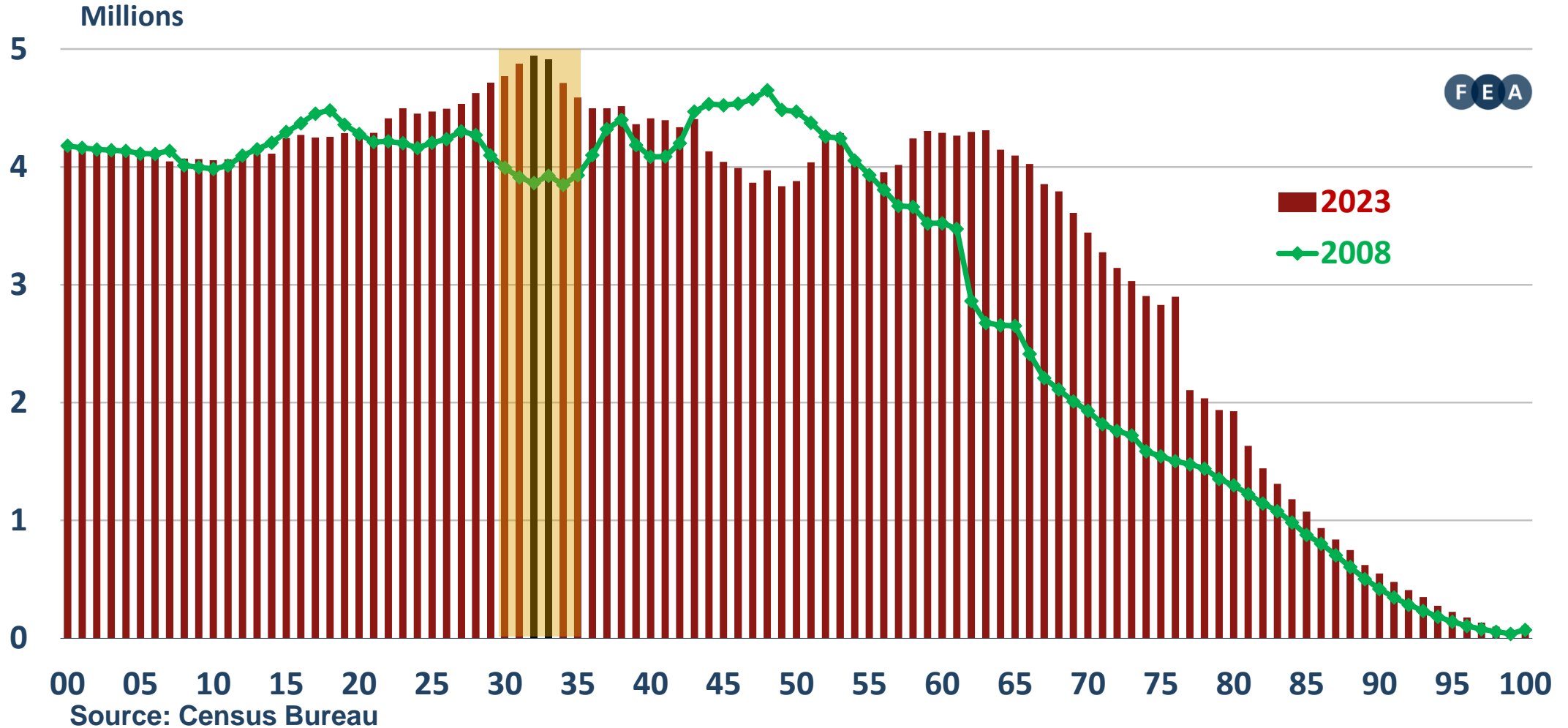
Source: Various / FEA

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