ATTACHMENT B

Summary of Industry Survey Responses: Regional District of Nanaimo

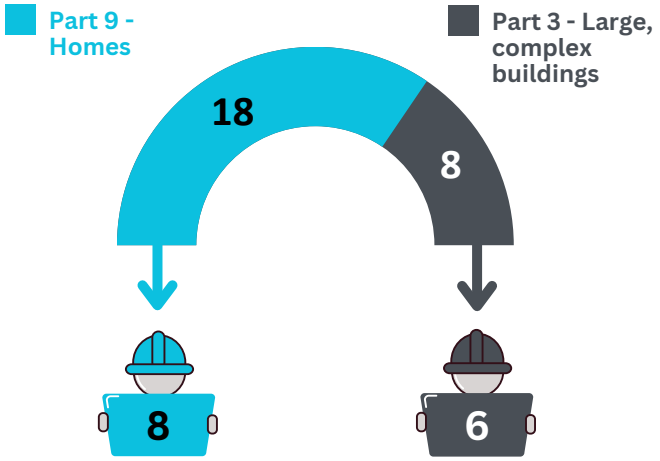
Regional Strategy for Net Zero Buildings and Localized Energy Generation

26 Survey Responses Recorded

- **7** Home Builders
- **4** Developers
- **4** Consultants
- **3** Contractors
- **2** Energy Advisors
- **1** Energy Modeller

Most respondents **strongly agreed** with the following statement: **"There is a need to improve both energy efficiency and reduce carbon emissions in new buildings."**

Type of Buildings Respondents Primarily Worked On



8 respondents have **experience** building or designing to **Step 5** of the Step Code for **Part 9 Buildings**

6 respondents have **experience** building or designing to **Step 4** of the Step Code for **Part 3 Buildings**

Top responses to the **benefits** of building to higher levels of the ***BC Energy Step Code*** were:

1. Increased comfort for occupants
2. Lower carbon footprint
3. Lower utility bills and healthier and safer buildings

Common **challenges** of building to higher levels of the ***BC Energy Step Code*** were:

1. Costs of design and construction
2. Home/building owners do not understand or value energy efficiency
3. Lack of industry capacity

Common **challenges** of designing/constructing buildings with **electric heating and water systems** were:

1. Home owner preference does not align with electrification
2. Requiring upgrades to electrical services
3. Home owners do not understand or value low carbon space heating and hot water systems

Top responses when asked what **supports** would help to implement higher levels of the ***BC Energy Step Code*** were:

1. Financial incentives to offset additional costs
2. Permit fast-tracking
3. Training and education for industry

Additional challenges are: **city bylaws or design guidelines conflict with or constrain** the achievement of energy-efficient buildings.

The **City of Nanaimo** was the most common response when asked which municipality guidelines constrain the achievement of energy-efficient buildings.

It is preferred that **all local governments in the RDN** have the **same requirements** for energy efficiency even if it means having to meet **higher levels** of Energy Step Code **across the region.**

Industry Survey Responses

Regional Strategy for Net Zero Buildings and Localized Energy Generation

Summary of Responses

- There were **26 total** responses.
    - Most respondents surveyed were **home builders** (7 responses).

- The **most common area of work** was the RDN Electoral Areas (21), followed by the City of Nanaimo (19).
    - Many also work outside of the RDN but on Vancouver Island (18).

- Most of the respondents design or construct **Part 9 buildings** (18 responses).

- Most respondents **had experience** with building to Level 3 or higher of the BC Step Code for **Part 9 Buildings.**
    - Only 4 respondents had **no experience** with Level 3 or higher;
    - 8 respondents had Step 5 experience;
    - 11 had Step 4 experience;
    - 10 had Step 3 experience.

- The **experience with building to Level 3 or higher** of the Step Code for Part 3 buildings had a similar breakdown:
    - Only 1 respondent had no experience with Level 3 or higher;
    - 6 respondents had Step 4 experience;
    - 7 respondents had Step 3 experience;
    - 5 respondents had Step 2 experience.

- **Most respondents strongly agreed** with the following statement: “There is a need to improve both energy efficiency and reduce carbon emissions in new buildings.”

- **Top responses** to the **benefits of building to higher levels** of the Energy Step Code were:
    - 19: “Increased comfort for occupants”;
    - 18: “Lower carbon footprint”;
    - 18: “Lower utility bills”;
    - 18: “Healthier and safer buildings”.

- **Top responses** regarding the following **challenges of designing or constructing to higher Step Code** levels were:
    - 20: “Cost – Costs of design and construction are higher for energy efficient buildings”.
    - 15: “Awareness and Understanding – Home/building owners do not understand or value energy efficiency”.

    - 13: “Industry capacity – Local contractors, consultants or other service providers with the skills necessary to build to higher levels are unavailable”.

- T**he City of Nanaimo was the most common response** when asked which City bylaws or design guidelines conflict with or constrain the achievement of energy efficient buildings.

- The **top 3 responses** when asked **what supports would help** to implement higher levels of the BC Energy Step code were:
    - (16) Financial incentives to offset additional costs
    - (13) Permit fast-tracking
    - (12) Training and education for industry on technologies and processes for building energy-efficient buildings

- Most respondents had experience with electric-based systems in Part 9 buildings with **heat pumps for space heating being the most common.**
    - For **Part 3 buildings**, however, half of respondents did not have any experience with electric-based systems

- When asked what they saw as the **primary benefits of building an electrified building** (Zero Carbon Step Code), respondents chose **“lower carbon footprint”** (20 times) as the most common option followed by “healthier and safer buildings” (13 times).

- When asked what the **challenges were when designing/constructing buildings electric heating and water systems** the most common response was **“home/building owner preference does not align with electrification”** (16 times) closely followed by **“requiring upgrades to electrical services”** (14 times).

