NetZero Build Summit

Measuring the impact of Covid-19

on business operations and purchasing priorities across the net-zero sector

Contents

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Welcome

Welcome to the Measuring the impact of Covid-19 on business operations and purchasing priorities across the net-zero sector industry report.

We hope you are safe, healthy and well, and that you have personally managed to find a way to adapt to the current tumultuous time we find ourselves in.

As organizers of the NetZeroBuild Summit, we feel it is important to connect with our local community in Michigan, as well as the wider Midwest region and the USA, and to provide relevant information regarding key developments in the market.

Between April 20 and May 4, 2020, NetZeroBuild Summit reached out to its community of architectural and design firms, construction contractors, suppliers, environmental and energy agencies, federal organizations and local governments to understand how the Covid-19 pandemic is impacting them on a business level, and what this will likely mean for the net-zero sector.

Through an **anonymous online survey**, 60+ industry professionals provided us with their insights and sentiments during this unprecedented time.

This report benchmarks the status of the sector as of early May 2020, and will take you on a journey from the performance of the sector before the outbreak of the global pandemic in March 2020 to the current status of the market and how key contributors view the future of the net-zero sector.

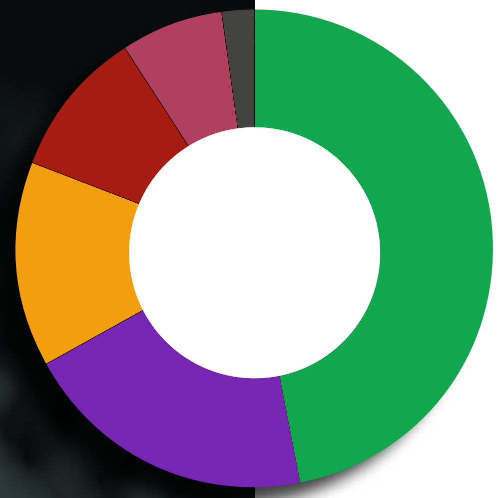
The primary business activity of the business of interviewees are in the fields of urban planning, architectural design, building solutions/operations/performance/technology, construction, end-users, energy and utilities.

93% of our respondents are based in North America – the remaining 7% are based in Europe.

Just under half of the respondents works at an architectural or design firm, followed by suppliers (20%) and 'other' (14%). The 'other' category represents respondents from universities, manufacturers, non-profit organizations and software development organizations).

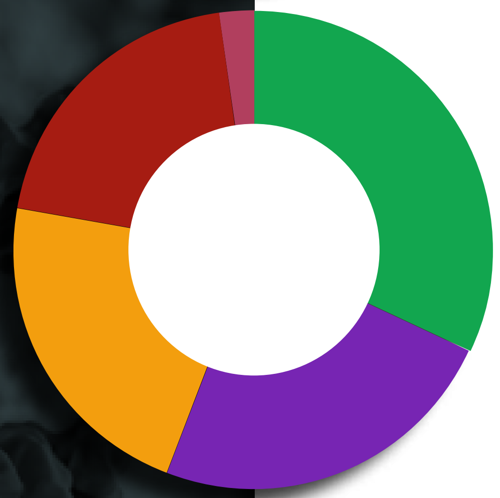
78% of the respondents holds a decision-making position, either in the form of a C-level / president role, a VP or Director level position or a managerial / supervisor function.

Who took part in the survey?



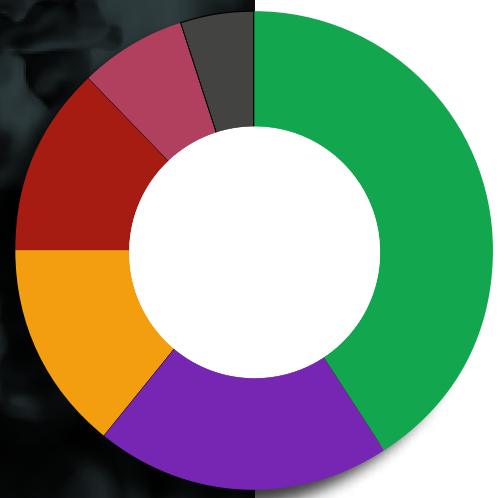
Type of organization

Architectural or design firm 47%
Supplier 20%
Other 14%
Construction contractor 10%
Environmental or energy agency 7%
Federal organization or local government 2%



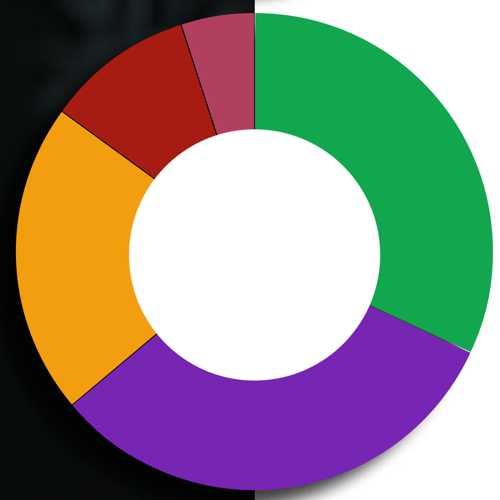
Seniority level

Manager or Supervisor 32%
C-Level / Owner / CEO / President 24%
VP or Director 22%
Individual contributor 20%
Other 2%