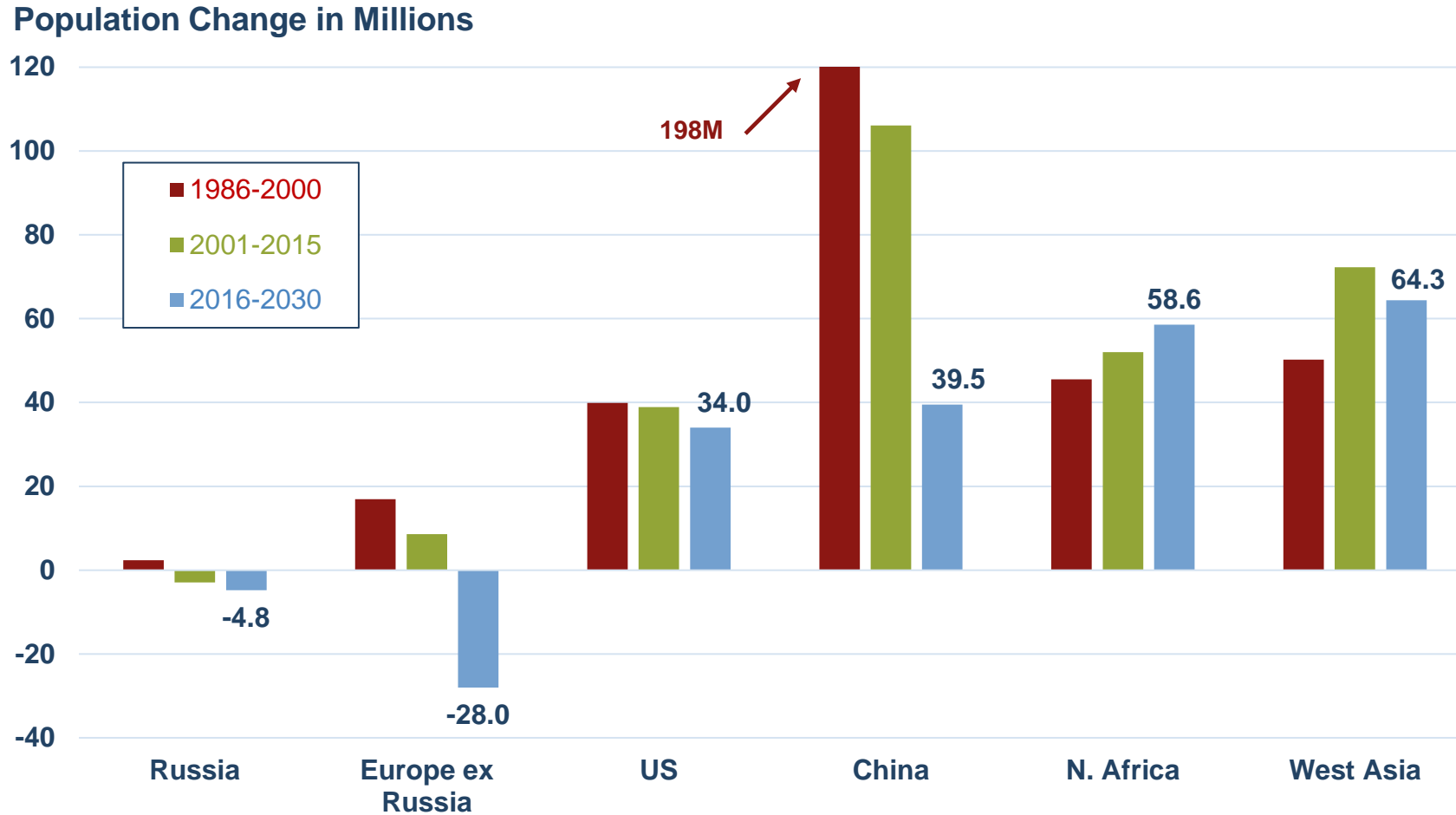
# There Is A Tremendous Amount Of Pent Up Demand In North American