- When asked **what supports are needed to implement the Zero Carbon Step Code**, the top 3 responses were:
    - (12) Financial incentives to offset additional costs
    - (11) Education for industry on Zero Carbon Step Code requirements
    - (11) Awareness building for homeowners

- When asked how important consistent requirements for energy efficient and low carbon buildings were across local governments, the most common response was that it was **preferred that all local governments in the RDN have the same requirements for energy efficiency** even if it mean having to meet higher levels of Energy Step Code across the region.
    - There was only **half as much support** for the same regulations of the **Zero Carbon Step Code across the RDN.**

- Most respondents worked for **small companies** (19 respondents).

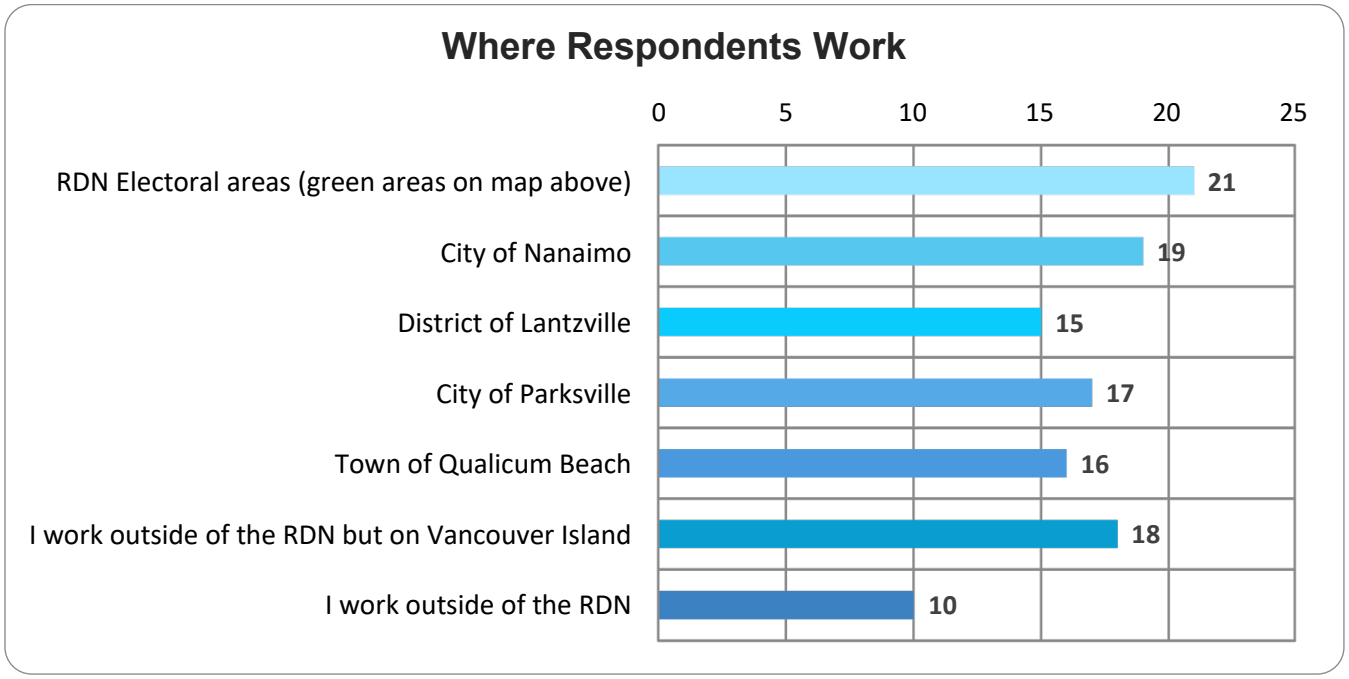
Question 1) Which sector do you work in?

Which sector do you work in?	
Home Builder	7
Developer	4
Energy advisor	2
Energy modeller	1
Contractor	3
Consultant	4
Other (please specify)	5

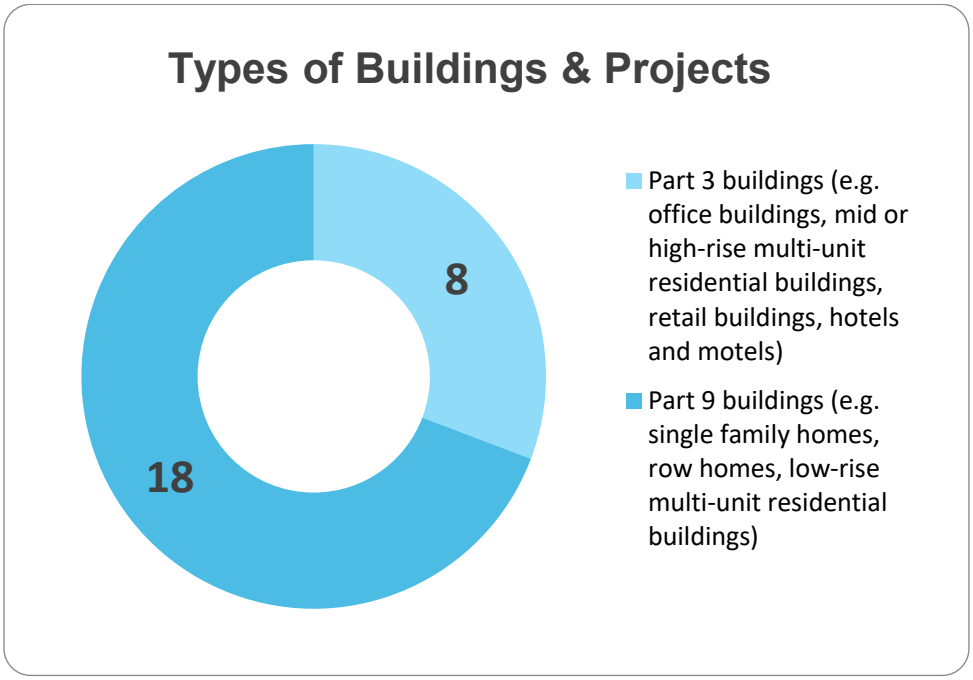
"Other" responses:

- Architect/Designer, 1
- Energy Advisor and Building Designer, 1
- CAD Design Technician, 1
- Utility Sector, 1
- Product supplier/installer, 1

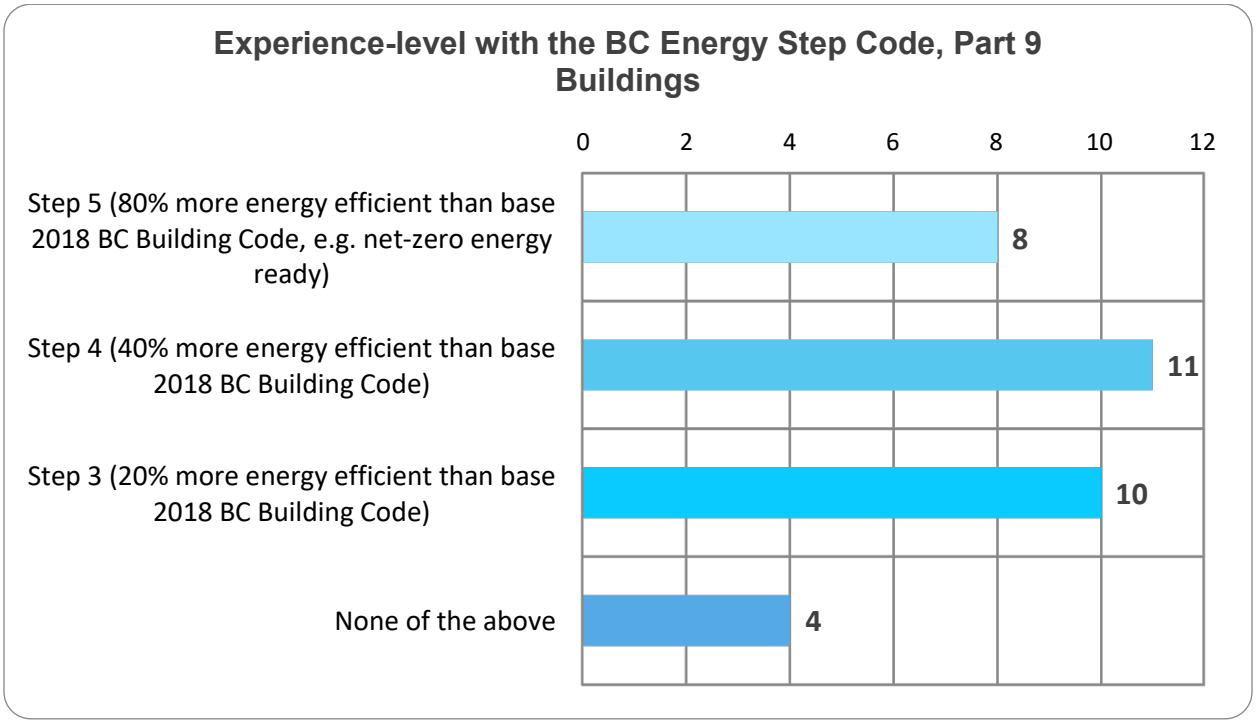
Question 2) Which area or municipality/municipalities in the Regional District of Nanaimo (RDN) do you work in? [check all that apply].



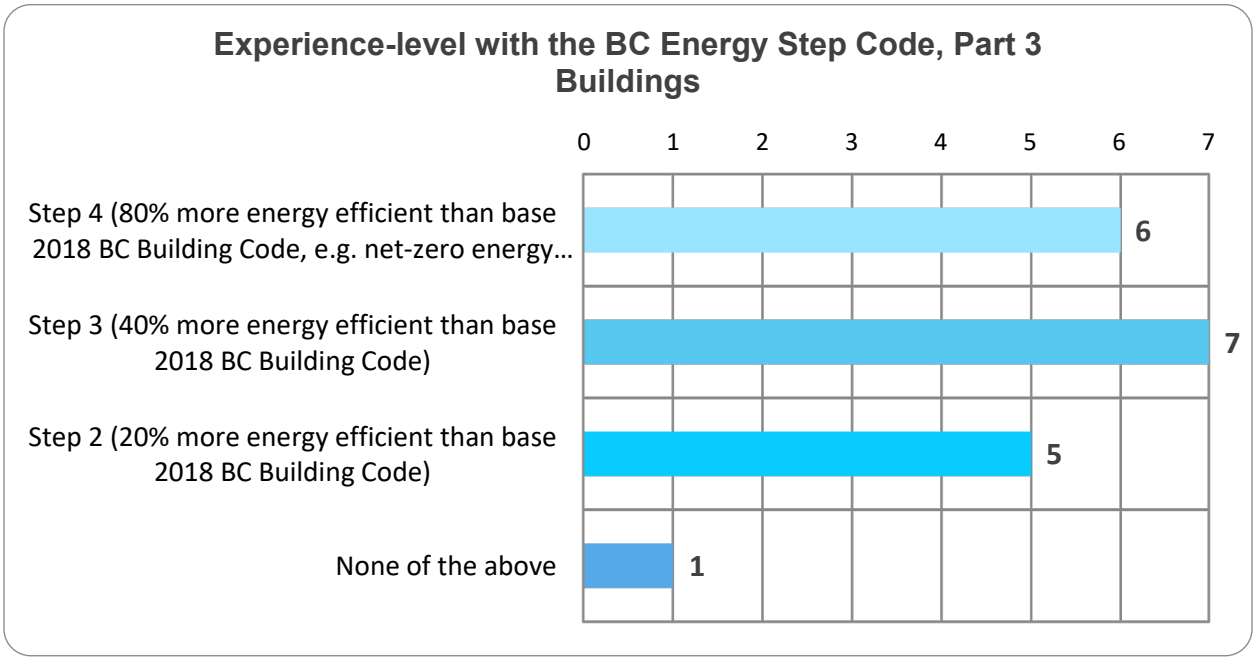
Question 3) What type(s) of building design and construction projects do you primarily work on? [select one]



