



**Home Innovation**  
RESEARCH LABS

# CHANGING PREFERENCES FOR RESIDENTIAL PVC BUILDING MATERIALS IN A POST-COVID MARKET

PVC Formulation 2022

Finding Innovation a Home

# Home Innovation Research Labs

- Founded in 1964 as wholly-owned subsidiary of National Association of Home Builders
- Independent researchers assisting manufacturers develop and commercialize new building technologies through:
  - Engineering research & development
  - Market & field research
  - Laboratory testing
- #1 in U.S. green home certification—National Green Building Standard
- Annual tracking studies of building materials purchases



# Current Trends in the Building Materials Industry Creating Opportunities for PVC

- COVID Pandemic turned focus to homes—Demand for new homes up, home remodeling up abruptly in 2020 to present
- Changing where people desire to live--in lower density areas
  - Flight to “exurbs” with development land scarcity – COVID provided tailwinds
- COVID reversed trend towards smaller home, open-concept layout to larger home, more defined living spaces
- Skilled labor shortage intensifies, wages and benefits increasing
  - Average home construction time is now 9 – 10 months
  - Market strongly swinging to quick-to-install and pre-finished materials
- All construction materials cost increasing, particularly lumber (4x increase)
- Long lead times due to supply chain disruptions (months to delivery)
- More rigorous energy codes; pressure for improved window performance

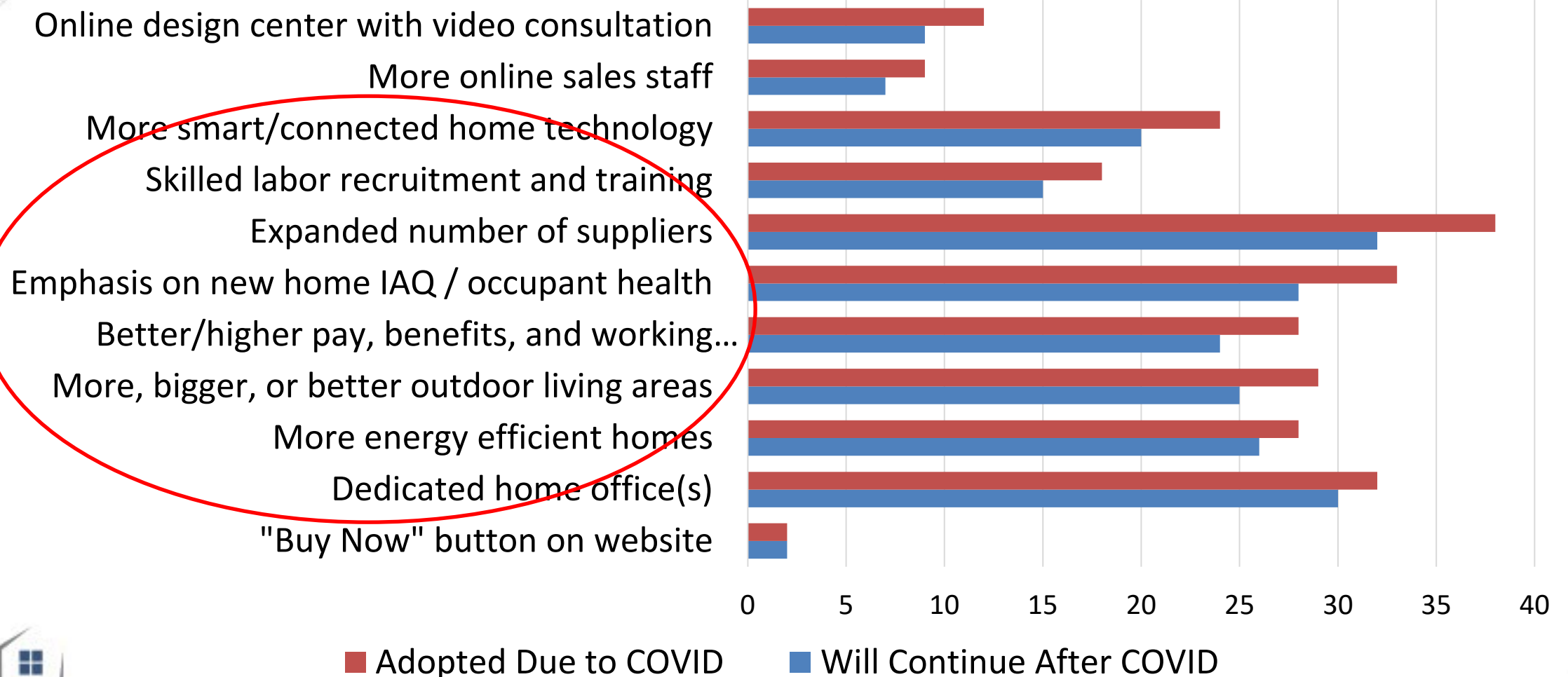


# Current Trends in the Building Materials Industry Creating Opportunities for PVC

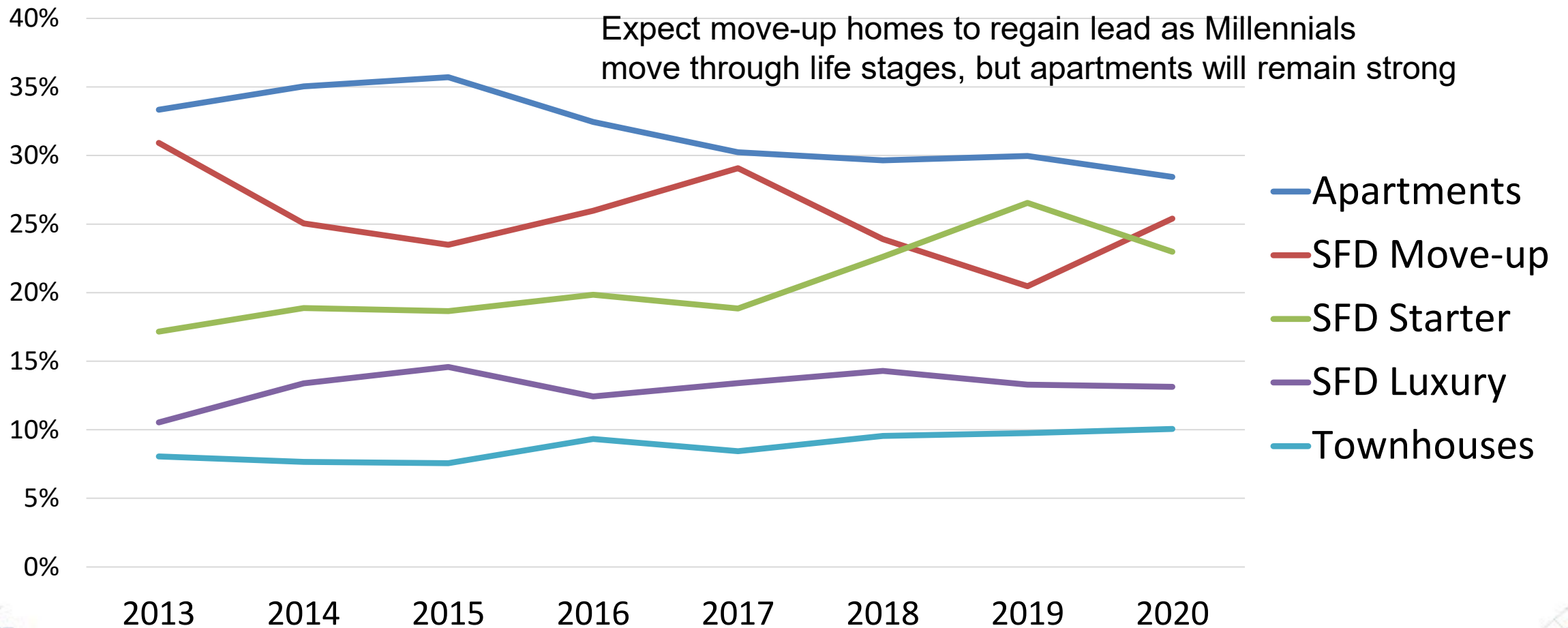
- Demographics
  - Tech-savvy Millennial buyers now dominate home market, prefer engineered materials
  - Simpler, more modern/urban interiors, wood flooring, and multiple textures on exterior
  - More defined living spaces—trending away from open floor plans
- Technology improvements in plastics—can be applied across more PVC building categories
- Outdoor living trend accelerated—moving window walls + larger and more upgraded outdoor living space
  - Porches over deck and patios, 3 or 4 season rooms
  - Outdoor kitchens, privacy fences
- Affordability crisis leading to opportunities in manufactured housing, accessory dwellings, tiny homes, park RV living, conversions of commercial to multifamily