Type of job function

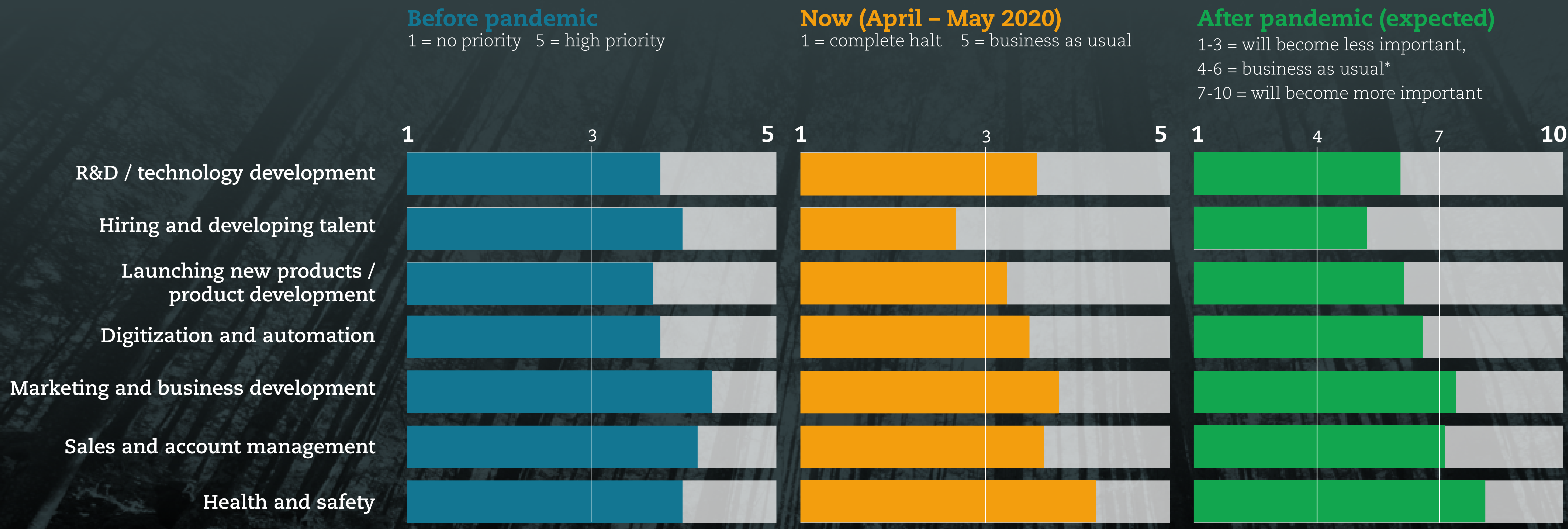
Design 41%
Corporate Management 20%
Commercial 14%
Operations 13%
Other 7%
R&D / Product / Technology Development 5%



Size of organization – measured by employee number

101 - 500 .... 32%
1-50 .... 32%
2,001+ 21%
51-100 .... 10%
501 - 2,000 .... 5%

Then, now and the future ahead



*business as usual = the level of business activity similar to the level of operations before the outbreak of the pandemic in March 2020.

Respondents were asked to indicate how their businesses prioritized the activities listed above before the pandemic, how their focus shifted as a result of the outbreak of the pandemic, and how they expect this to recover over the next 24 months.

Before the start of the pandemic, businesses working within the net-zero sector had a balanced approach to what their businesses were focused on, with relatively equal divides between key areas highlighted in the chart, such as launching products, marketing and business development

The outbreak of the pandemic disrupted this balance, as it slowed down the sector's focus on productivity and development in the fields of hiring and developing talent, launching new products and product development, marketing and business development, and sales and account management. Unsurprisingly, health and safety is one of the business activities that receives a continuous focus during the pandemic.

Continuing the look ahead to the next 24 months, as of late April / early May 2020, businesses expect R&D / technology development, hiring and developing talent, and new product launches to return to a level similar to business as usual. It is interesting to note that R&D / technology development doesn't appear to be as heavily impacted by the pandemic, as it has been a consistent business activity throughout. They also expect to somewhat increase capabilities and development in the area of digitization and automation, as well as sales and account management. In addition to investment in the implementation of improved health & safety, marketing and business development are expected to receive more strategic investment over the next 24 months.