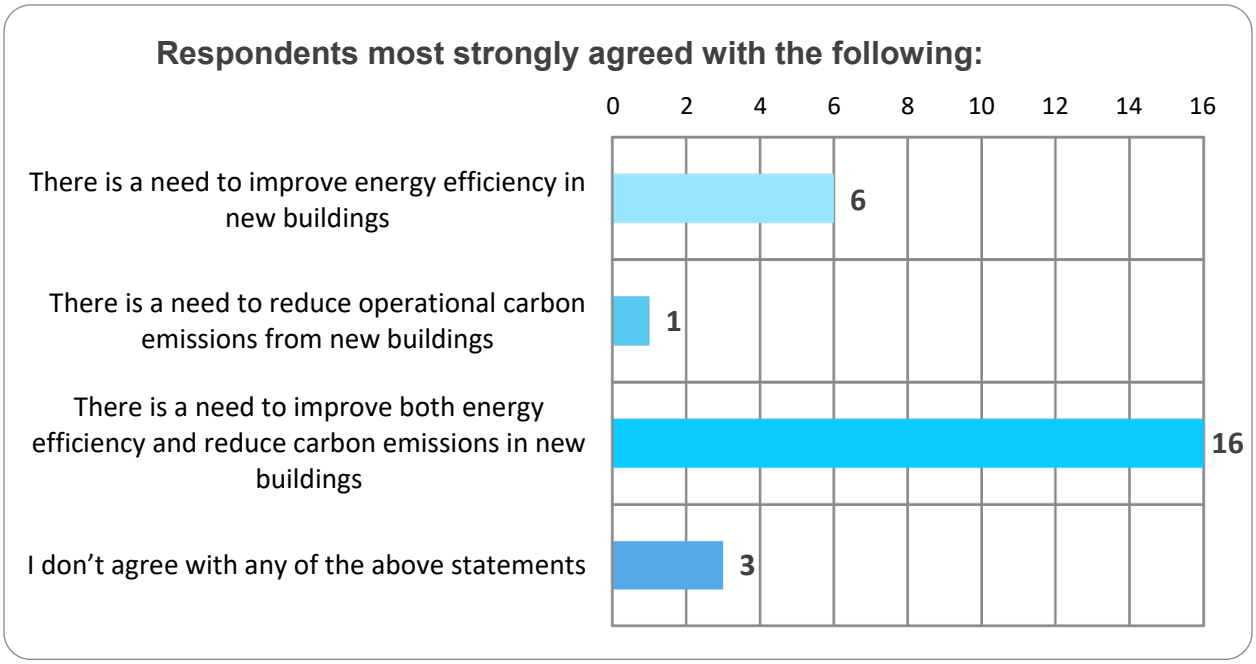
Question 4) Do you have experience designing/building to higher levels of the BC Energy Step Code for Part 9 buildings (e.g. single-family homes, row homes, and small multi-unit residential buildings)? [check all that apply]



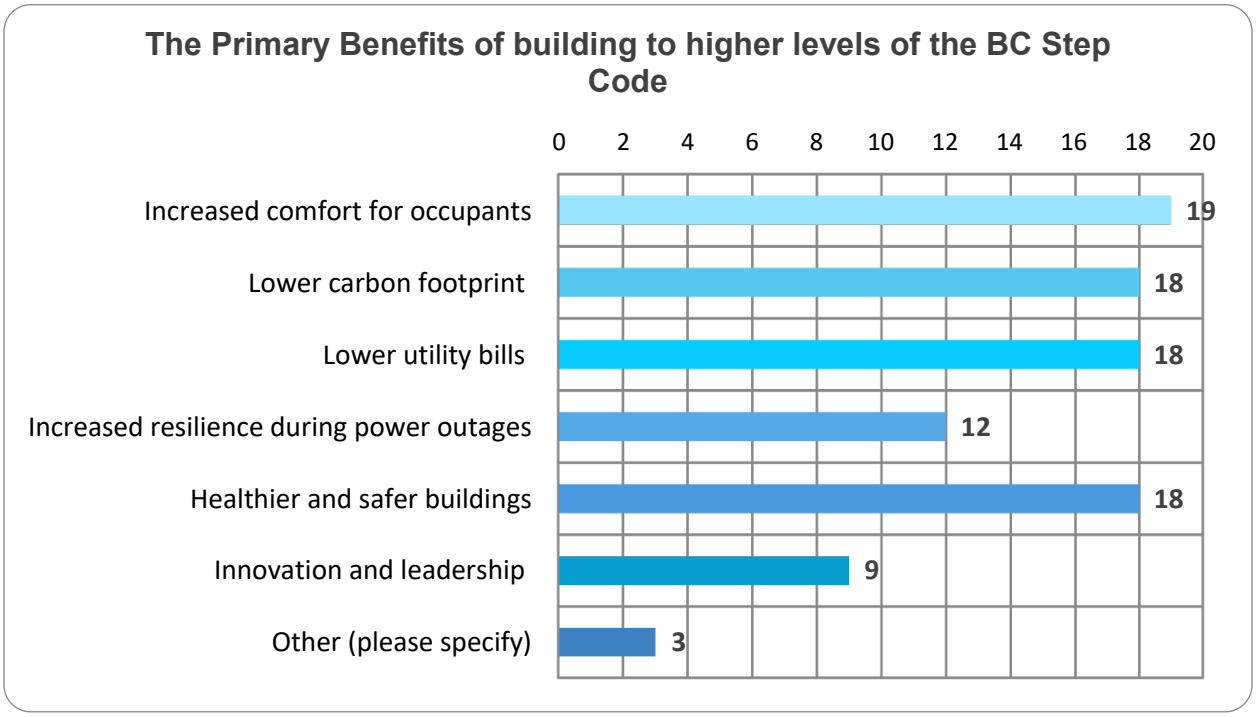
Question 5) Do you have experience designing/building to higher levels of the BC Energy Step Code for Part 3 buildings (e.g. office buildings, large multi-unit residential buildings, retail, and hotels)? [check all that apply]



Question 6) Which of the following statements do you most strongly agree with? [select one]?