# Building Practices Adopted vs. Will Continue After COVID—survey of 300 builders/remodelers Dec 2021

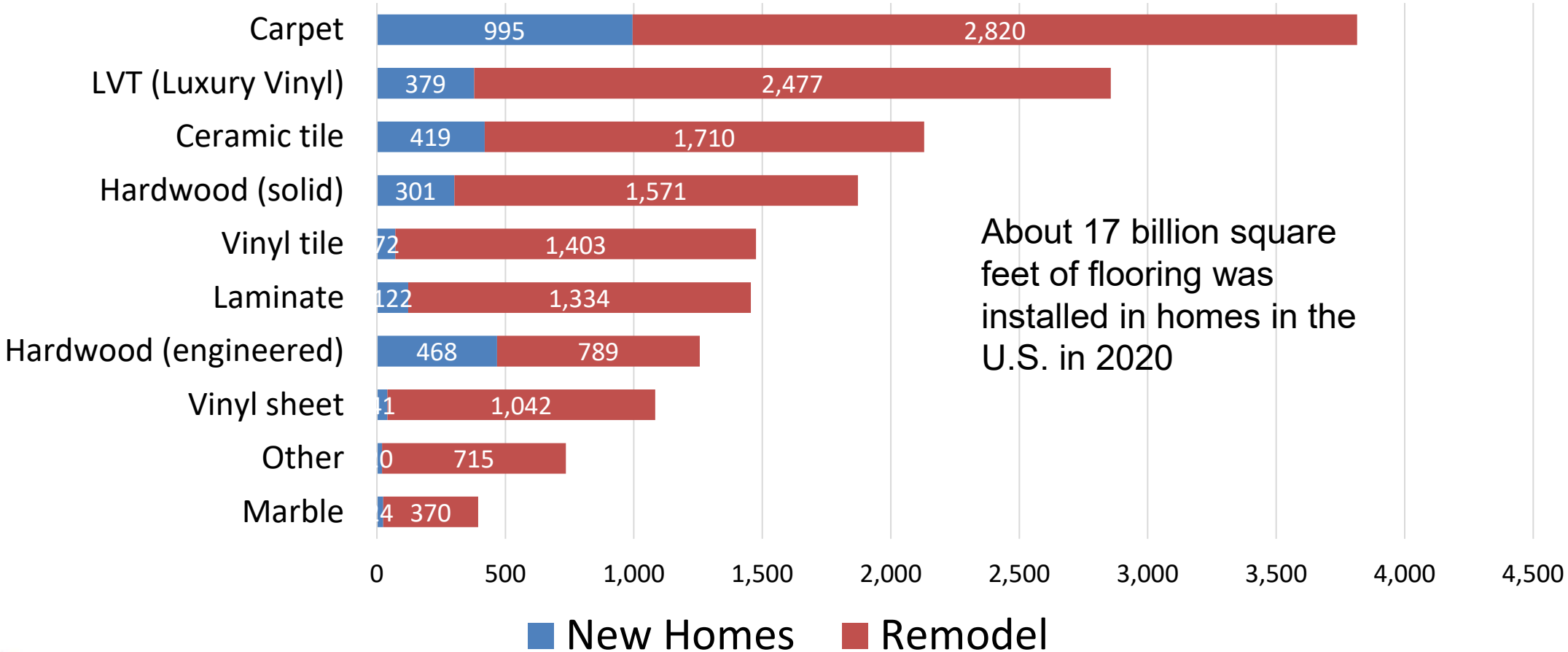


# Housing Mix in New Homes Reflects Demographics Change Underway

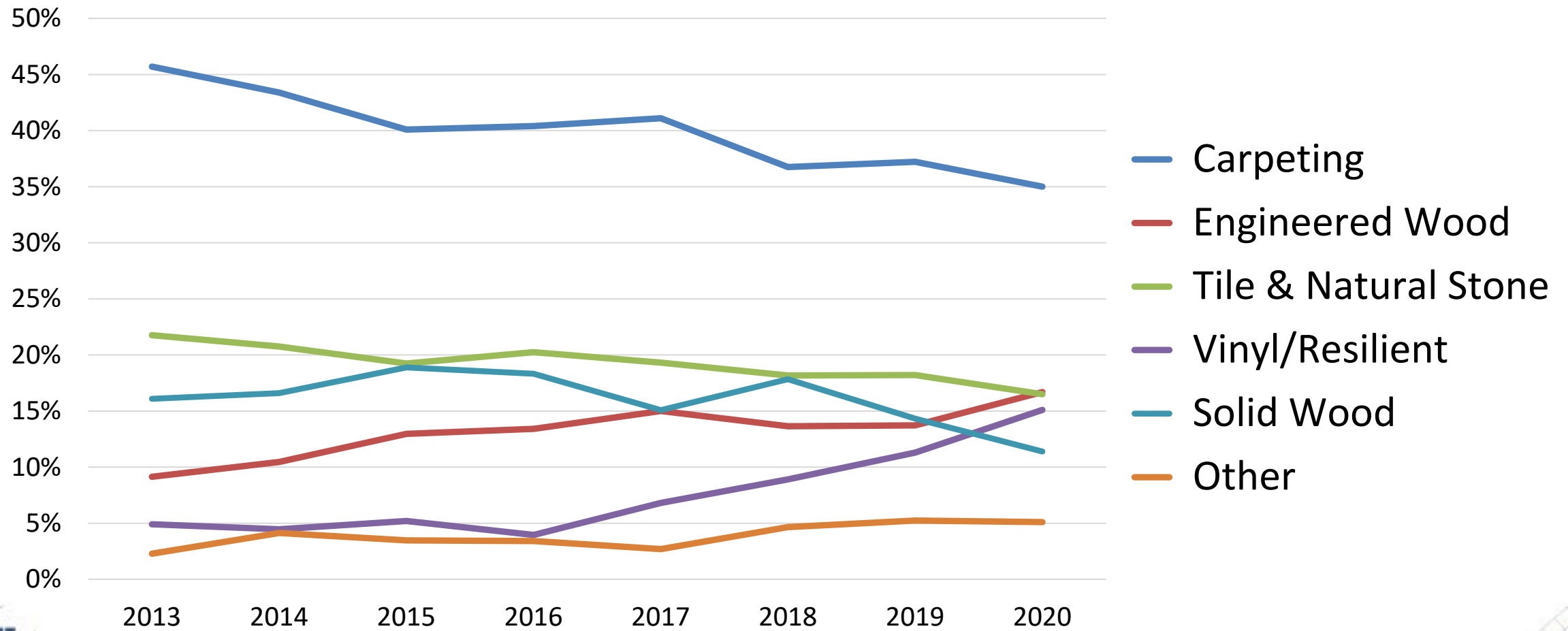




# Residential Flooring Installations 2020 (millions of SF)



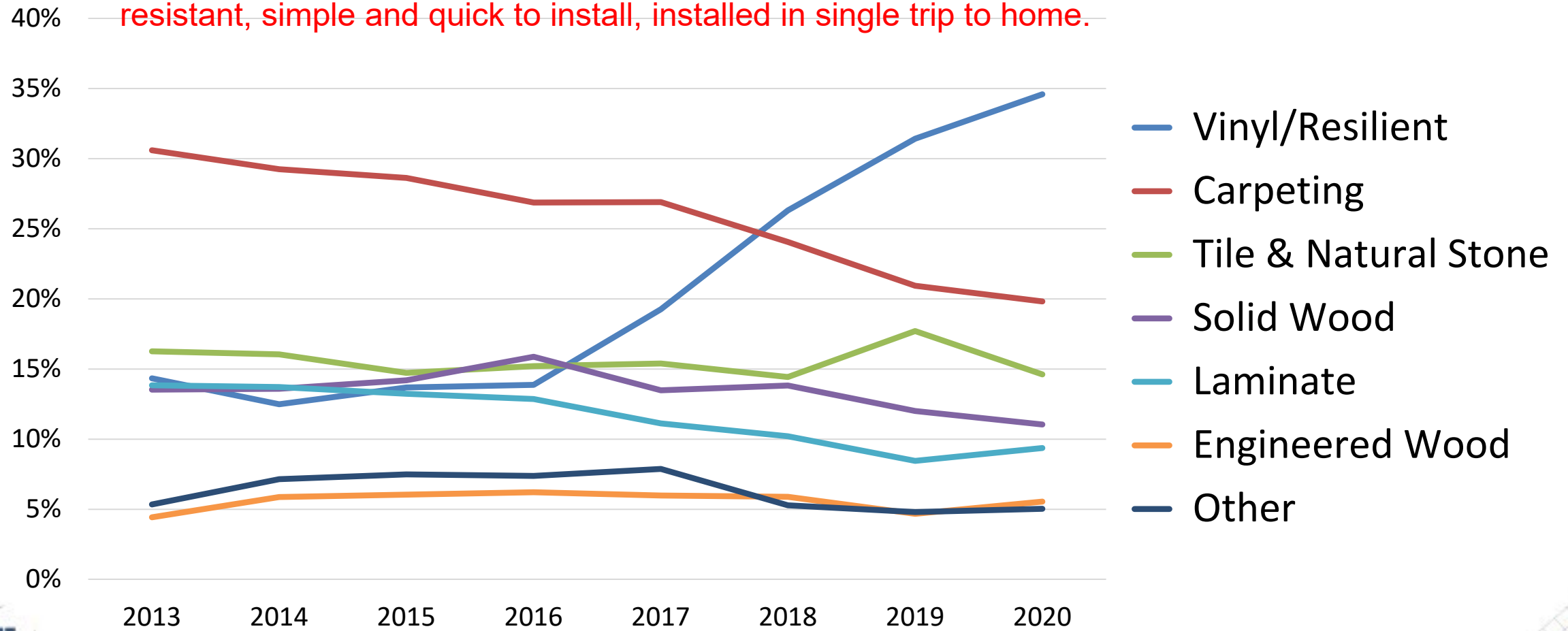
# Flooring Trends in New Homes



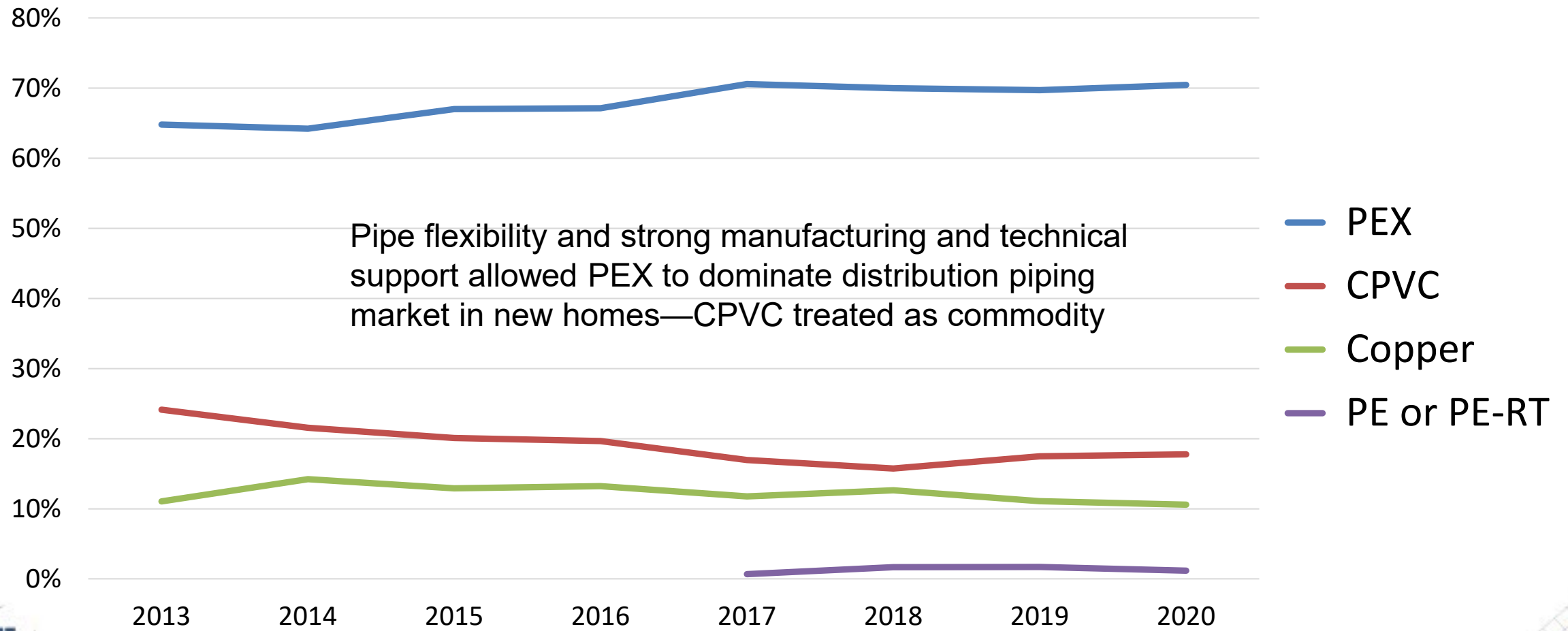


# Flooring Trends in Home Remodeling

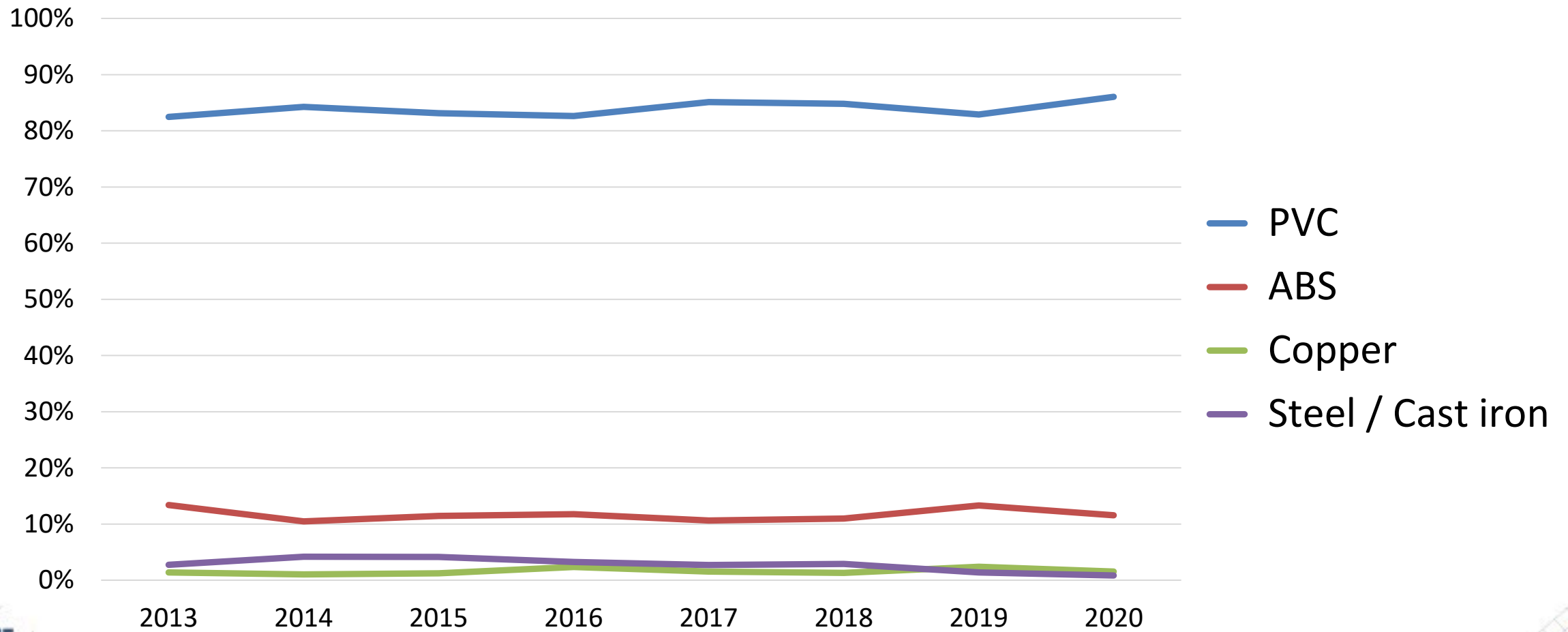
