

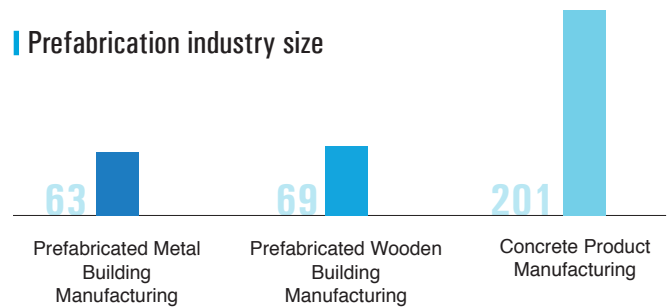


CAPACITY + CAPABILITY REPORT

How NZ's prefab industry can deliver Kiwibuild

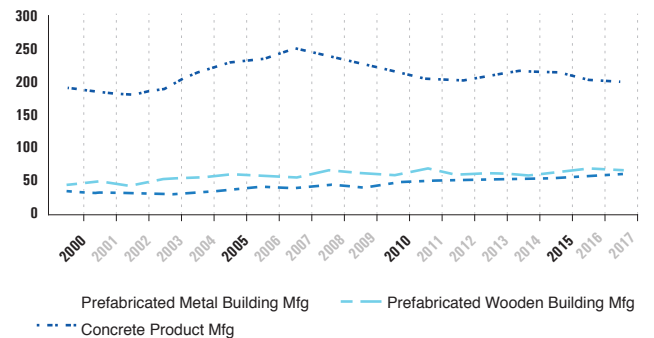
In 2017, the construction industry represented 6% of New Zealand's GDP. Most of the construction is done on site. However, the increase of construction demand driven by new policies like KiwiBuild presents new opportunities for manufactured, or prefabricated, construction. Statistics NZ's Business Demography Statistics showed 333 businesses involved with prefabrication in New Zealand (according to the Classification Code Hierarchy ANZSIC). Most of the businesses are related with concrete products. However, the prefabricated metal businesses have had the highest growth (75%) since 2000. The purpose of this study is to determine the Prefab Market demand, assess the Capacity of the industry and find new financing mechanisms to increase Capability to deliver. The survey conducted by PrefabNZ includes 36 companies related to offsite construction in New Zealand. The survey included manufacturers of prefabricated components, panels, pods, or complete houses, construction companies and builders, companies that directly or indirectly use prefabricated pieces, and researchers. The data was collected online between December 2017 and January 2018. The results showed that the manufacturers surveyed represented 2% of the total construction GDP. New Zealand's GDP as of September 2016 was NZD 235,945 Million and the construction sector represented NZD 14,937 Million.

Prefabrication industry size



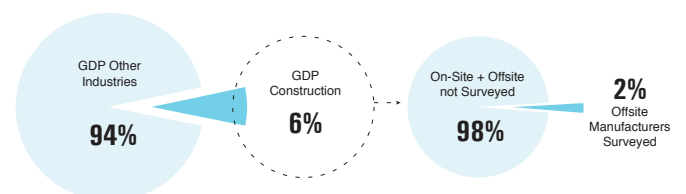
Source: StatsNZ

Number of businesses in the prefab industry



Source: StatsNZ

Construction Industry in New Zealand



Source: StatsNZ + PrefabNZ

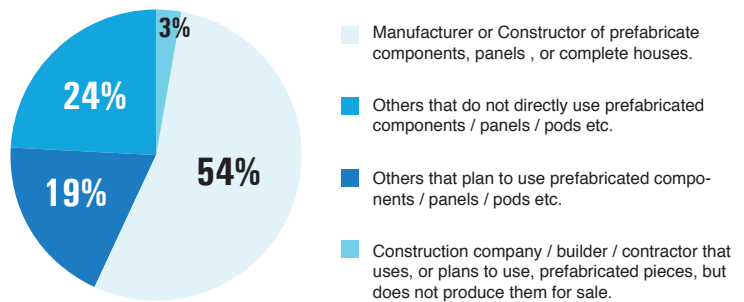
1 | A business or service entity operating in New Zealand. It can be a company, partnership, trust, estate, incorporated society, producer board, local or central government organisation, voluntary organisation or self-employed individual. Due to rounding, individual figures may not always sum to the stated total(s).