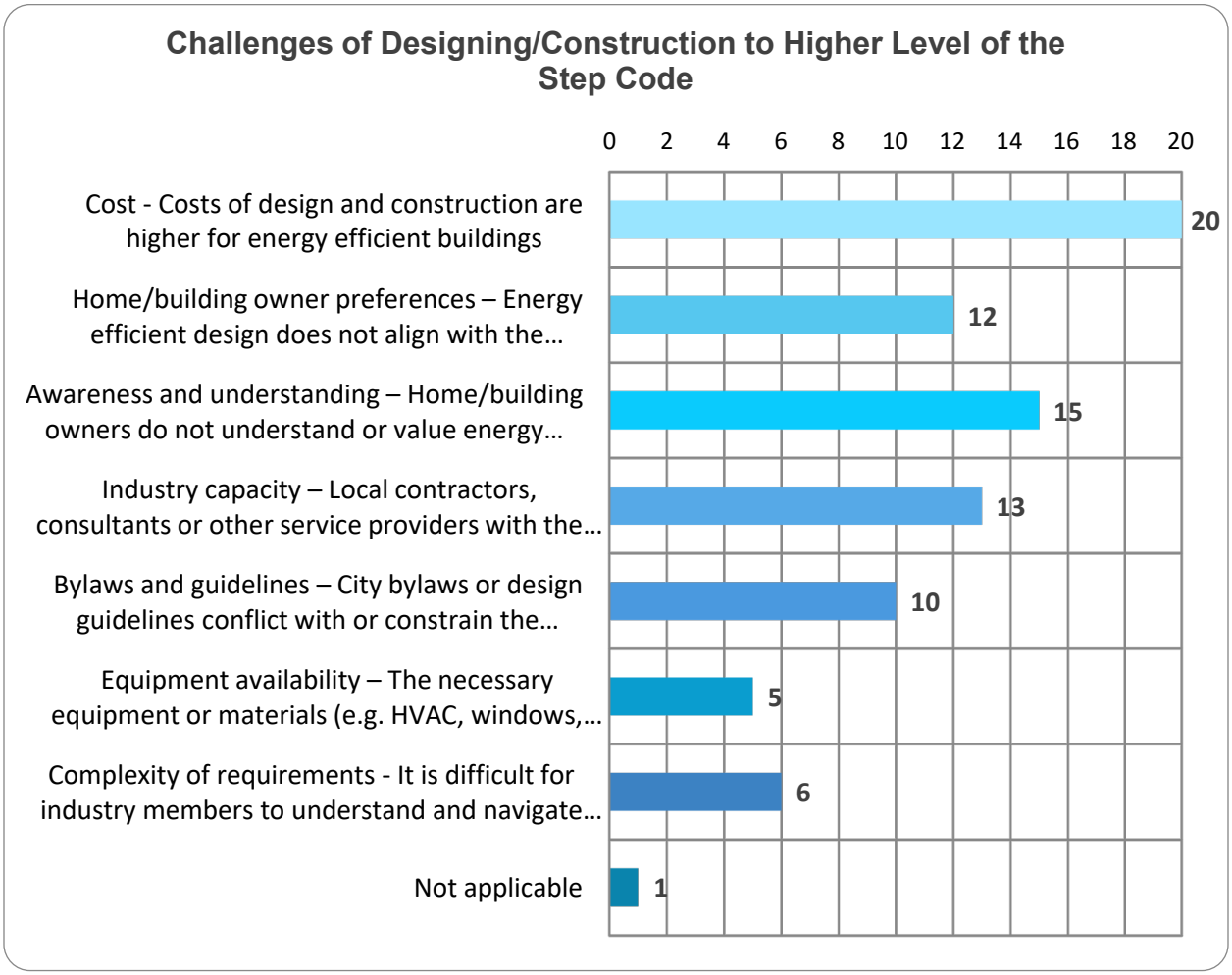


Question 7) What do you see as the primary benefits of building to higher levels of the BC Energy Step Code? [check all that apply]

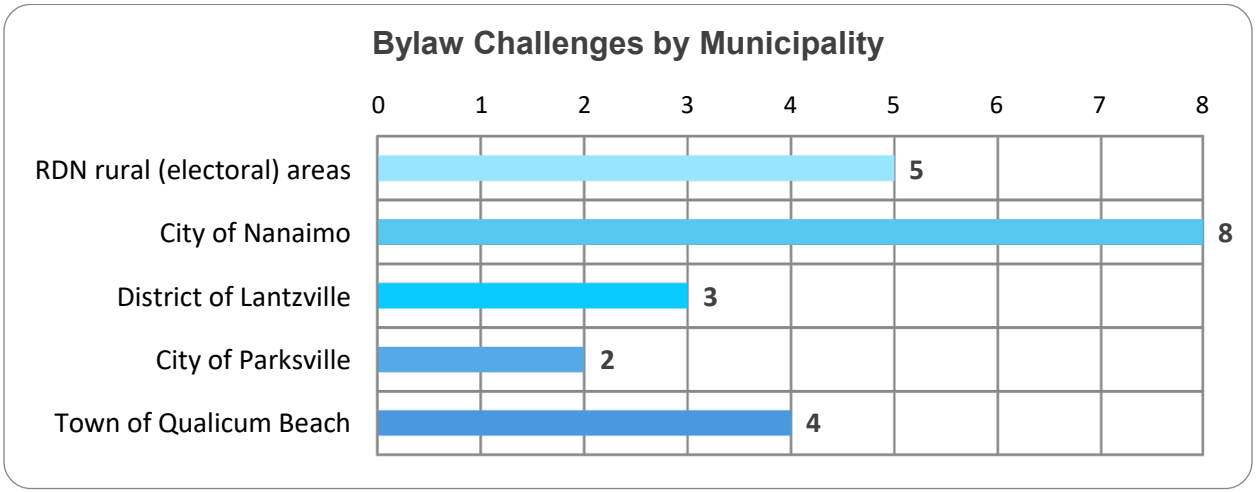


Other: "Worthwhile path to mitigate against accelerating global warming."