Key drivers for LVP/LVT success: it looks like wood and is water-resistant, scratch & dent resistant, simple and quick to install, installed in single trip to home.



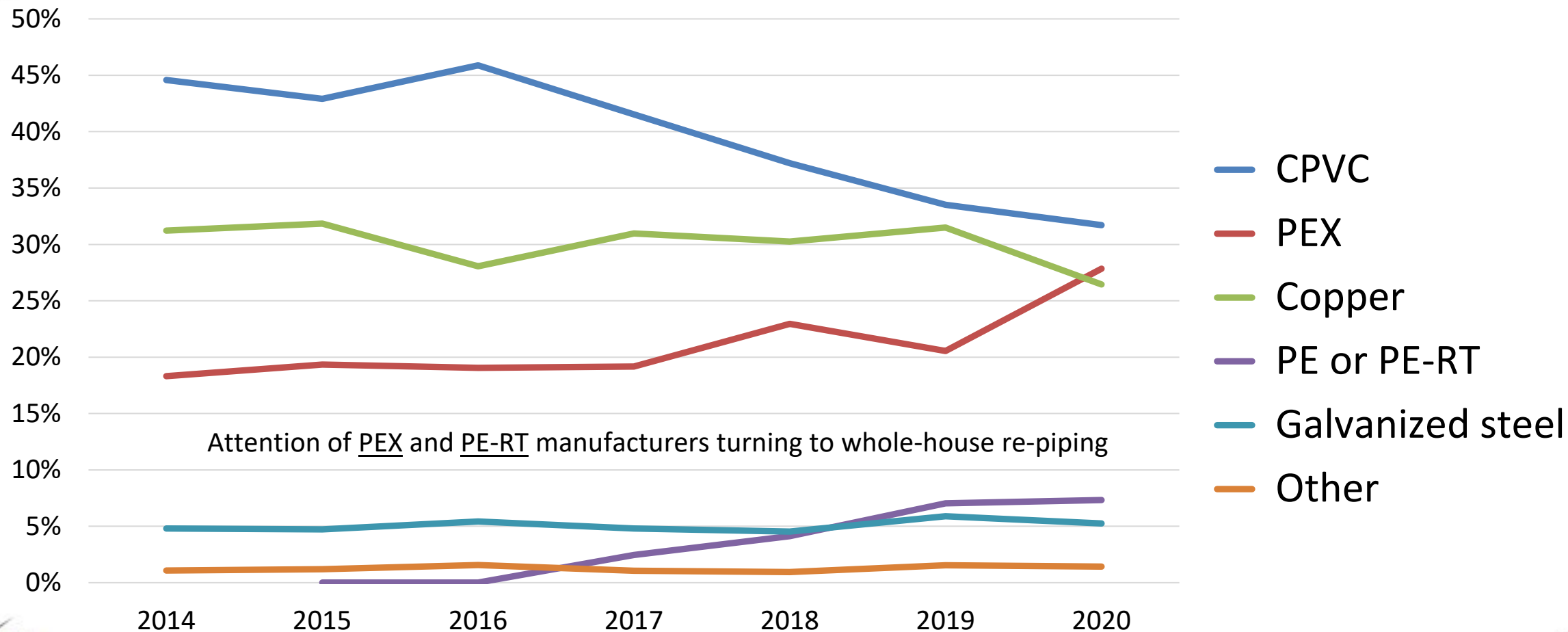
# Hot and Cold Water Distribution Piping in New Homes



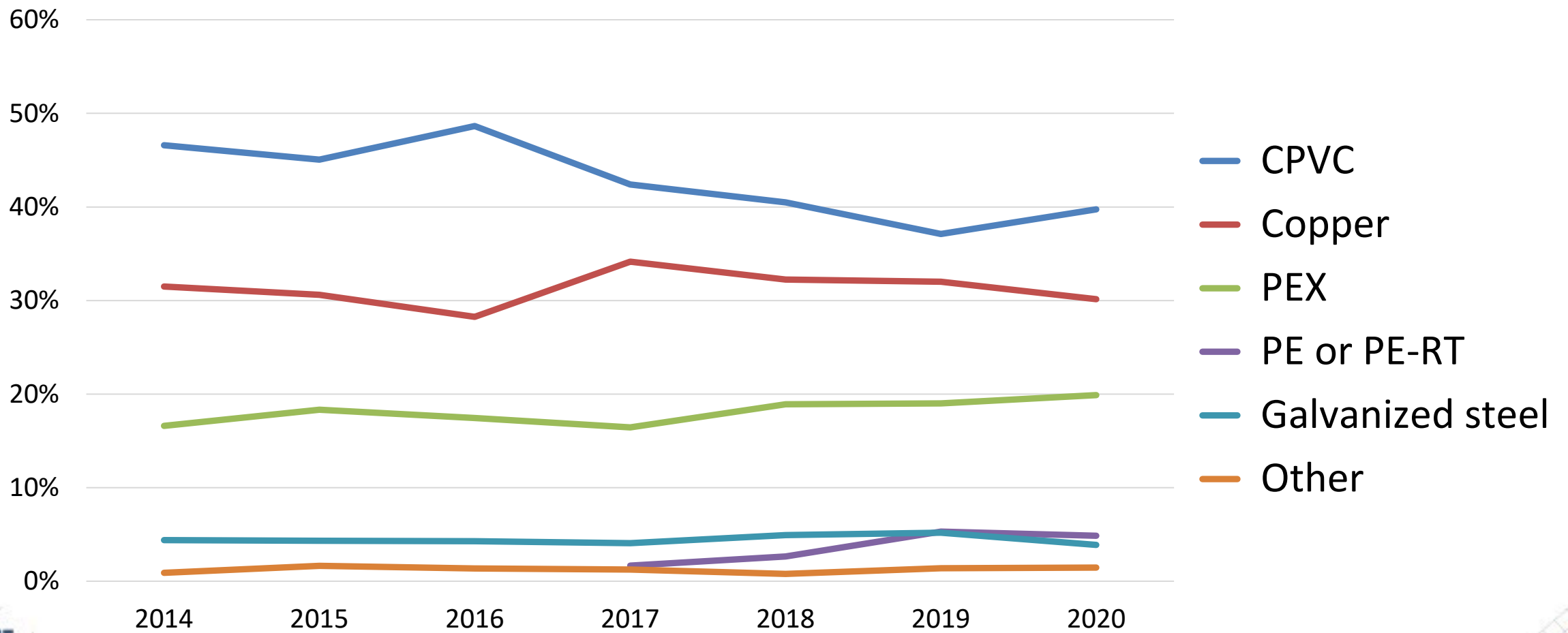
# Drain, Waste & Vent Piping in New Homes



# Hot and Cold Water Piping Installations in Home Remodeling, Whole House Replacements



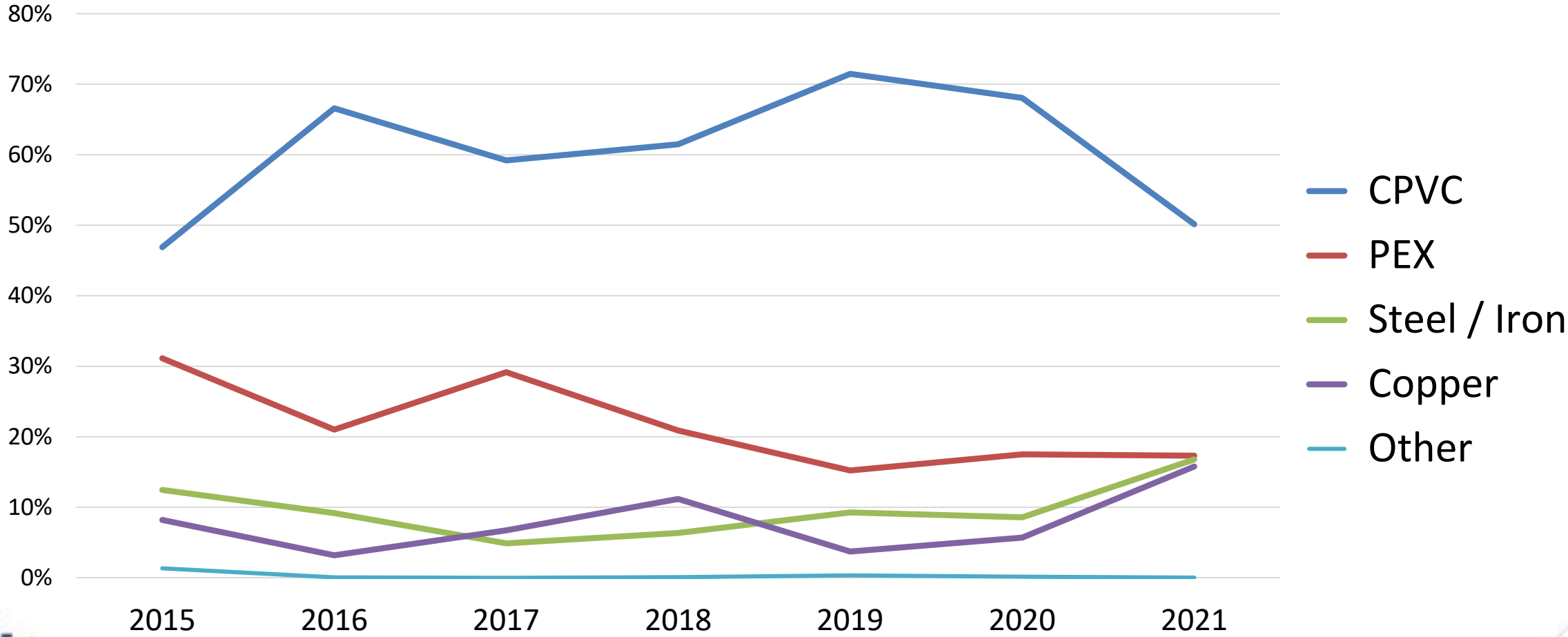
# Hot and Cold Water Piping Installations in Home Remodeling, Partial Replacements & New Fixtures