SURVEY METHOD

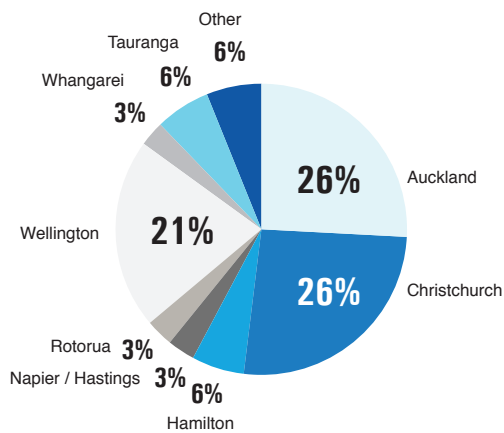
The survey objective is to establish the Capacity and Capability of the offsite construction industry in New Zealand. The survey had three sections. The first part aimed to measure the market size. This includes an estimation of offsite construction revenues and quantity of components, panels, pods and complete buildings manufactured. The second part was to determine the installed and used capacity. This helps us to understand how much the industry can grow with the actual capacity and the investment required to face a higher demand, such as that under KiwiBuild. Finally, the last section was looking for new ideas to finance offsite construction. Answers from offsite and on site manufacturers, builders, government institutions and researchers were included. Companies of different sizes from all over New Zealand were included. More than half the companies surveyed had less than 20 employees and 88% have less than 100 employees.

SURVEYING PREFAB COMPANIES

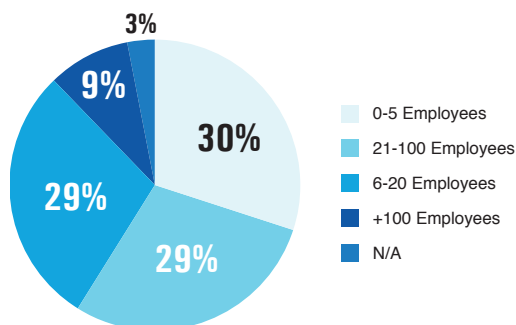
Surveyed Companies by Main Activity



Surveyed Companies by Location



Size of Surveyed Companies by Employees



INDUSTRY DATA

More than half of the prefab manufacturers and constructors surveyed reported they built on site and offsite. Currently, on average 64% of the revenue comes from offsite construction. However, they forecast that in the next 3 years (by 2020) the use of offsite building will increase, representing on average of 75% of their income. Furthermore, with a higher increase of the demand due to new policies like KiwiBuild, offsite construction will represent up to 80%.

The manufacturers surveyed forecast a substantial rise in their offsite revenue for the next 3 years. This high increase is driven mainly by making complete buildings and panels due to the increase in the forecasted demand supported by KiwiBuild.

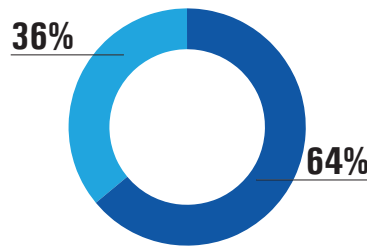
Furthermore, there are several large companies (Disruptors*) that are not currently producing but are planning to manufacture complete buildings. This could have a big effect on the industry and change the construction dynamic in New Zealand.

The current Operating Margin of manufacturers is on average 15%. The forecast margin with KiwiBuild is lower than without it. According to the survey some companies are willing to drop their margins between 3%-5% to deliver at scale.

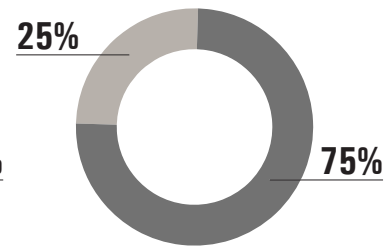
*The disruptors are 3 large companies that will produce around 6,500.