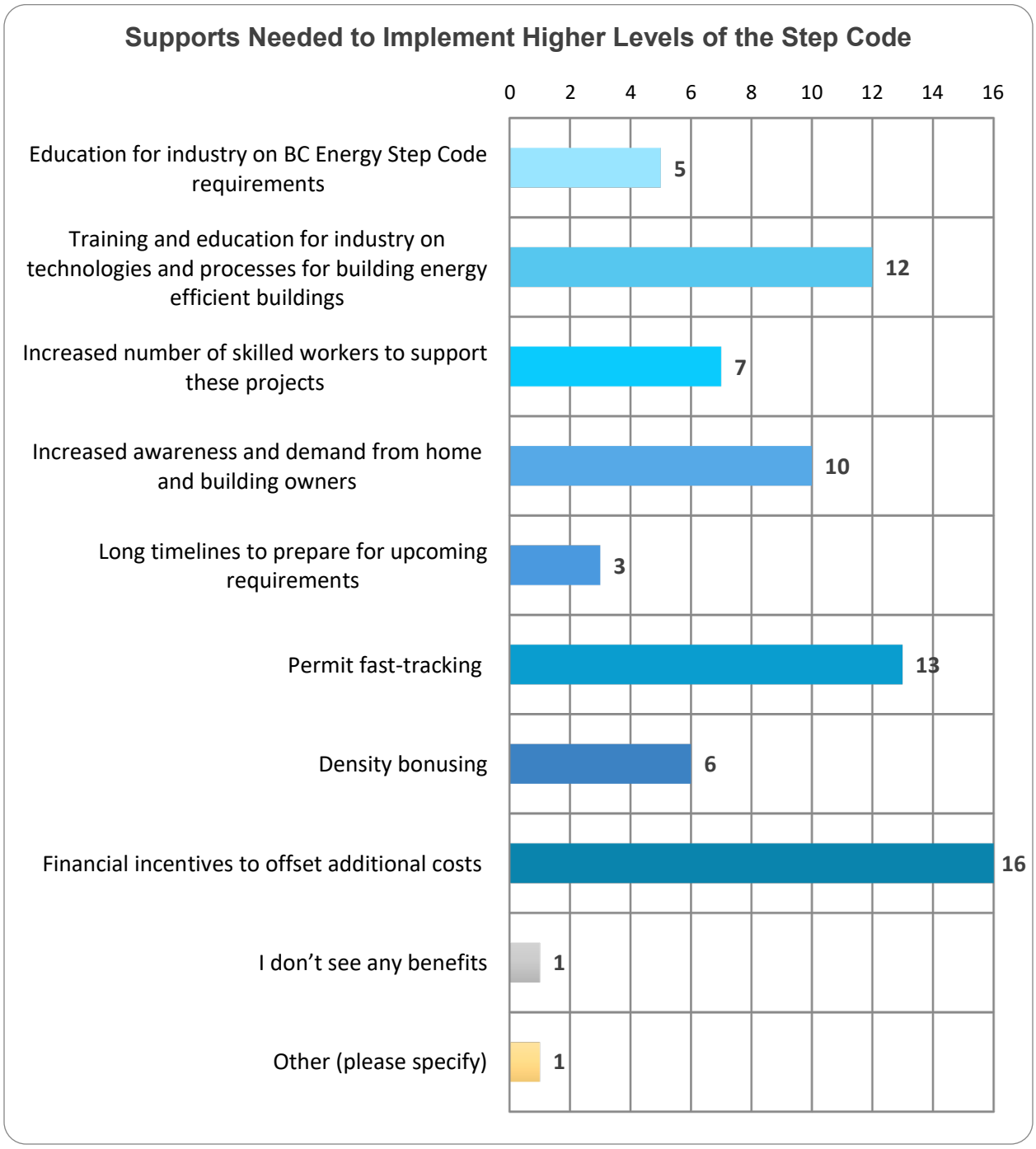
Question 8) What challenges designing/constructing to higher levels of BC Energy Step Code have you experienced (or would you expect to experience)? [check all that apply]



Question 9) If you chose "Bylaws and guidelines" in the question above, which municipality are you referring to?