Source: Annual Consumer Practices Reports

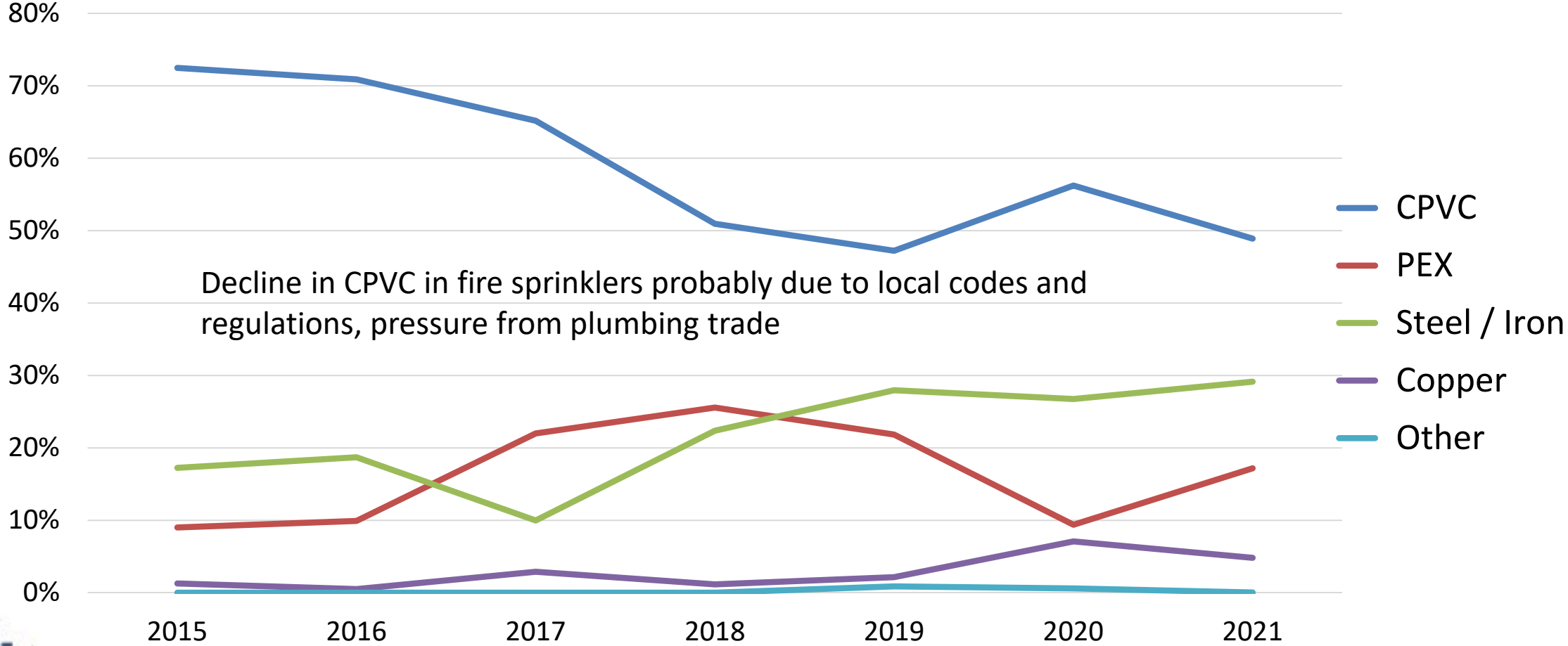


# Fire Sprinkler Piping in New Single Family Homes



Source: Annual Builder Practices Reports

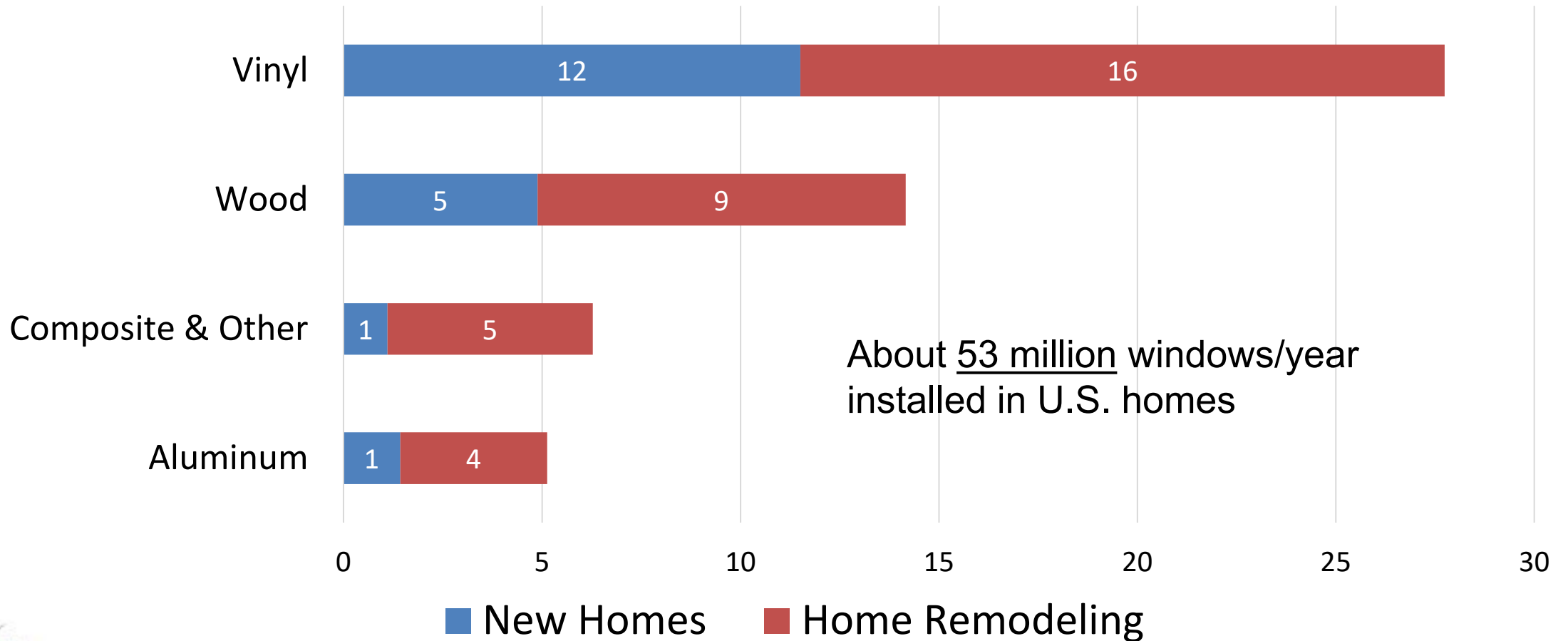
# Fire Sprinkler Piping in New Multifamily Homes