The above numbers and findings are an average measured across all sector segments for the then, now, future ahead categories

NetZeroBuild Summit organized a **webinar** regarding this topic in May 2020. Amy Butler, Director of Sustainabilty at the Michigan State University, said that "We expect to continue work happening, but it may look different post-COVID. In particular with government and education, there is significant financial impact that will cause projects to be delayed or otherwise put on the backburner for a period of time. I can see where there are other industries that may have the opportunity to continue, but I think that how we look at them may be different. I'm not saying that higher education won't continue to do research and demonstrate projects and innovations that will contribute to the net-zero economy but I think that we'll have a significant impact on where they will continue to be served."

The net-zero sector **before** Covid-19

How would you describe the state of your organization's growth **before** the Covid-19 outbreak?

Performing in-line with projections
38.7%

Performing beyond projections (sustainably)
37.1%

Performing below projections (but optimistic)
19.4%

Performing beyond projections (unsustainably)
3.2%

Performing below projections (expect performance to continue)
1.6%

The net-zero sector appeared to be in relatively good shape prior to the outbreak of the pandemic in March 2020, as many indicate their businesses were either performing in line with projections, were performing beyond projections sustainably or were performing below projections but those respondents were optimistic about the future.

When did your organization start noticing the operational impact of the Covid-19 outbreak?

January	0%
February	13%
March	80%
We are not (yet) experiencing operational impact	7%

80% of the respondents indicate that the pandemic started having effect on their organizations' operations in March as the USA and the majority of Europe went into lockdown. 13% say that their organization, including architectural and design firms, environmental and energy agencies, and construction contractors started noticing an impact on their organizations as early as February. Only 7% of architectural and design firms say that at the time of this survey they are not (yet) experiencing any impact on operations, while January did not appear to cause any disruption to anyone yet.

When did your organization start noticing the economic impact of the Covid-19 outbreak?

January	2%
February	13%
March	73%
We are not (yet) experiencing economic impact	12%

The economic impact of the pandemic had already been felt earlier in the year for a minority, as 2% started noticing this in January and 13% in February. 73% say their business started experiencing economic impact in March and 12% indicate that their business is not yet experiencing any economic impact.

March, however, continues to be the key month during which both economic and operational impact were felt most heavily as the lockdown moved rapidly from East to West.

The impact of Covid-19 on **current** net-zero businesses and organizations

Current percentage of production operation within your organization

Construction contractors and federal organizations / local governments appear to be the groups most impacted in their production operations. For the construction contractors, this low production output is undoubtedly related to the closure of Michigan-based construction businesses ordered by the state's Governor as part of lockdown measures. This market is set to reopen on May 7.

Most architectural and design firms have continued work on their projects – this could be related to the fact that there is an ongoing necessity for (net-zero) building design, and this work can also be performed with social distancing measures in place, such as working from home. Suppliers, environmental and energy agencies, as well as the 'other' category (including universities, manufacturers, non-profit and software development organizations) seem to have continued operations at half the capacity. As lockdown measures are likely to be eased throughout 'the coming months, it is expected most businesses will slowly move back to full operational capacity.

The amount of financial aid required, already received or not required varies between the different verticals within the net-zero sector.