PREFAB MARKET SIZE

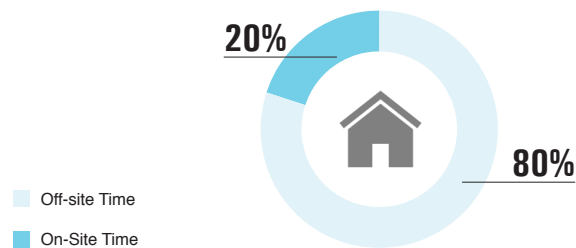
Current Source of Income



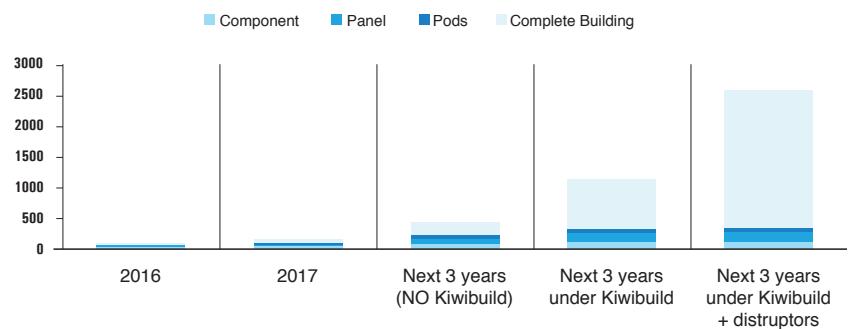
Forecast Source of Income - Next 3 Years



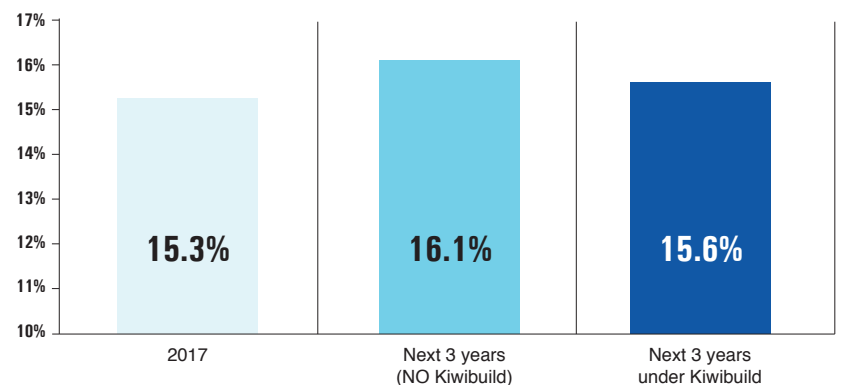
Forecast Source of Income - Next 3 Years with KiwiBuild



Historic and Forecast Annual Revenue by Prefabricated Piece (\$M)



Operating Margin Averages



CAPACITY + CAPABILITY

The prefab industry is composed of companies that manufacture components, panels, pods and/or complete buildings. According to the survey answers of 20 manufacturers, the current production of components and complete buildings uses more than 50% of the total installed capacity (57% and 77% respectively). In the case of panels and pods there is more current available capacity (79% and 71% respectively).

The current capacity of producing complete buildings is around 1,200 per year (survey). Using statistics (scaling), we estimate that the NZ complete building manufacture industry could currently build 3,000 to 4,000 houses per year.