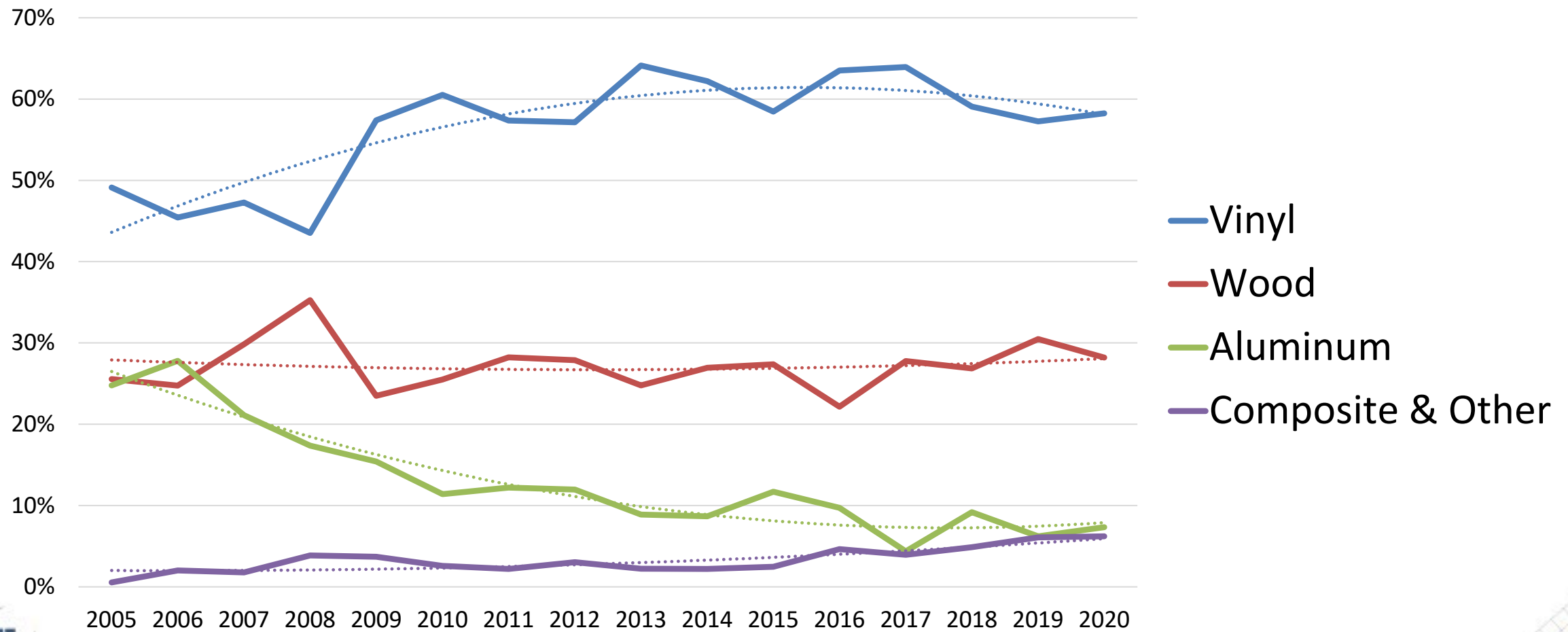


# Windows Installed in New U.S. Homes and Home Remodeling, 2020

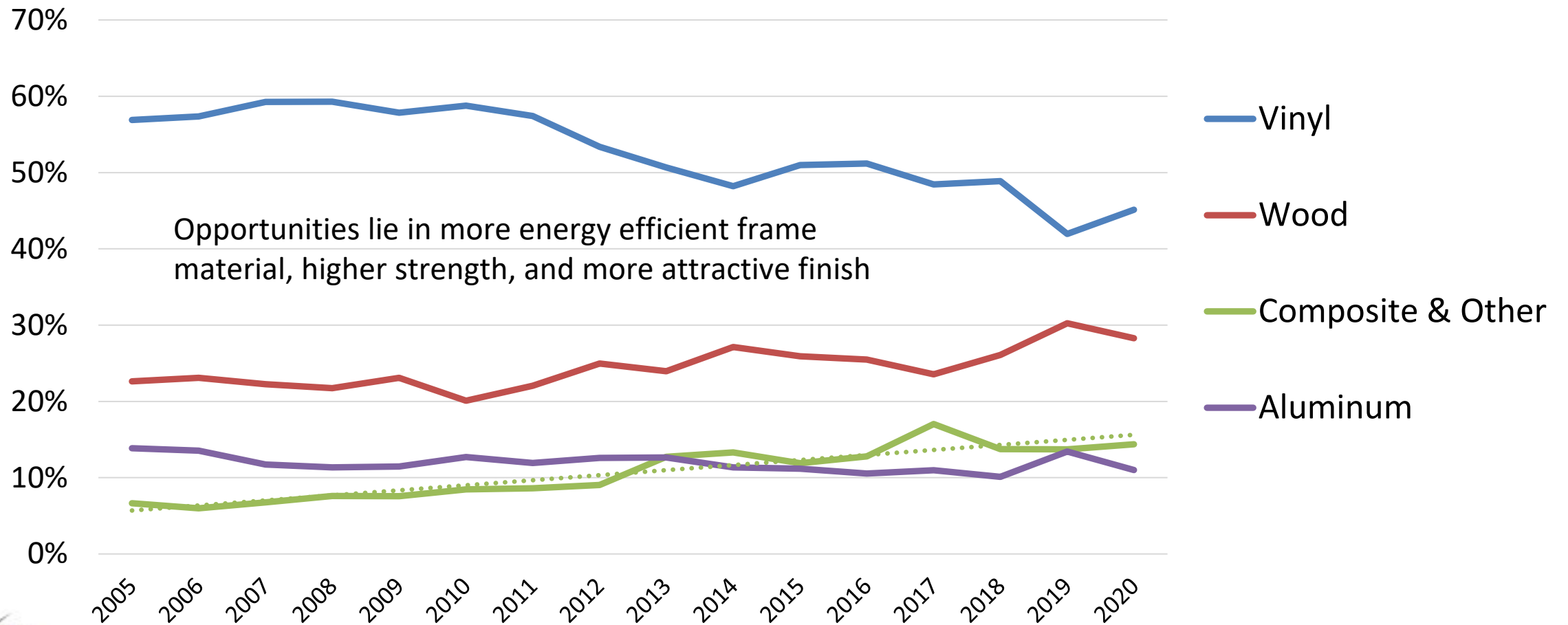
(millions of window units)



# Trends in New Home Window Frame Materials

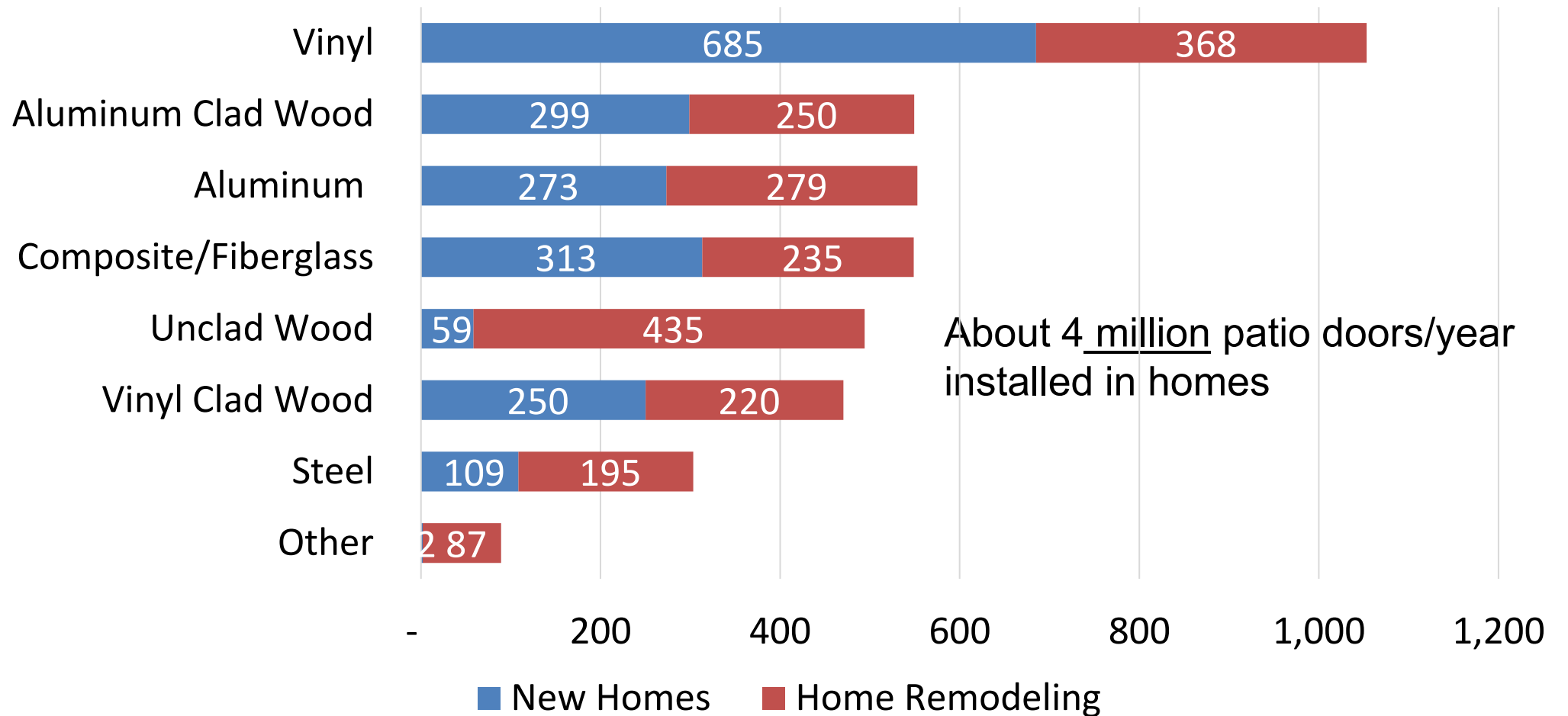


# Windows in U.S. Home Remodeling (primarily replacements)

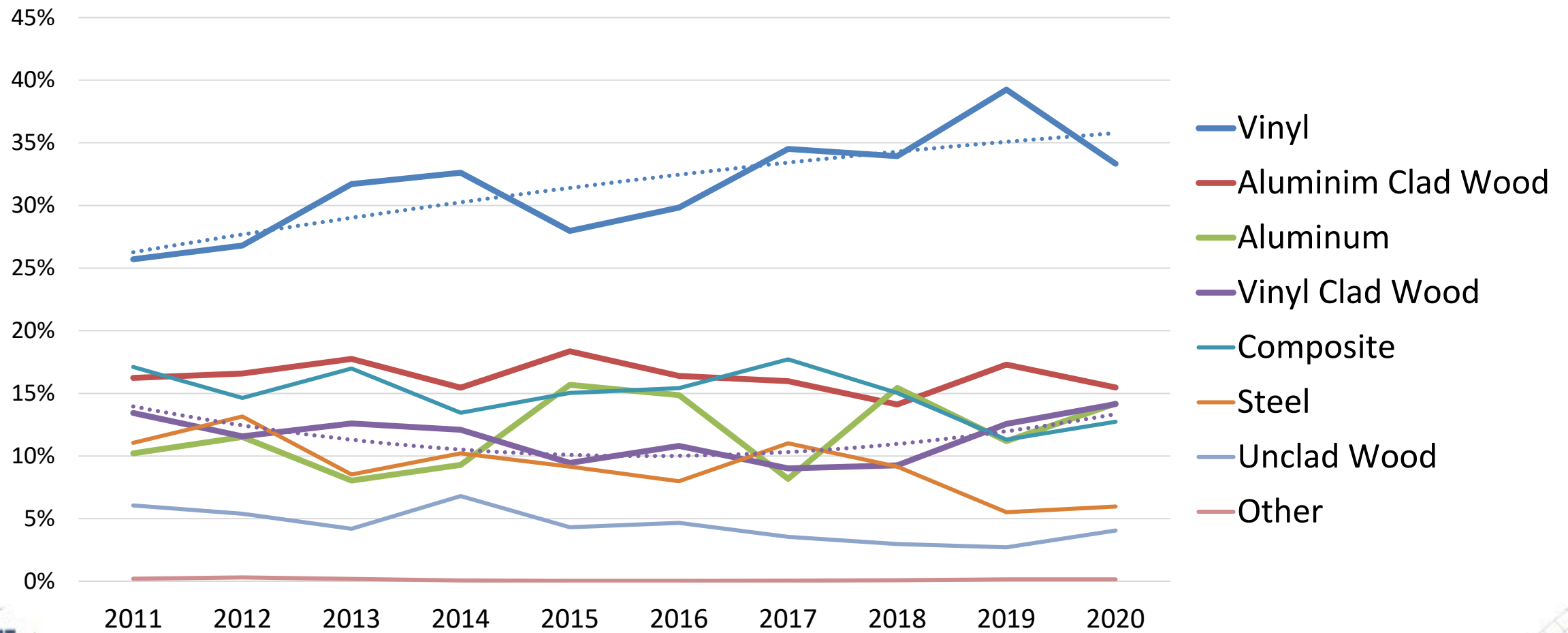


# Patio Doors Installed in New U.S. Homes and Home Remodeling, 2020

(thousands of doors)

