



Strategies & Trends in Capital Allocation

BUILDING MATERIALS

Updated May 2021





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Now Trending

- **ESG takes center stage:**
 - "Being green is becoming so ordinary that a 2020 study by the US SIF Foundation, a membership organization focused on sustainability, found that roughly one out of three dollars invested in the US – or \$17.1tn – has a sustainable mandate."
 - Rising green residential building construction driven by new regulations and policies creates a market for environment-friendly and energy-conserving materials; non-residential buildings compose 40-48% of green buildings in the U.S.
 - Green building materials grow in popularity in Canada, Germany, U.S., and other western European and Scandinavian countries
 - LEED-certified homes have grown 19% since 2017 and at an all-time high according to a 2019 report by US Green Building Council
 - Cement production contributes to 7-8% of the world's carbon dioxide emissions, leading to a push to curb emissions, particularly in the EU, by increasing the use of alternative raw materials and fuels in the production process
 - Recent developments in wool bricks appeal to eco-conscious consumers; they are 37% stronger than traditional bricks, reduce gases produced by firing and the energy needed to fire them
- **Booming housing market:** Low supply-driven in part by low interest rates, impacts of the pandemic, an increase in the purchase of second homes, and other factors has led to increased demand for houses
 - A shortage of buildable lots makes it difficult to meet demand
 - In addition, a shortage of materials such as lumber increases the cost, and inversely the affordability, of homes -- particularly first-time buyers
 - Renovation projects, many of which were started throughout quarantine, are also in high demand



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Now Trending

- **Large swings in the cost of lumber:** The Price of lumber reached a high of \$1670 (as of the time of this writing) from \$716 at the beginning of the year; such wild swings makes forecasting extremely difficult
 - "Accuracy depends entirely on the starting date of any forecast timeframe" -- JLL
 - Price has caused the price of an average new single-family home in the U.S. to increase by more than \$24,000 since April 2020
 - Some analyst forecast it could take months or years to build up stock
- **Rising lumber costs generates interest in steel alternatives:** Many builders looking for lumber alternatives in light of rising costs, including the use of cold-formed steel framing for interior walls
- **Global infrastructure spending on the rise:** As government look to support their local economies, there will likely be an increase in "local" projects using local materials, aggregates, labor and contractors
 - The [Global Infrastructure Outlook report](#) reveals that the cost of providing infrastructure to support global economic growth and to start to close infrastructure gaps is forecast to reach US\$94 trillion by 2040 and that \$3.7 trillion will need to be invested to meet the demands of an accelerating global population
 - In the U.S., a proposed \$2.3 trillion American Jobs Plan (AJP) would increase demand for aggregates, cement, asphalt and ready-mix products to modernize roads and bridges, though cash flow benefits might not accrue until late 2022; with a divided Congress, however, it is unclear what a final bill might look like



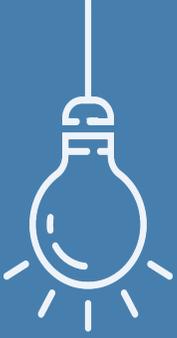
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Now Trending

- **Living materials gain ground:** Biological compounds that literally grow themselves, and which are light, strong and portable, gain interest, particularly since they may have less impact on the environment
 - Self-mending concrete -- "concrete saturated with bacteria that bind materials around them into a new structural material," adds to concrete's impermeability
 - Mycelium composites, which utilize fungi, can be found in insulation and flooring
 - "Living bricks" mixes sand with gelatin, growth enzymes and calcium chloride to make a scaffold in which bacteria can grow. As the material dries, the gel sets and becomes strong; the bacteria absorb light and produce calcium carbonate binding the gel and sand
- **Technology drives innovation at the world's largest building materials companies:** durable concrete, high-performance concrete, mineral admixtures, condensed silica fume, high-volume fly ash concrete and others become increasingly popular
- **2021 International Building Code gets adopted by states:** In the U.S., changes in local building codes allowing for taller structures and opening a new opportunity for the timber industry; Canada is encouraging the use of mass timber in affordable housing
- **Uncertainty around tariffs:** While most companies have adjusted to the impact of tariffs on prices and commodity costs in 2020, the impact of new tariffs could raise prices further for building materials -- potentially straining demand



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CAPEX Considerations

- **Capex re-evaluation:** Having faced cash flow pressures in 2020, organizations were compelled to revisit and reevaluate their Capex projects. Now, again in 2021, as myriad forces impact supply and demand for materials, companies once again have to determine where to make strategic investments (in production capacity, for example), which maintenance/sustaining projects can't wait, and so forth. Making informed choices across a portfolio of projects is when a Capex management system such as Finario truly shines, helping companies make faster, better decisions based on up-to-the-minute data, ROI analyses, and more
- **Agile decision making:** At a time when tariffs, regulations, politics, new technologies, and variability in demand present formidable challenges for building materials executives, the ability to pivot quickly, react opportunistically, and make capital decisions that are well-considered, strategic, and based on a holistic view of capital projects in progress or in consideration, can have material impact in the millions
- **Personal hygiene/safety:** Manufacturers faced with new challenges to accommodate and innovate in terms of their perceived and real safety risks. How much of this will be the "new normal" vs. a temporary necessity challenges Capex choices
- **Modern Manufacturing:** Ongoing opportunities to improve efficiency and expand market share continue to push modern manufacturing technologies that produce lighter, stronger, and more versatile materials; these strategic, growth-minded projects need to have the visibility and vetting rigor to ensure appropriate consideration
- **Rolling Forecasts:** As supply chain issues persist, the ability to budget and forecast accurately and continuously increases; this is extremely difficult to do utilizing spreadsheets and other manual tools -- creating yet another business case for a purpose-built capital planning software solution



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Market Stats

- The global construction and building materials market is expected to grow from \$916.31 Billion (USD) in 2019 to \$1,282.56 Billion by the end of 2025 representing a 5% CAGR
 - In Germany, the construction and building materials market will grow by US\$14.4 Billion over the next 7-8 years
 - The remainder of European markets will see US\$14.3 Billion worth of projected demand in the building materials
 - In Japan, construction aggregates will reach a market size of \$26.7 Billion by 2025
- Precast Concrete projected to experience the highest growth during that period
- 30% of building materials are produced in China; stone and glass are produced in Italy
- Cement production could rise by as much as 23% by 2050 as the global population grows
- Construction aggregates forecast to grow at over 4.9% and reach a market size of US \$547.2 Billion by end of 2025
- Ten largest companies by market cap:
 - Cement Roadstone Holding (\$45.75B)
 - Anhui Conch Cement (\$38.20B)
 - Vulcan Materials (\$24.32B)
 - Martin Marietta (\$22.68B)
 - Heidelberg Cement (\$18.14B)
 - Siam Cement (\$17.75B)
 - James Hardie Industries (\$14.4B)
 - Cemex (\$12.19B)
 - RPM International (\$12.11B)
 - Taiwan Cement (\$10.43B)

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