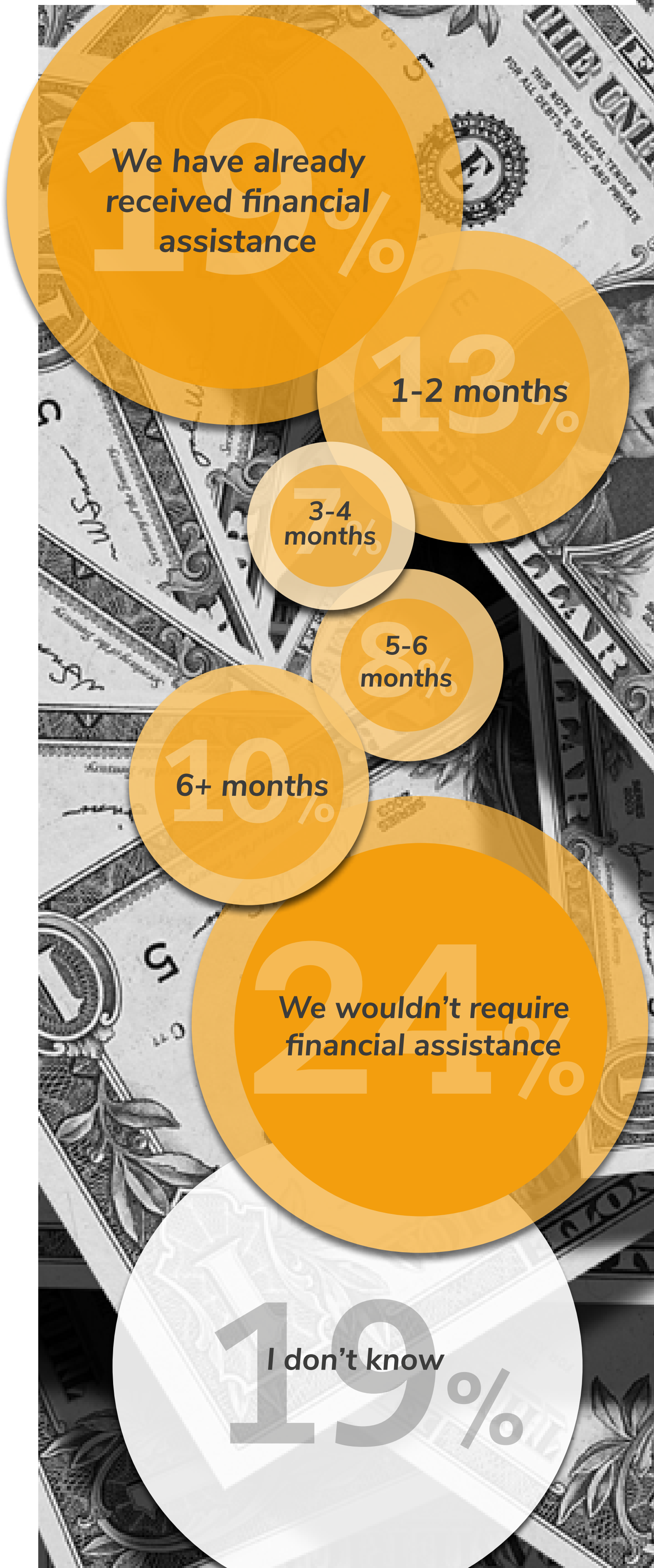
Based on the current output and production capacity, 57% of respondents say their organization has already received financial assistance or would require financial assistances within the next 6+ months. Nearly a quarter (24%) wouldn't require financial assistance. Organizations based in Michigan and surrounding states are eligible for financial support that was released through the Coronavirus Aid, Relief and Economic Security (CARES) Act. The scheme aims to provide assistance to small businesses, as well as other businesses during this time. 74% of the respondents say their organization classifies as a small business.

Within the **architectural and design firm** vertical, 25% of respondents indicate that their organizations have received financial aid, while 22% highlight that their business wouldn't require such help. 14% mention that their business could continue for more than six months without any aid. As such, 61% of the architectural and design firms would require financial aid within the next six months.

50% of **construction contractors** say that their business can continue for another 1-2 months without financial aid, while another 17% mention they have already received financial assistance. Just under a third of the professionals in this vertical (33%) think their business wouldn't require any financial assistance, meaning this vertical appears to be reliant on financial aid in the coming months.

25% of **suppliers** indicate that they wouldn't require financial assistance, while another 25% say that they wouldn't know if they would require any aid. 8% say they have already received financial assistance. The remaining 42% expects they would require financial assistance between 1-2 months (17%), 5-6 months (17%) or after 6 months (8%) in order to continue operations. 50% of suppliers is in need of financial assistance.

Based on your current output and production capacity, how long can your company continue to operate without financial assistance



Which industries are net-zero organizations still serving?

The role of **essential businesses**

Just over half of the respondents say that their business is classified as 'essential'.

Essential businesses are organizations that can continue operations during the Covid-19 lockdown as they are part of a so-called critical infrastructure, however the definition of 'essential business' varies per state and is not always clear.

The respondents of whose business is classified as essential, say this is because they either work on classified construction, government and medical projects, housing, architectural support, water treatment, solar construction, infrastructure engineering projects and utility services among others.

It is interesting to highlight that many respondents mention construction and housing related projects. As mentioned earlier in this report, the construction industry was halted in Michigan from late March to early May, while this sector was allowed to operate in surrounding states such as Ohio, Illinois and Indiana. Despite most Midwestern states being able to continue construction projects, concern was raised in April regarding the delays and cancellations of projects this sector was facing as a result of the outbreak of the pandemic. Some organizations are fearing the long-term effects of the pandemic on construction sites in general.

Providing solutions to help mitigate the Covid-19 outbreak

Just over half of the respondents say that their business is providing solutions to help mitigate the Covid-19 outbreak. While many indicated that what they develop is confidential information, some organizations were able to share with us what they have been working on.

Architectural and design firms are working on designing offices and construction sites that are 'social distancing-proof', as well as healthcare support such as converting exam rooms and design support to prevent overflowing and healthier building options.