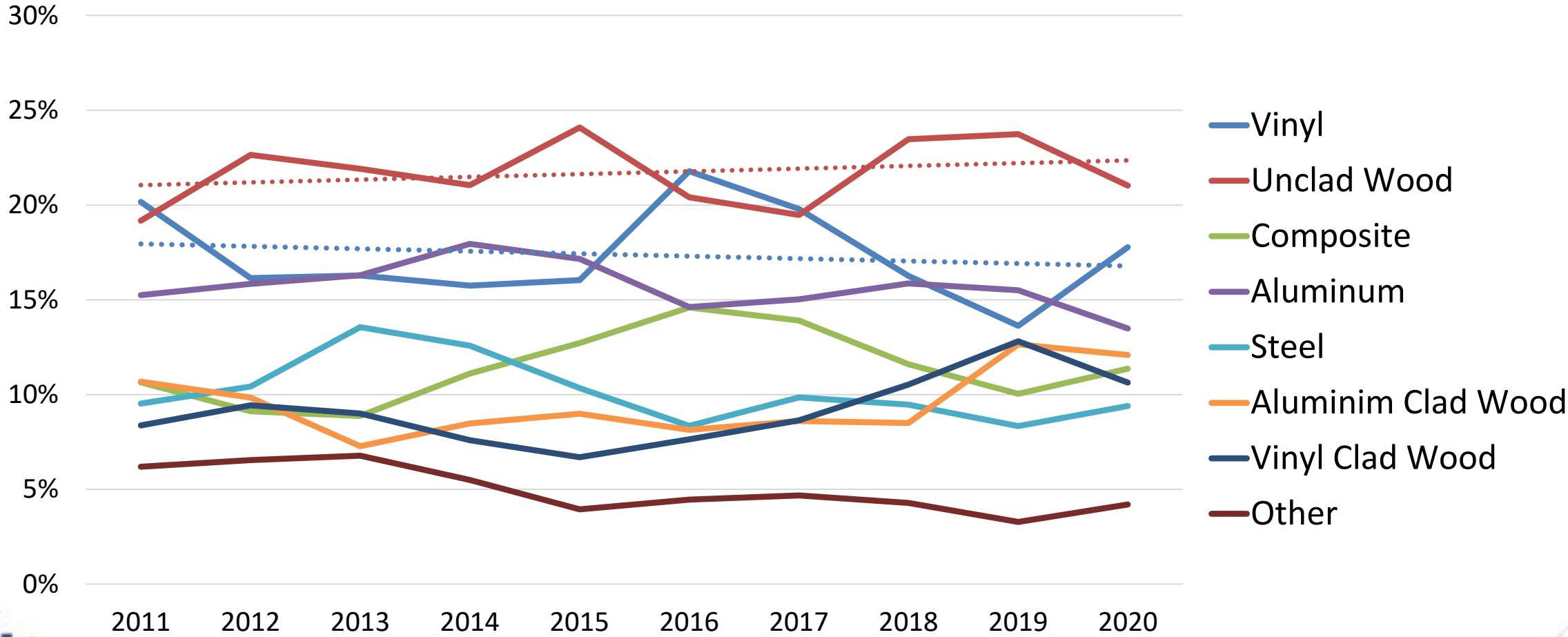


# Trends in New Home Patio Door Materials



Source: Annual Builder Practices Reports

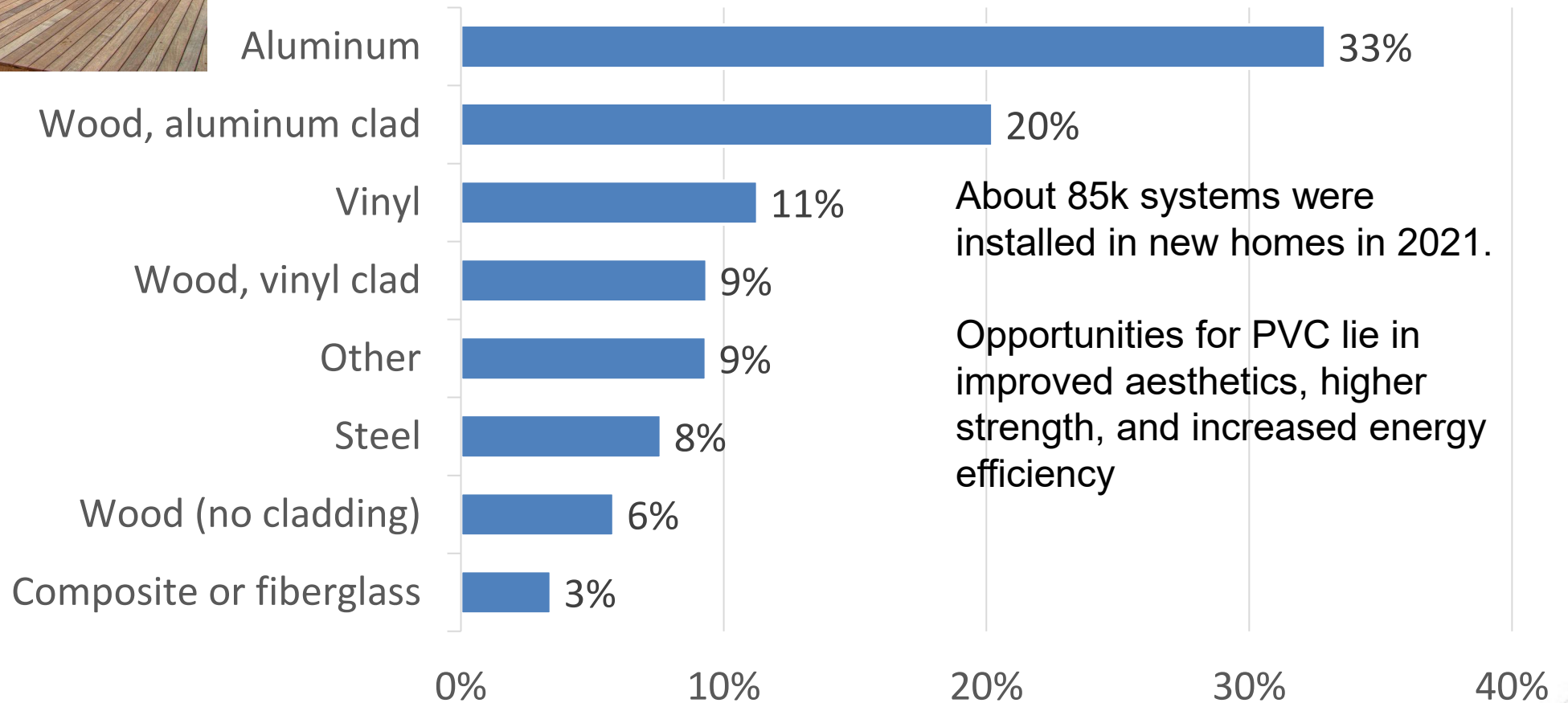
# Patio Doors in U.S. Home Remodeling



Source: Annual Consumer Practices Reports



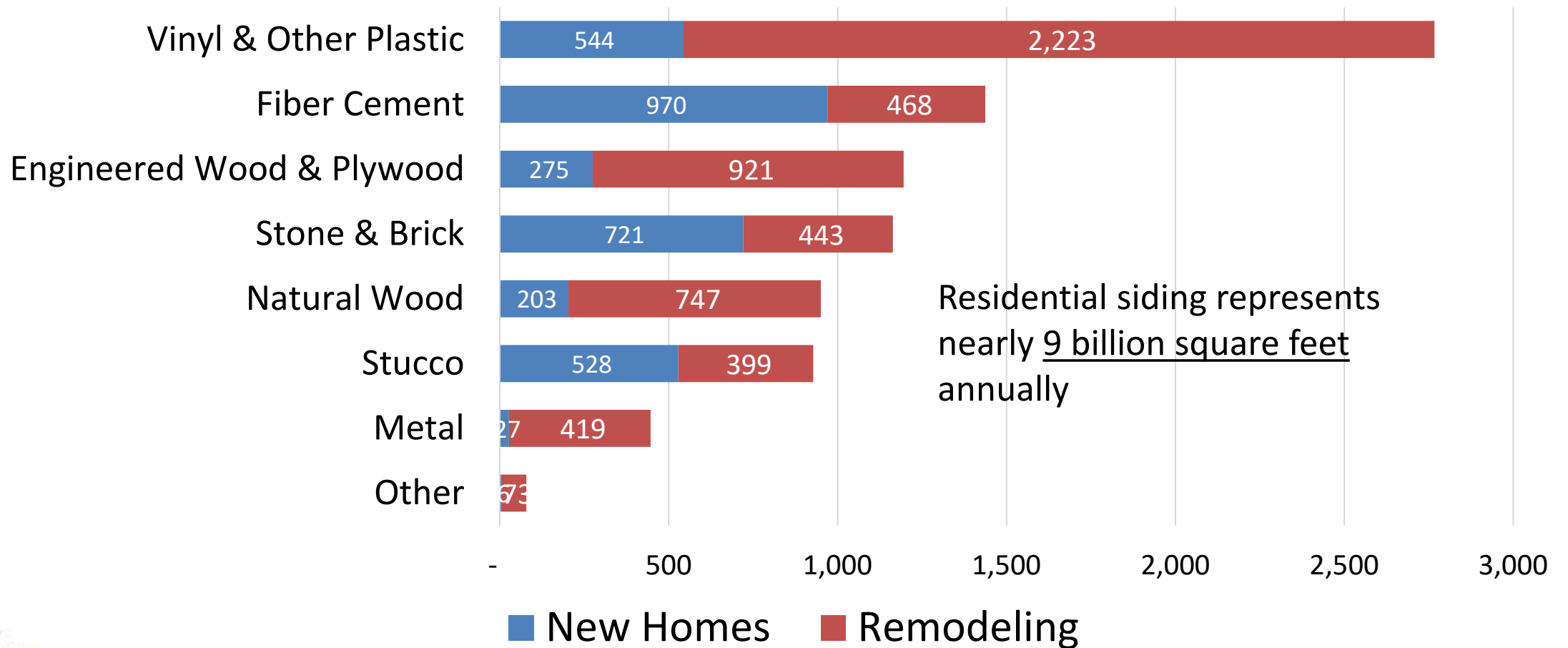
# Moving Window Walls in New Homes, 2021