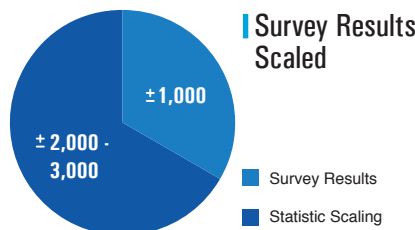
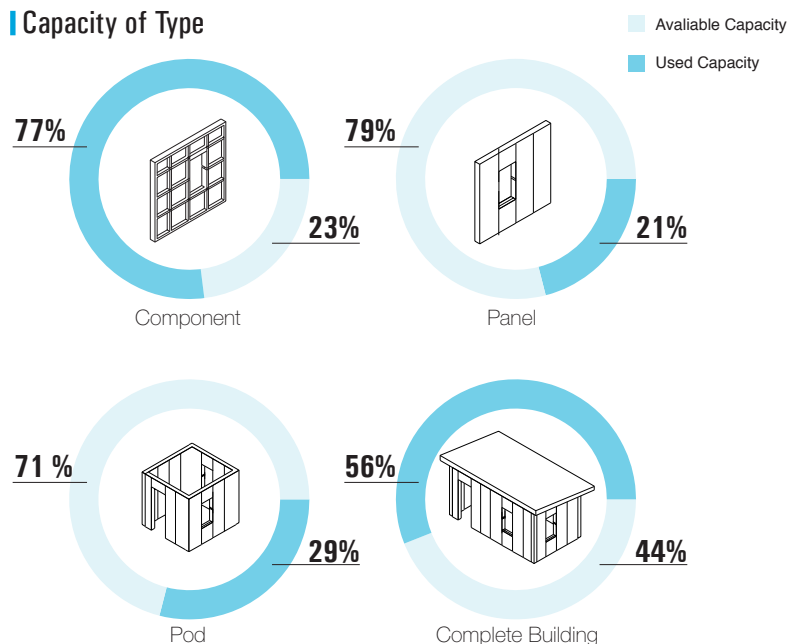
To face the increasing demand for housing, companies plan to invest between 1%-19% of their revenues, with a median of 8%. New market participants will increase the capacity of the industry, mainly in the complete buildings division.

Companies have investment plans (survey) that suggest the capacity in 2020 will more than double to reach 2,300 houses per year. This amount corresponds only to 8 companies that successfully filled in the survey. Moreover, new market participants (disruptors) are forecast to produce 6,400 houses in 2020. This represents a total future installed capacity (in the next 3 years) of 8,700 houses per year, according to the survey results. Without disruptors and scaling the survey results, a total of 7,000 homes could be delivered each year from 2020 if the wider Prefab industry capacity scales up at 90% (as survey recipients have indicated they will do) over the next three years.

With smaller samples, the available Capacity in components is 6,000 units and will increase 24% in the next 3 years. In panels the available capacity is 100,000 and the forecast is 122,000. The capacity in pods is 2,400 and is projected to increase 27% in 2020.

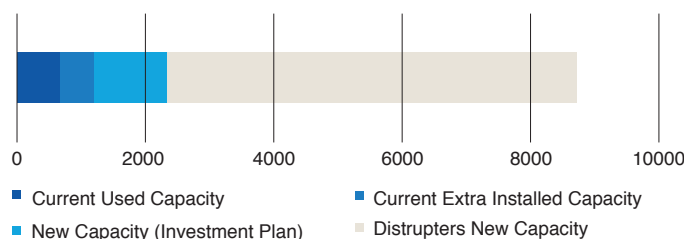
PREFAB INDUSTRY CAPACITY

Capacity of Type

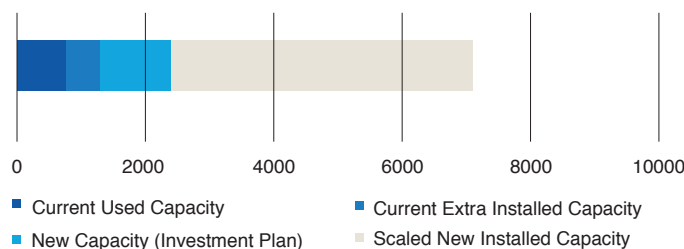


The current available Capacity estimated of NZ Complete Building Manufacturers is between 3,000 and 4,000 houses per year.

Future Complete Building Capacity



Future Complete Building Capacity Scaled



DISCLAIMER

Data were collected through a survey to PrefabNZ members. Responses were taken in good faith. Due process has been followed, but the researchers did not endeavour to validate or otherwise corroborate the responses. PrefabNZ makes no guarantee of the accuracy or completeness of the responses, and does not accept any liability for any errors.