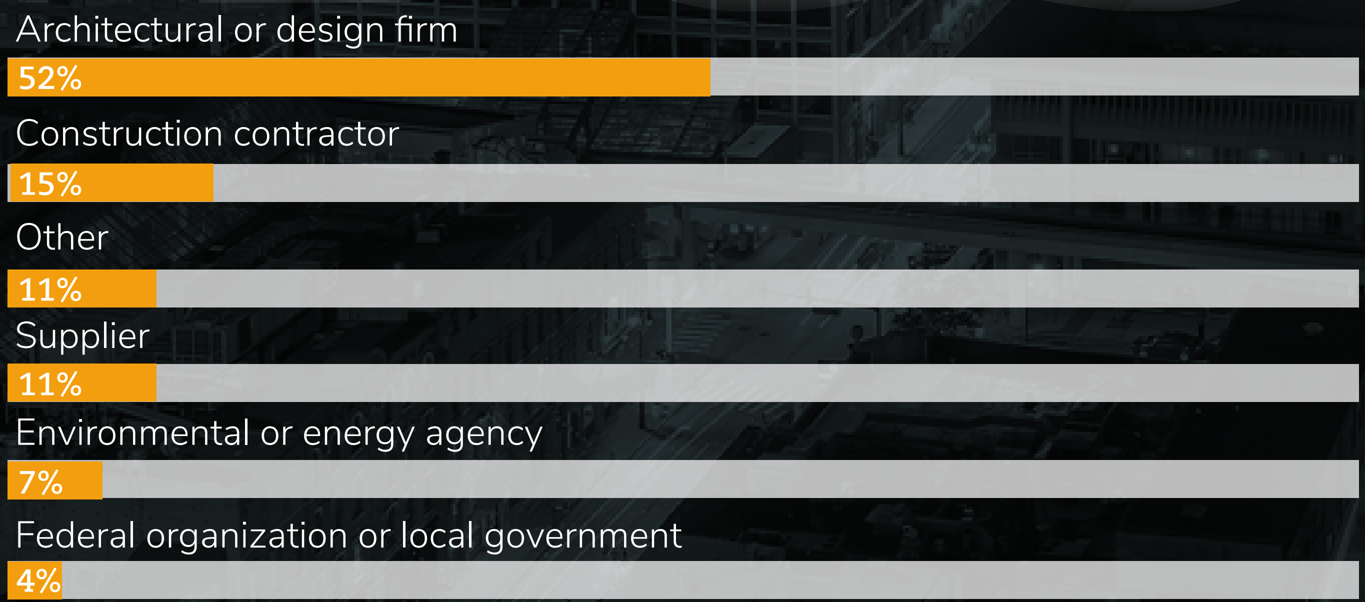
Suppliers are working on personal protection equipment (including gowns and face masks), ventilators and (hand) sanitizer.

Construction contractors have indicated that they are working on retro commissioning projects for building ventilation, spatial analytics dashboards and technology-based solutions for early detection. Other examples include fast-track construction of durable, patient isolation, triage and treatment facilities.

Have organizations been able to help provide solutions to mitigate the outbreak of the pandemic?

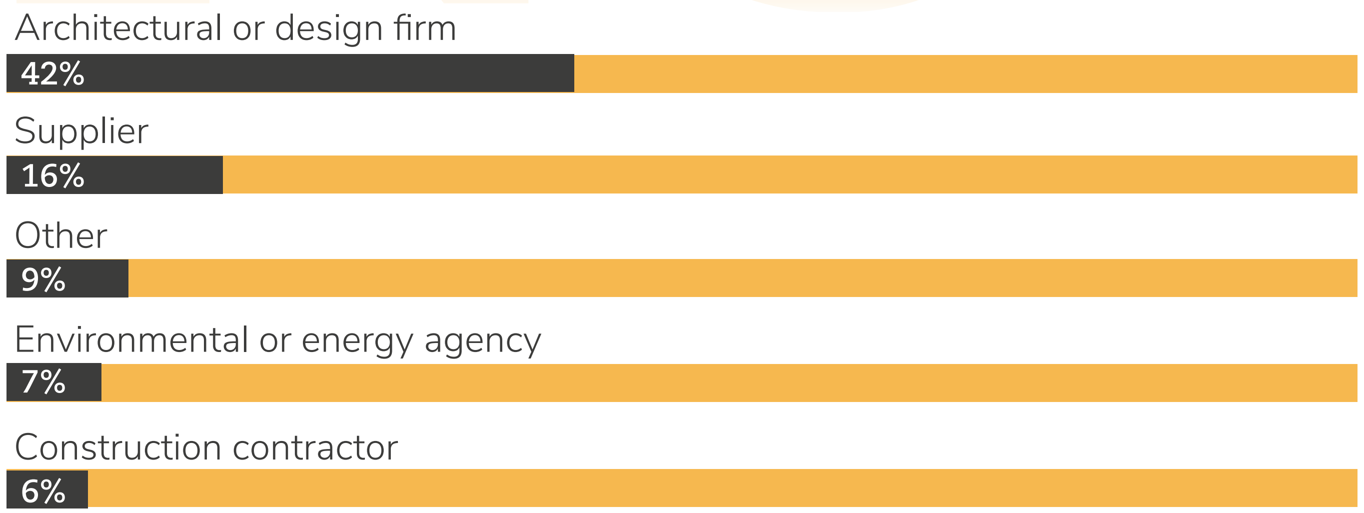
Yes

What type of organization do you work for?