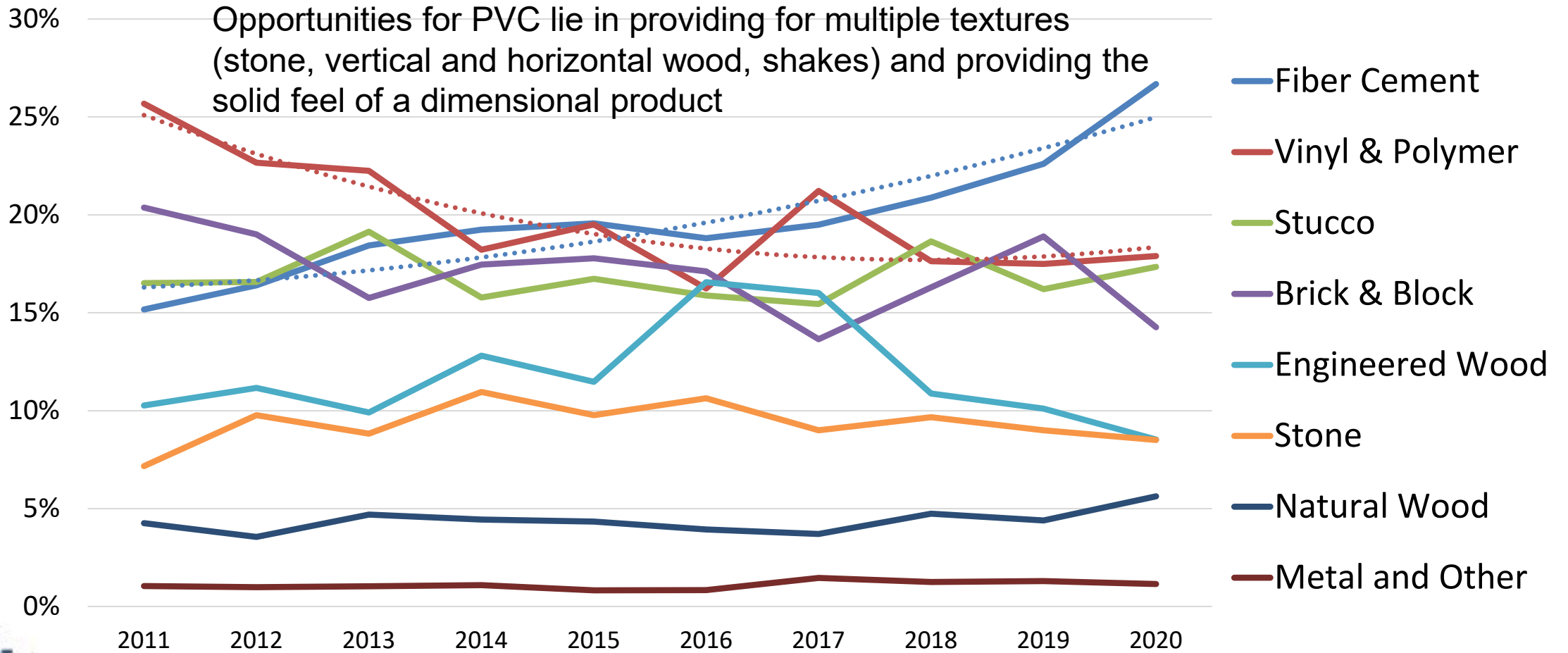


# Siding in New Homes and Remodeling, 2020

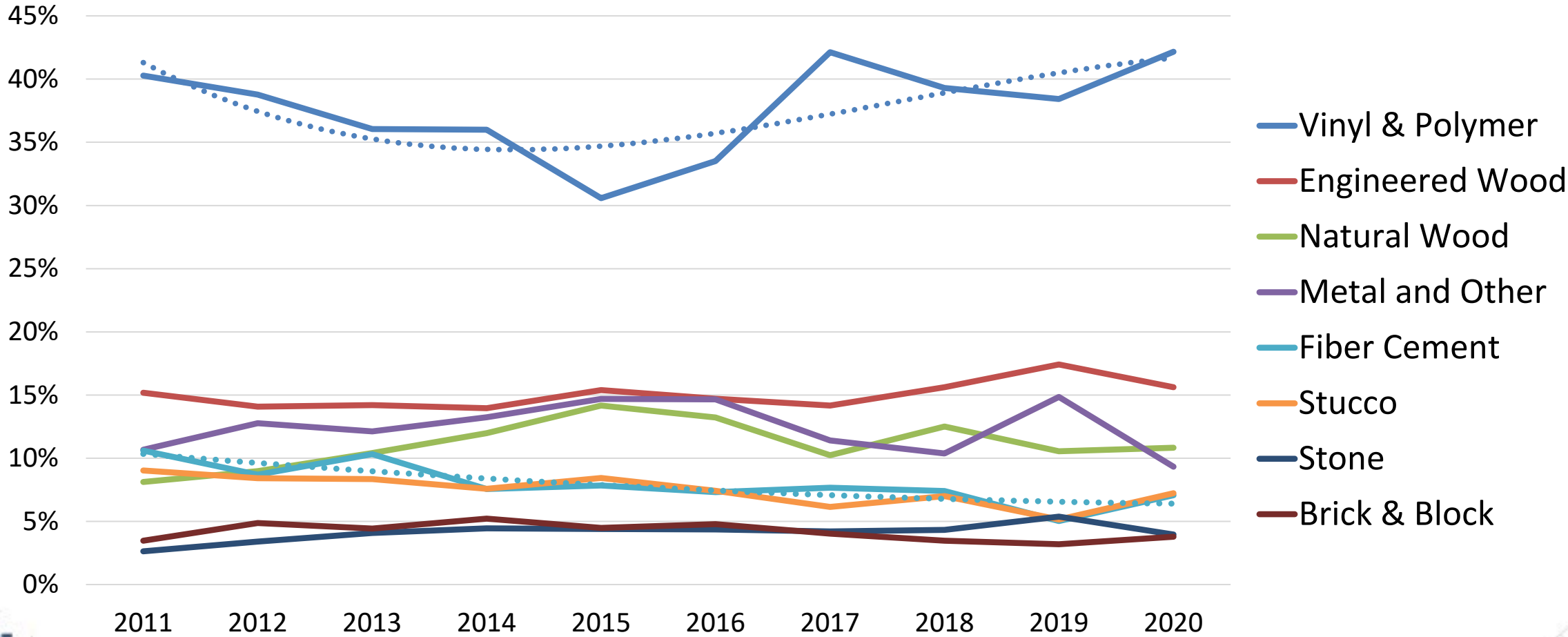
(millions of SF)



# Siding Installations on New Homes



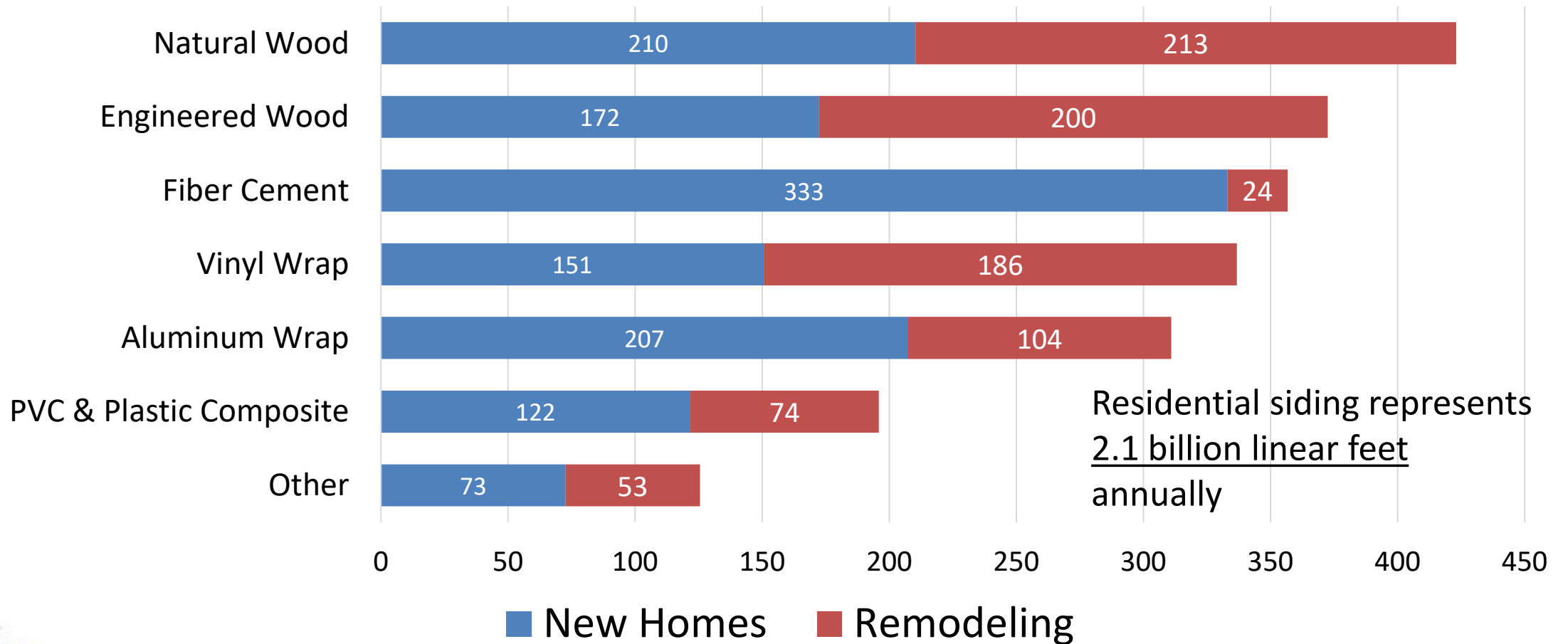
# Siding Installations in Home Remodeling



Source: Annual Consumer Practices Reports

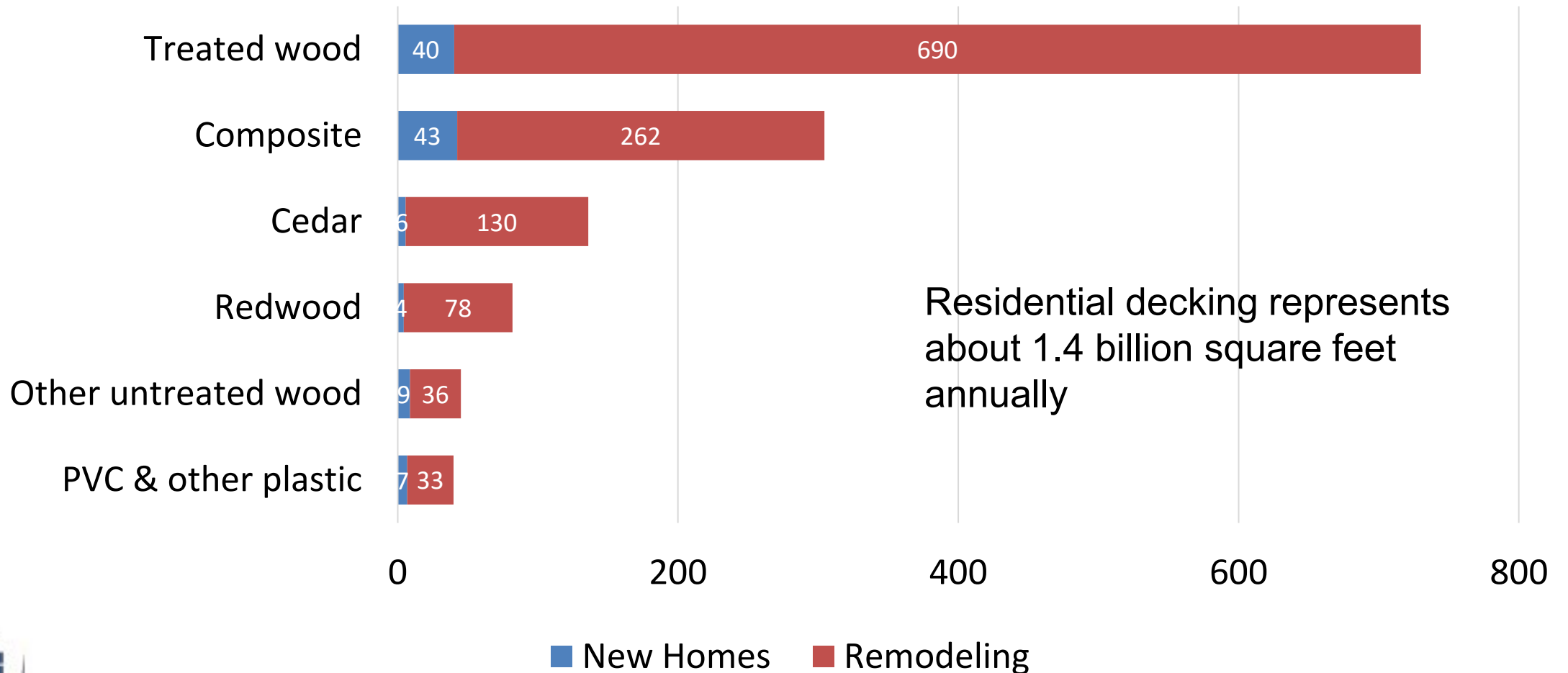
# Soffit, Fascia, and Trim in New Homes and Remodeling, 2020

(millions of linear feet)