# 2008 – Strong Demographic HEADWIND 2023 – Strong Demographic TAILWIND



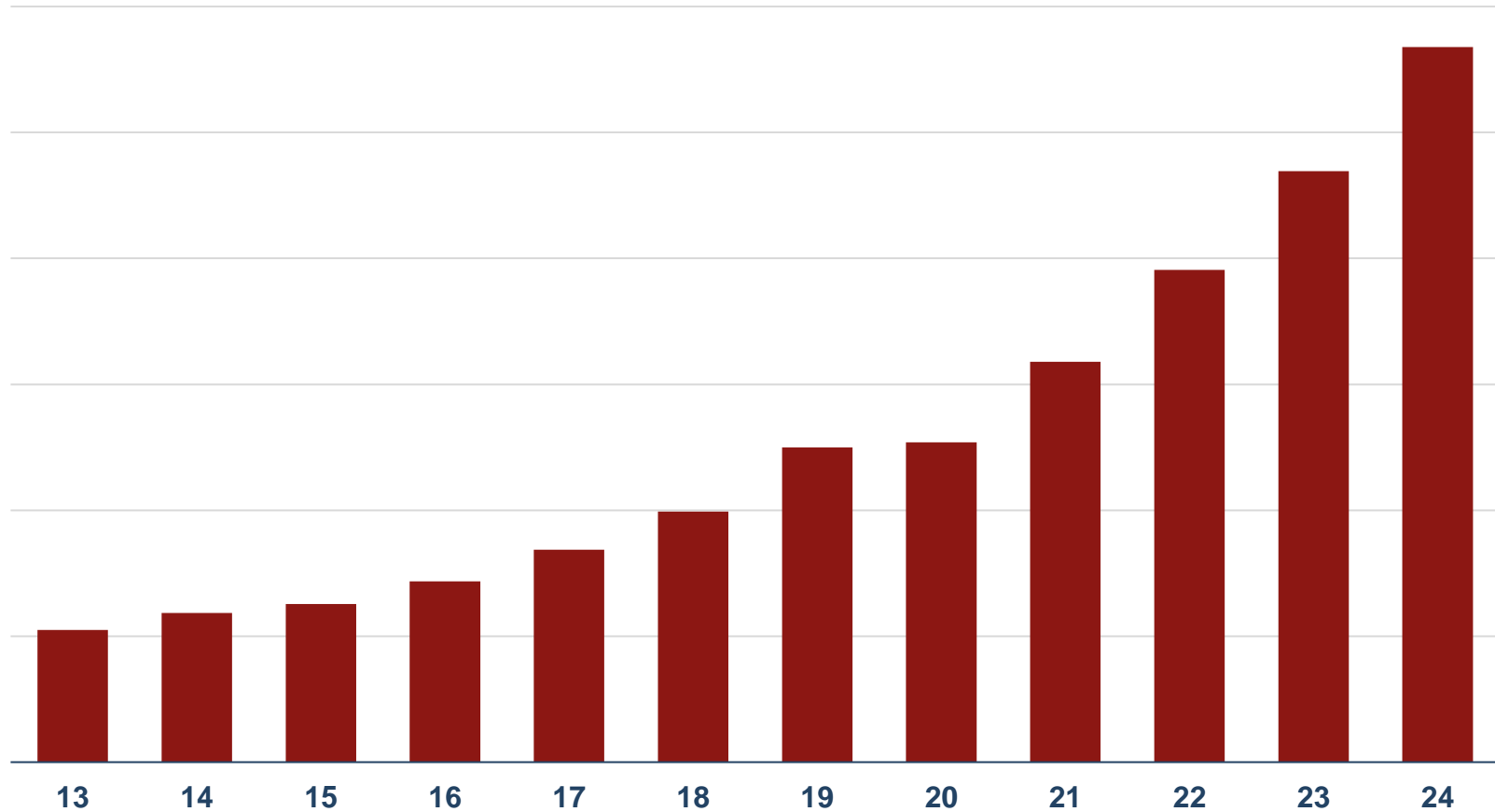
# Europe's Main Trading Partners Are Growing