No

What type of organization do you work for?



Looking ahead

How will the Covid-19 pandemic impact the future of the net-zero sector?

Future outlook on business plans

As demonstrated in the Then / Now / After section of this report, respondents expect their business to return to business as usual (i.e., to the levels as before the pandemic) for R&D, launching new products and hiring and developing talent, while slightly increasing focus on marketing, sales and business development, digitization and automation, and health and safety.

The survey continued by asking respondents about the top challenges in ensuring business continuity.

Top 3 challenges in business continuity

1. **Reduced orders and sales**
2. **Shutdown of organizations and/or suppliers who classify as 'non-essential' business**
3. **Availability of workforce**

Interestingly, only 4% of the respondents indicate that Availability of sustainable and net-zero products / energy was a challenge for them. Other challenges mentioned by our respondents include "shipping and distribution", "budget reductions for 2020 and 2021", "municipal lay-offs and shutdowns", "maintaining a company culture while all employees are working remotely", "slowdown of the automotive industry", "reduced marketing capabilities", "travel restrictions", and "access to (new) clients".

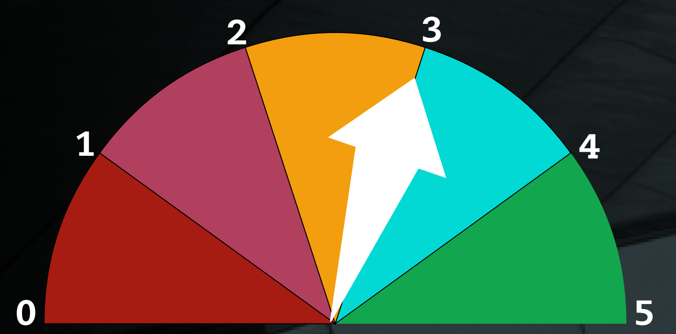
Sentiment on **organizational response** to crisis

Despite the uncertainty that is facing us globally, it is encouraging to see that the net-zero sector feels somewhat positive about some of the challenges thrown at them on a personal level, including working from home and keeping up productivity.

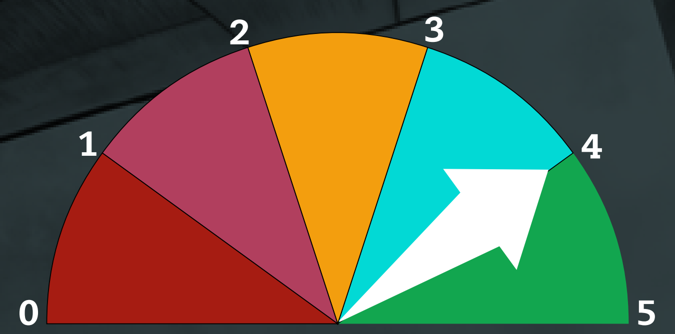
A contrast is visible in the statement regarding the impact of this pandemic on an organization's revenue. While the start of the year appeared to be strong for this sector, with many indicating that their business was performing in-line with expectations, there is certainly an anticipation that organizations will be hit for the months to come.

On a more positive business-related note, most respondents are satisfied with how their businesses responded to the pandemic and how they informed their employees and customers. However, they feel slightly less positively, although not negatively, regarding available (net-zero) inventories within their business.

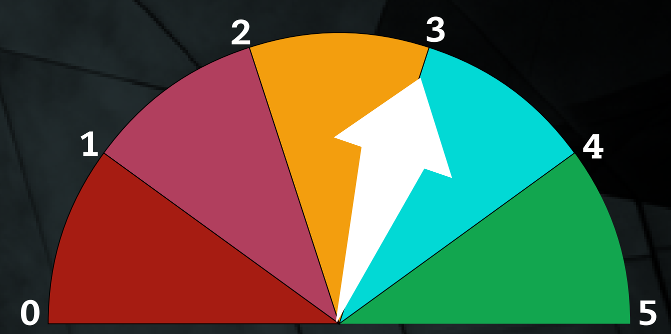
0 - Totally disagree	1 - Disagree	2 - Somewhat disagree	3 - Somewhat agree	4 - Agree	5 - Totally agree



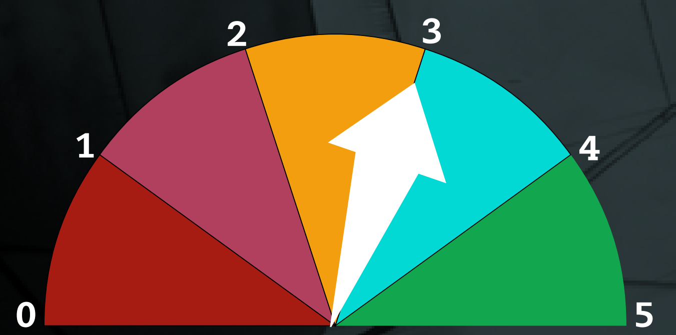
There is enough inventory and availability of parts, components, assemblies, hardware and materials to continue production in the event of a prolonged disruption in the supply chain (2+ months)