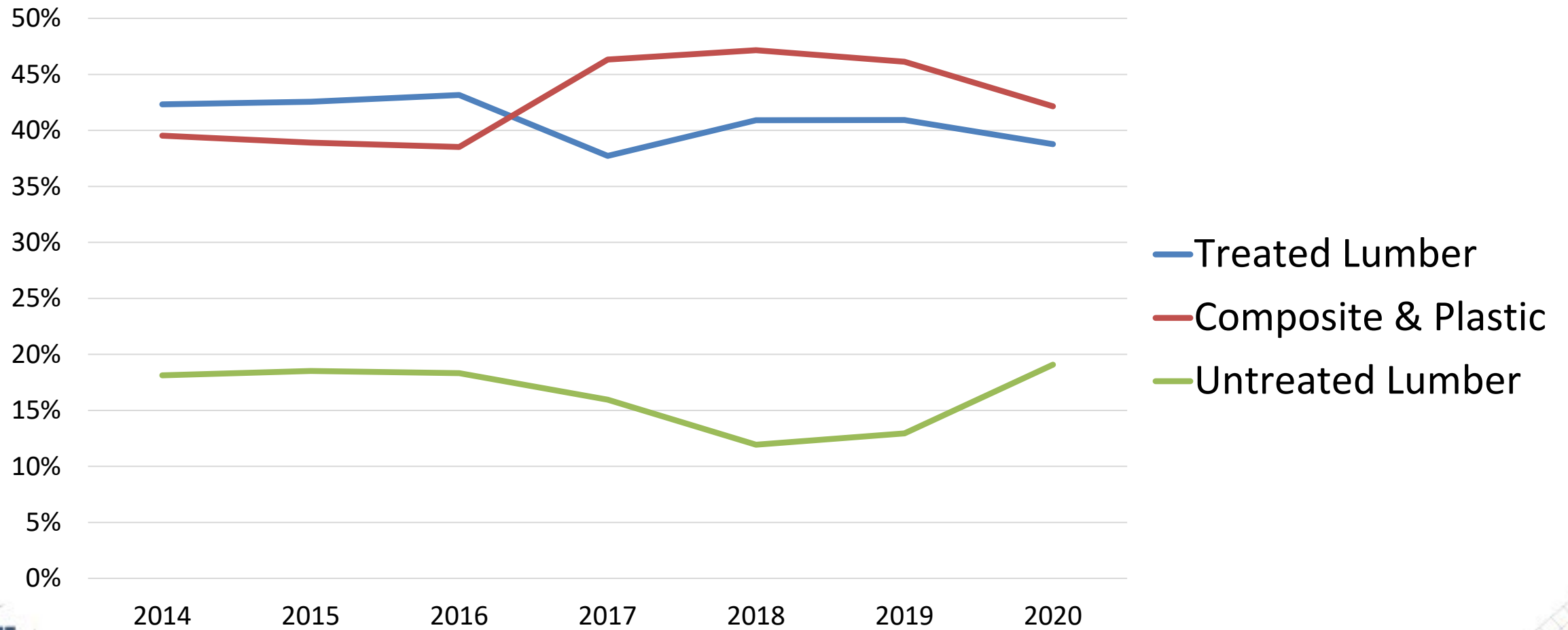


# Porch & Deck Surfacing in New Homes and Remodeling, 2020

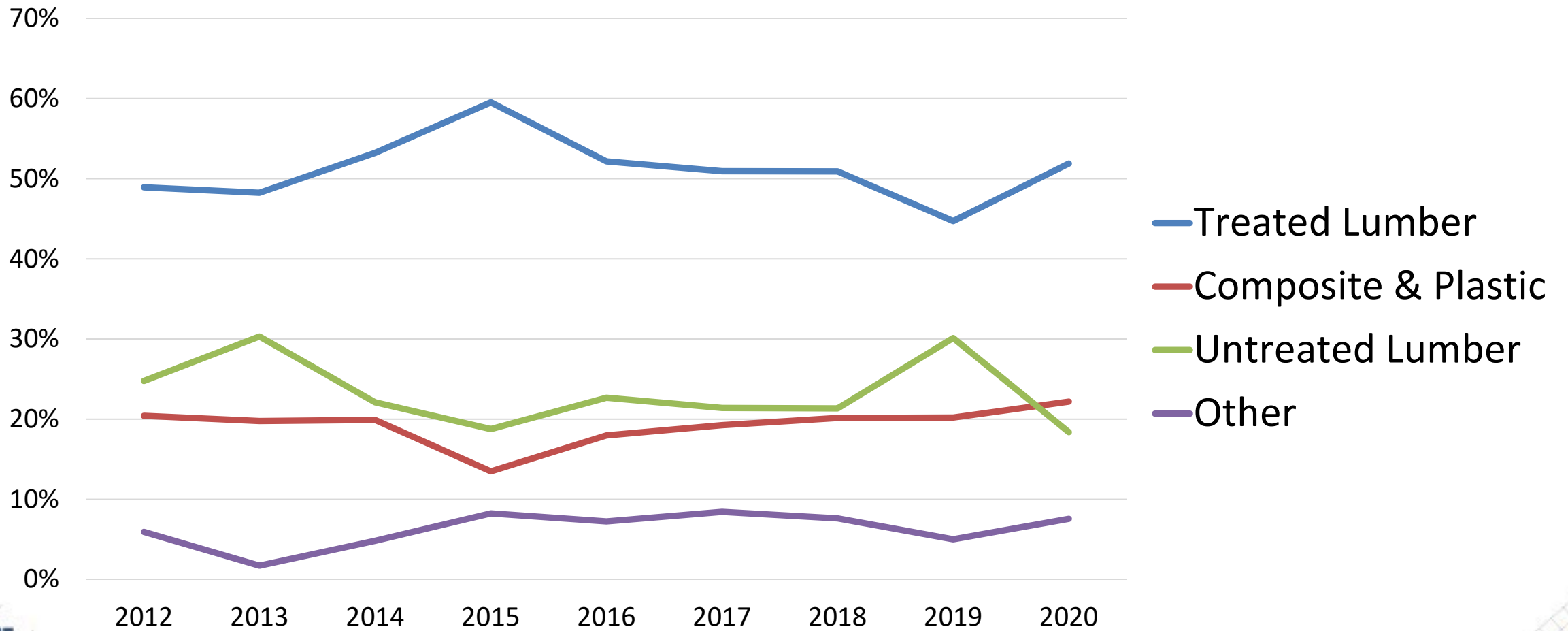
(millions of sf installed)



# Porch and Deck Surfacing Material in New Homes

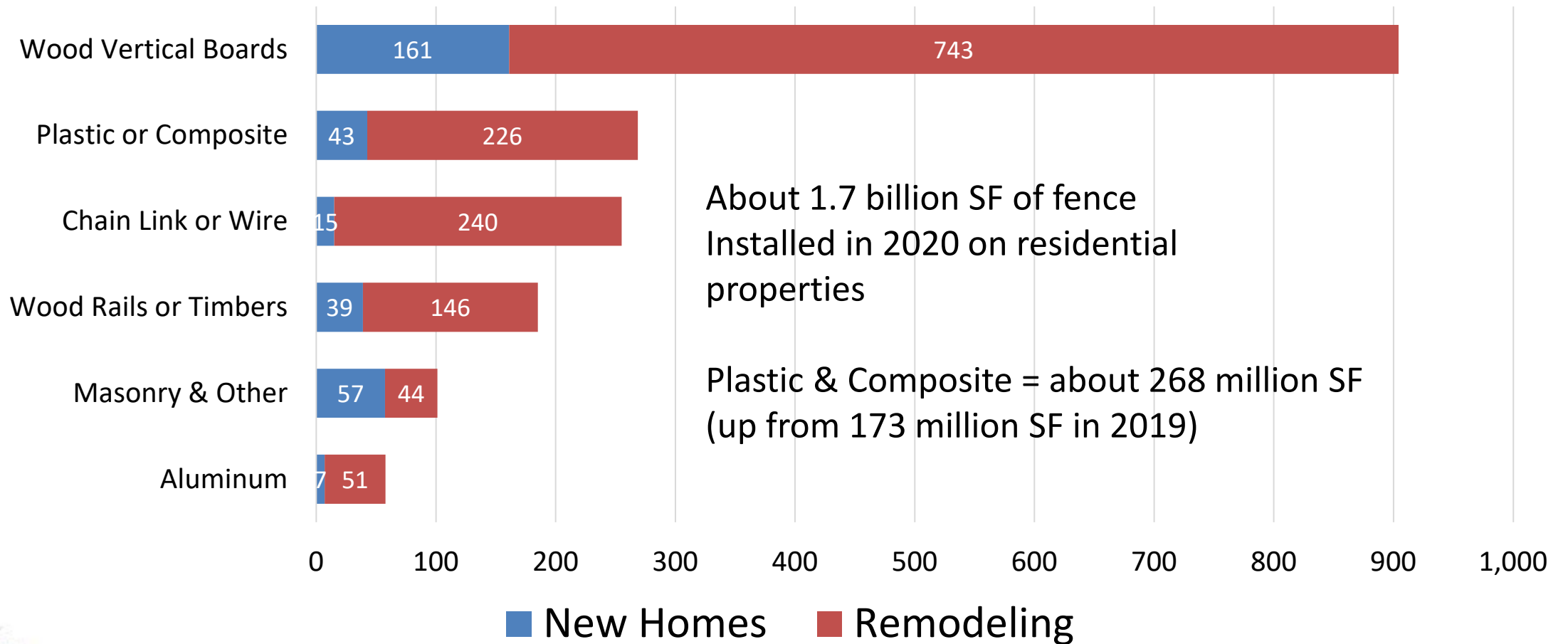


# Porch and Deck Surfacing Material in Home Remodeling

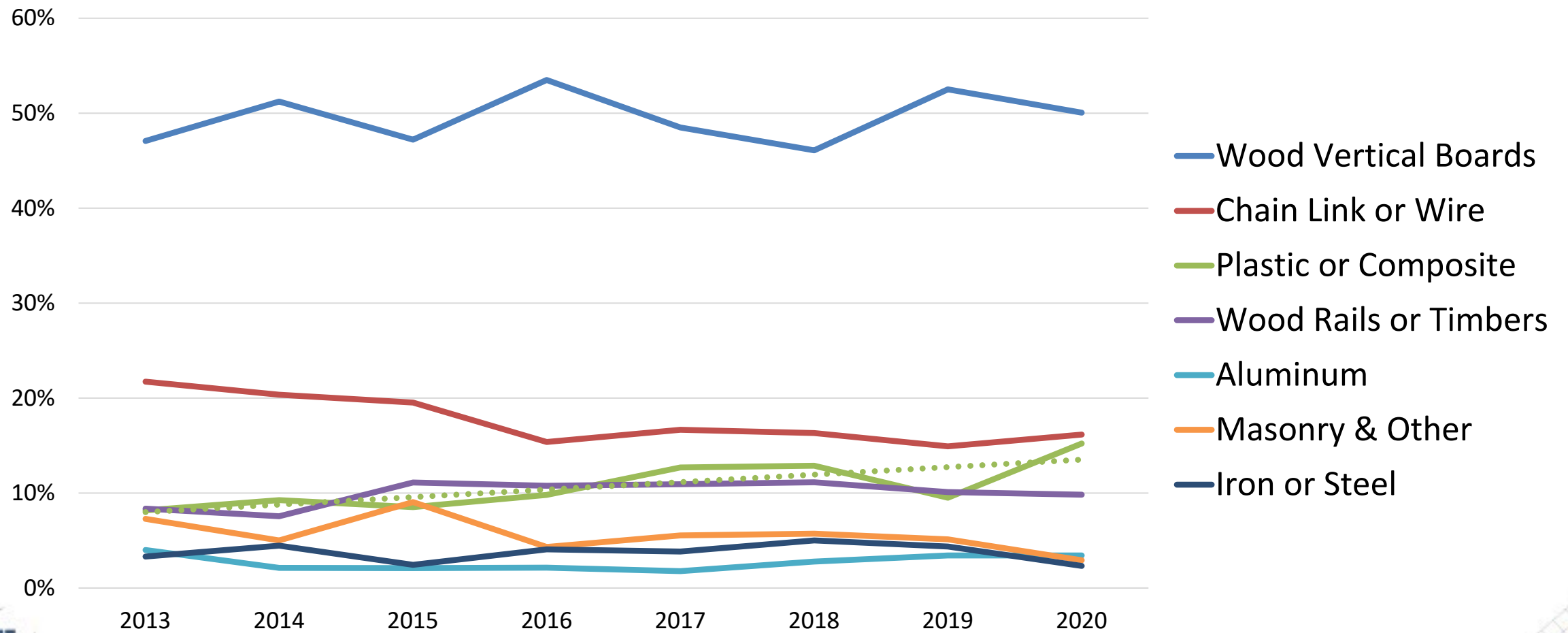




# Fences & Privacy Walls Installed in New Homes and Remodeling, 2020 (millions of SF)



# Fence & Privacy Walls Installed in Home Remodeling



Source: Annual Consumer Practices Reports





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**THANK YOU**

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