Source: UN Population Division  
Medium Variant Projections

# Global CLT Consumption Will More Than Double by 2024

## Global CLT Consumption Forecast





# Why are We Bullish on Growth?

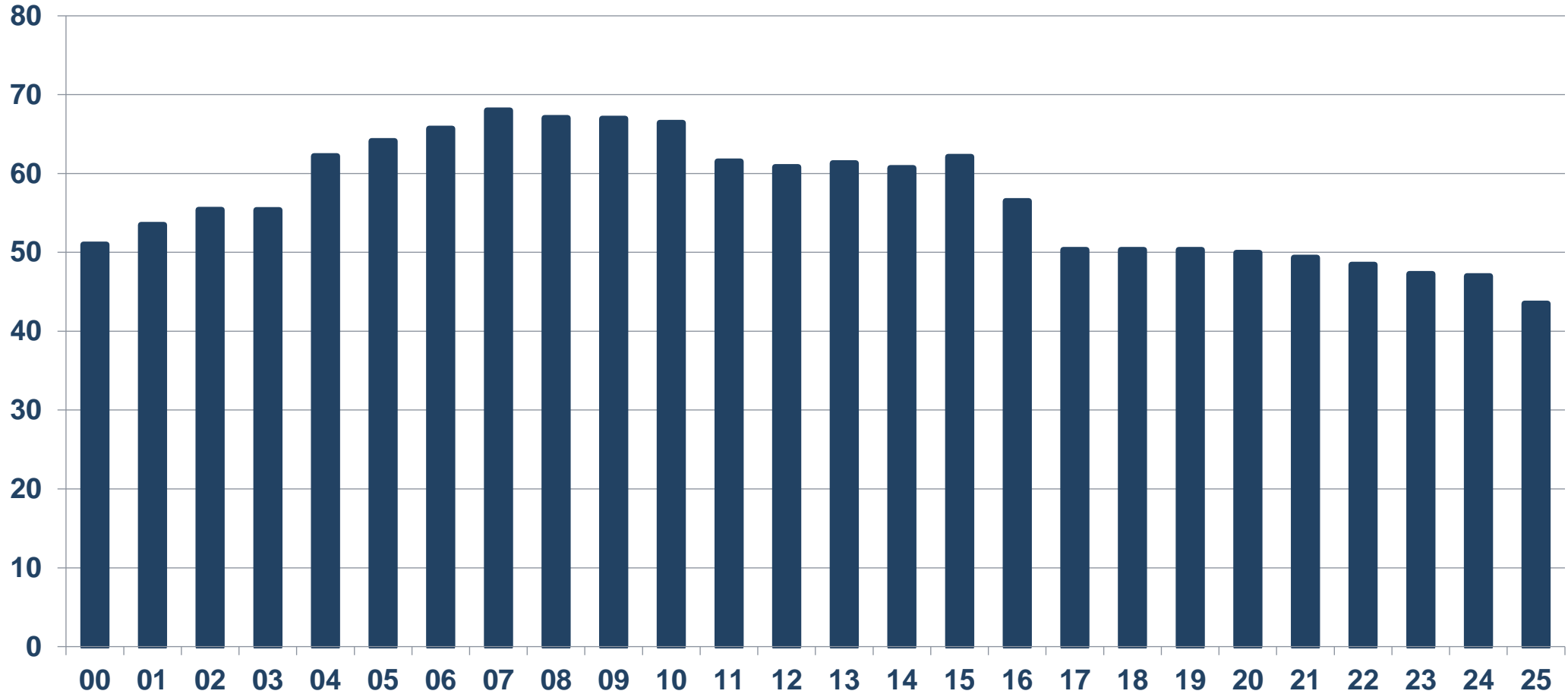
Mass timber is part of a global trend toward vertically integrated offsite construction in response to poor construction labor productivity and shortages of skilled construction labor on site

## Why wood?

- More sustainable,
- Quicker
- Quieter
- Cleaner
- Cost competitive
- Sequesters Carbon

# British Columbia's Annual Allowable Cut Will Fall Further

Million Cubic Meters



# Take Home Points

- A combination of climate change and monoculture precipitated both the European spruce bark beetle and British Columbia's mountain pine beetle
- The scale of the mountain pine beetle epidemic was massive. The scale of Europe's spruce bark beetle epidemic will likely exceed that in British Columbia.
- The shelf life of the spruce is shorter than that of the pine, so the European timber will enter the markets more rapidly than in British Columbia.
- Demand will be higher over the next five years, so we don't expect a similar period of weak pricing like we saw during the MPB epidemic.

# Questions?

Paul Jannke  
Principal, Lumber  
Forest Economic Advisors  
1-978-496-6336  
[pjannke@getfea.com](mailto:pjannke@getfea.com)  
[www.getfea.com](http://www.getfea.com)