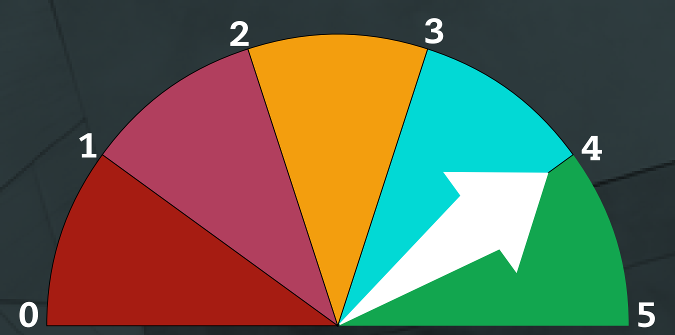
Working remotely will not disrupt the productivity of my team



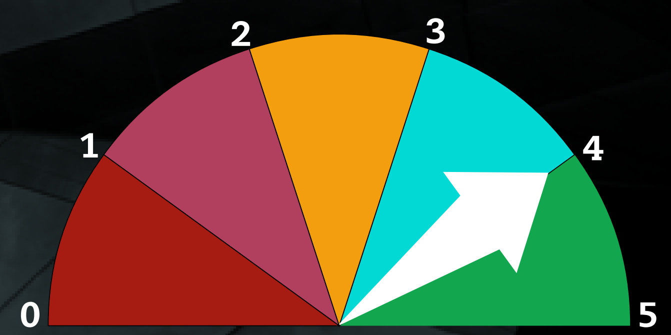
I have a better work-life balance working from home



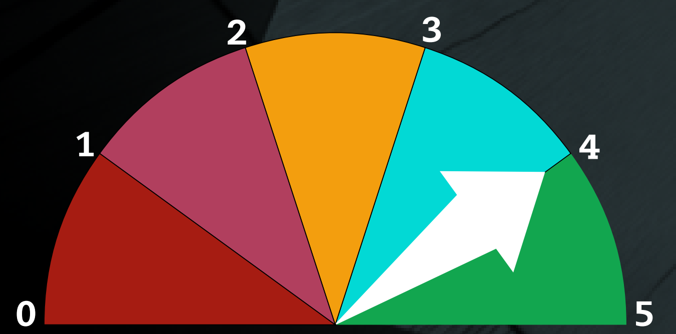
I am being more productive working from home



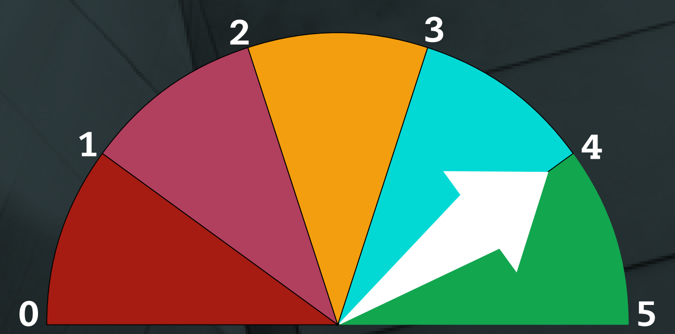
The company's leadership had enough resiliency planning in place to ensure business continuity during this crisis



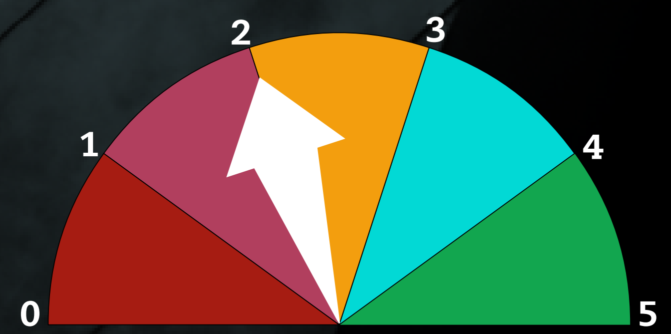
Leadership has put mental and physical wellbeing at the forefront of their strategy



Corporate communications to employees were timely, structured and clear in response to this crisis



Corporate communications to customers were timely, structured and clear in response to this crisis



The pandemic will minimally impact our organization's revenue

Sentiment on **future of industry**

When asked about their sentiment on the future of the net-zero industry, respondents supported their key areas of opportunity and challenge with comments. Some appear optimistic about the potential of a future increase in the implementation of net-zero capabilities, although others are concerned that the longevity of the pandemic and its economic impact may put the necessity of net-zero capabilities on the backburner.

Respondents in the sector expect a negative impact on sustainable supply chains (31%) and sustainable construction (23%). Some respondents mention separately that they believe that as its supply chain is complex and global, it is easy to disrupt. Products are hard to come by without adding to carbon emissions, and one respondent mentioned that 'net-zero is secondary to current issues' and may not be prioritized as much as it has been in recent years. Additionally, at the time of the survey, many states are not allowing construction or limiting people on a site which hurts productivity – as one respondent put it. 18% think that the availability of net-zero energy and utilities will be a key challenge.

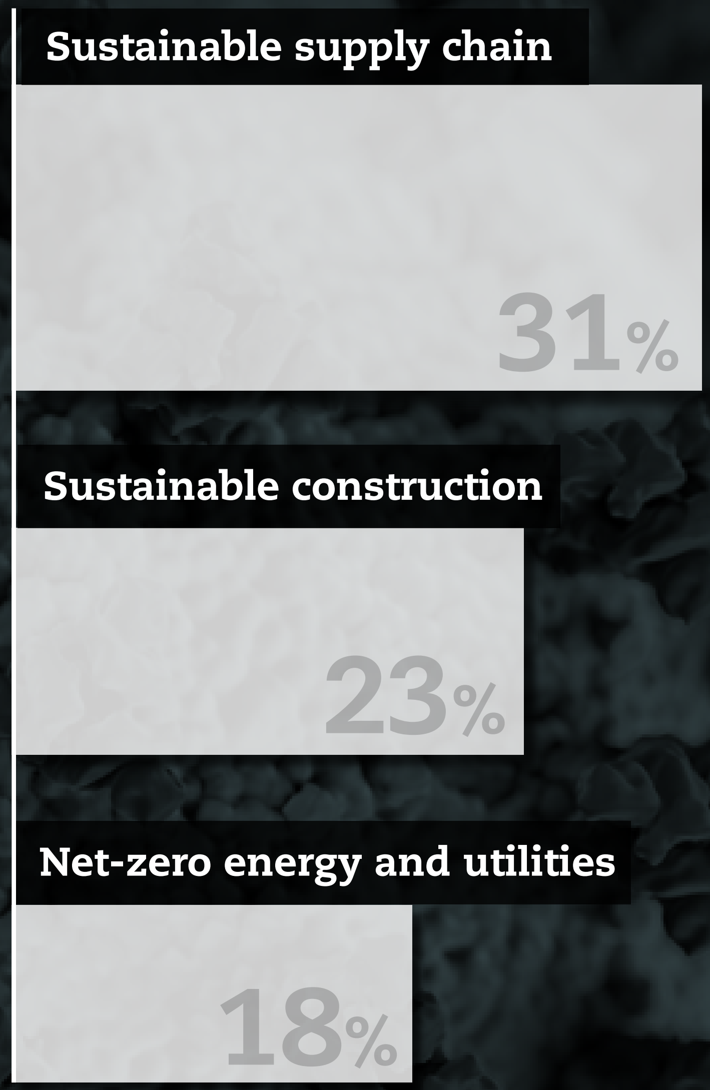
On the contrary, respondents also mentioned that the crisis could lead to opportunity and transformation and that this could be a potential lead to meaningful action regarding green renewables.

As visible in the chart on the right, respondents are more positive about the future of sustainable buildings and/ or grid design as 23% indicates that this is the key area of opportunity. They foresee that an "increased emphasis will be placed on indoor air quality and treatment". Meanwhile, there is an expectation that there will be a better understanding about the link between human activities and carbon emissions, which could lead to more conscious decision-making. However, respondents also weigh-in the economic stresses that are born out of the pandemic, which could harm this decision making.

Adding to this area of opportunity is the vision of Lois Vitt Sale, Senior Vice President of Sustainability at architecture and design firm Wight & Co. During the NetZeroBuild **webinar** she said: "Not many of our clients, such as parks and rec, municipal and K12 and higher education, would regard net-zero as a sector; it is project by project. Personally, our firm is signatory to AIA 2030 where we try to do all design to net-zero carbon by 2030 and we are committing to making all of our projects solar ready in terms of a future infrastructure. It is a balance sheet decision. I don't think any of us are in a position to say what's going to happen post-COVID, but right now we are fortunate because none of the projects that were choosing to be net-zero have changed their mind because they are in the middle of the pandemic. There is different sensitivity to economic changes and certainly the public sector tends to dedicate funds well in advance of actual projects realization and so they tend to stay on the course for a longer amount of time. Industrial and private are much faster to shut down and say 'we can't do this right now'. We think that with small incremental investments we can make projects solar-ready so that as the temperature changes, we can get right back in the game."

On a more personal level, respondents think that the pandemic will fuel healthy living and, as one respondent put it, will teach us all to "reconnect with positive, balancing habits in our lives – including traveling less, working a reasonable number of hours and cooking all meals by oneself instead of eating out on a regular basis".

The potential negative impacts of the pandemic on the net-zero sector



Potential areas of growth during and after this time of global uncertainty?