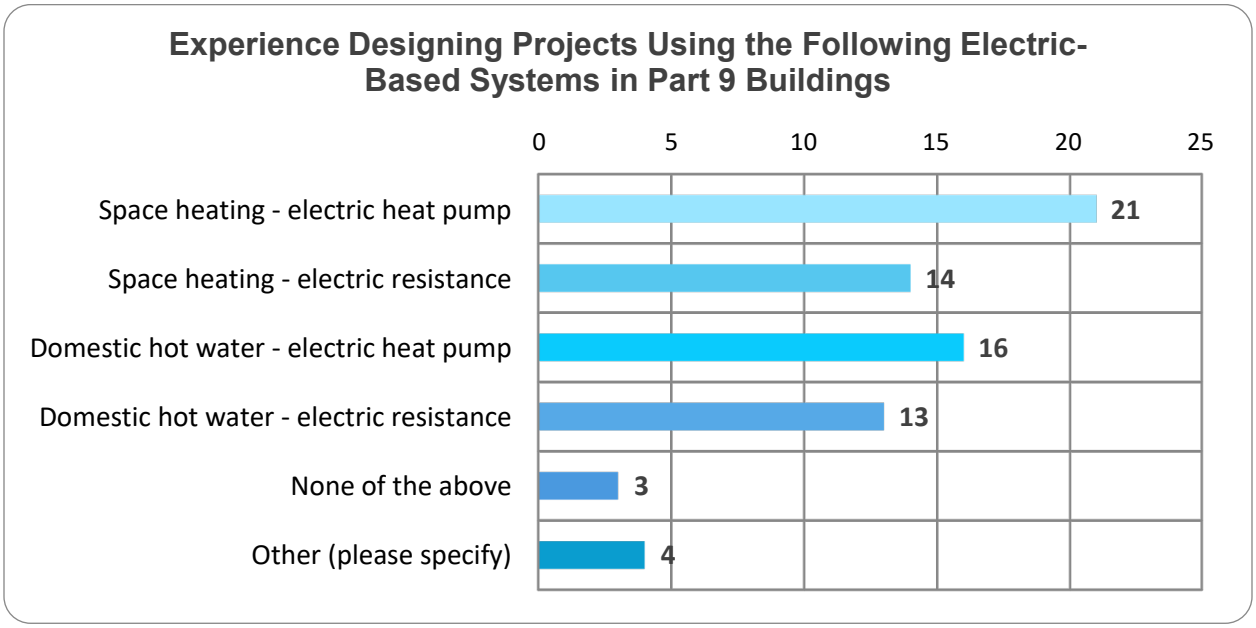


Question 10) What type of support would help you or your peers implement higher levels of the BC Energy Step Code? [select your top three choices]



Other: "Better training for plan checkers and building inspectors."

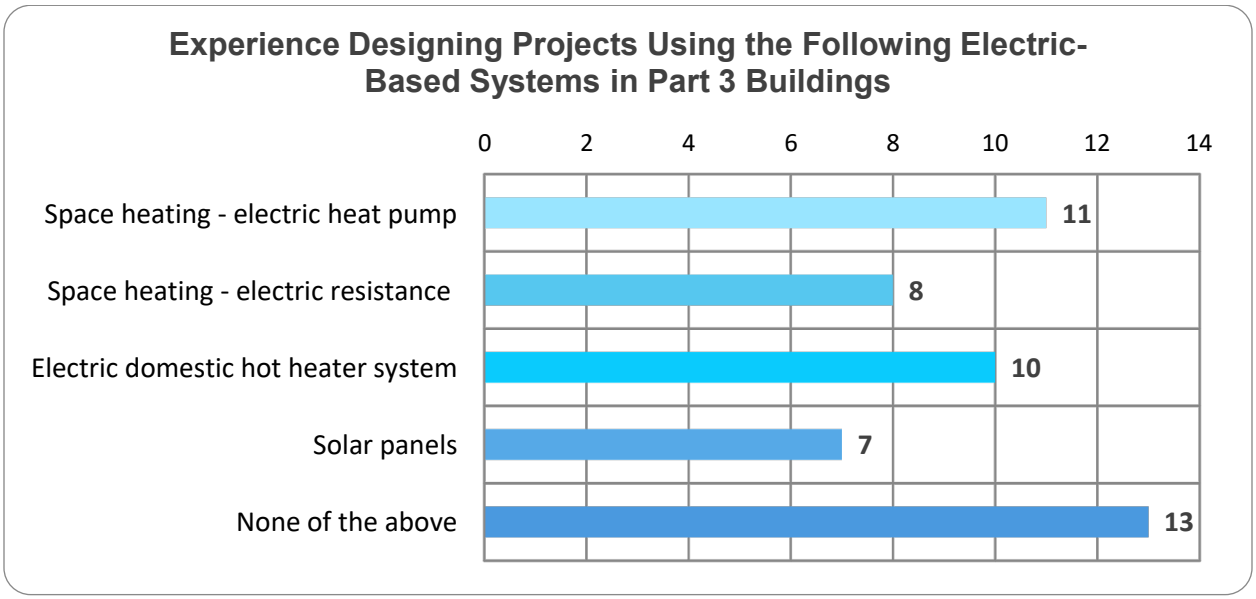
Question 11) Do you have experience designing/building projects that use the following electric-based systems in Part 9 buildings? [check all that apply]



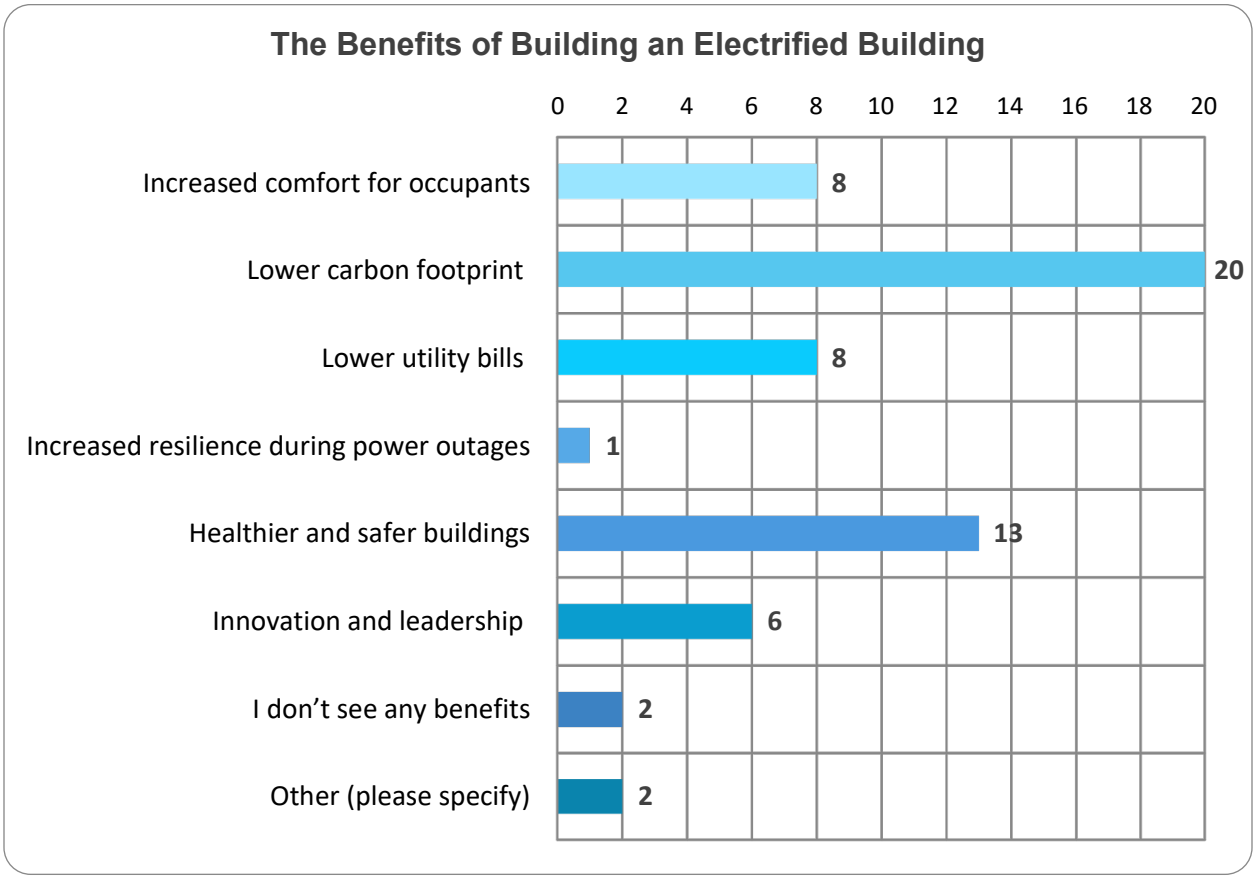
Other:

- Geothermal, grid-tied PV, inverter back-up power
- Air to water heat pump for radiant in-floor heating
- Geothermal and solar

Question 12) Do you have experience designing/building projects that use the following electric-based systems in Part 3 buildings? [check all that apply]



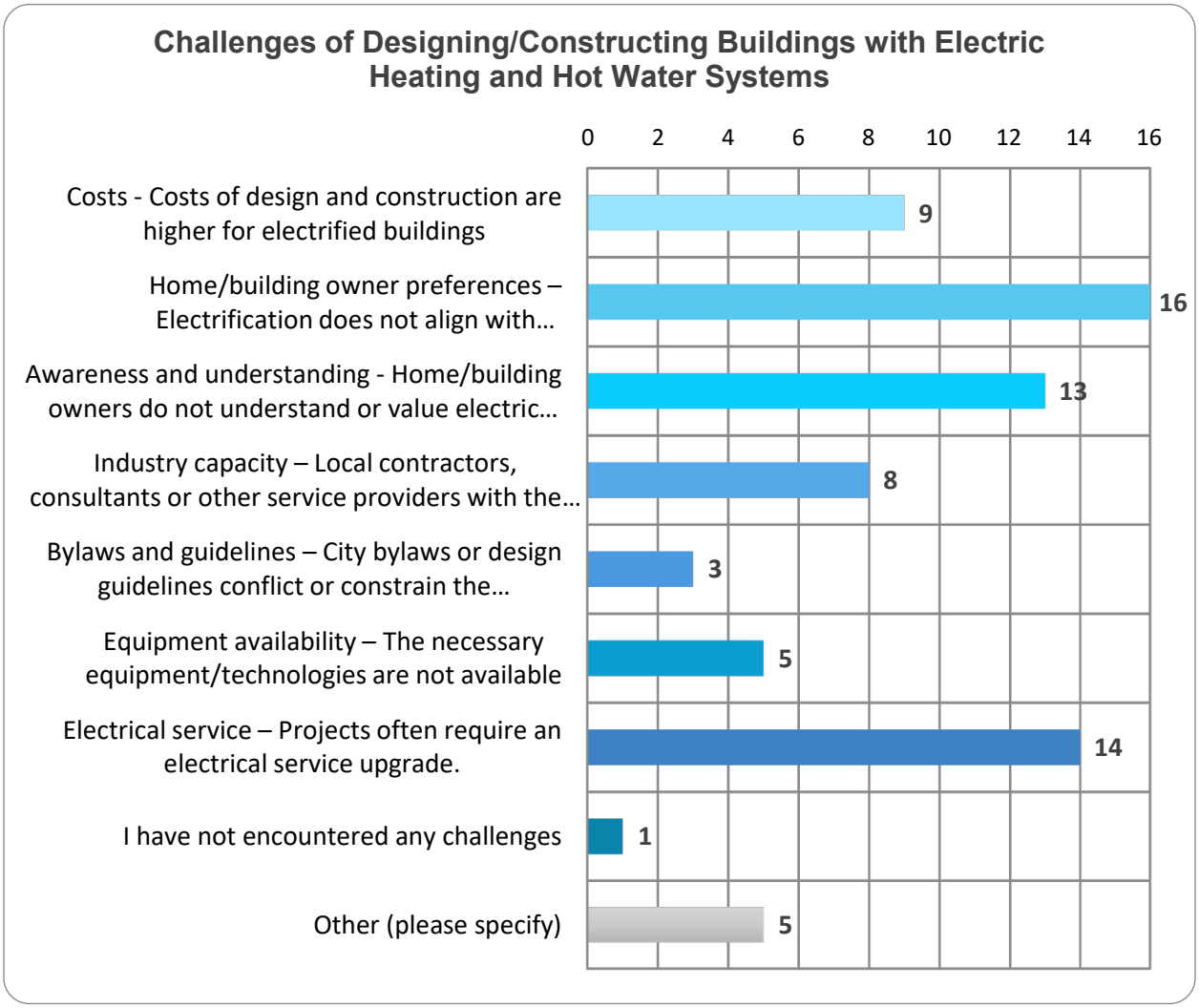
Question 13) What do you see as the primary benefits of building an electrified building (i.e. Zero Carbon Step Code)? [check all that apply]



Other:

- "Most effective single way to reduce operational carbon impacts of buildings"

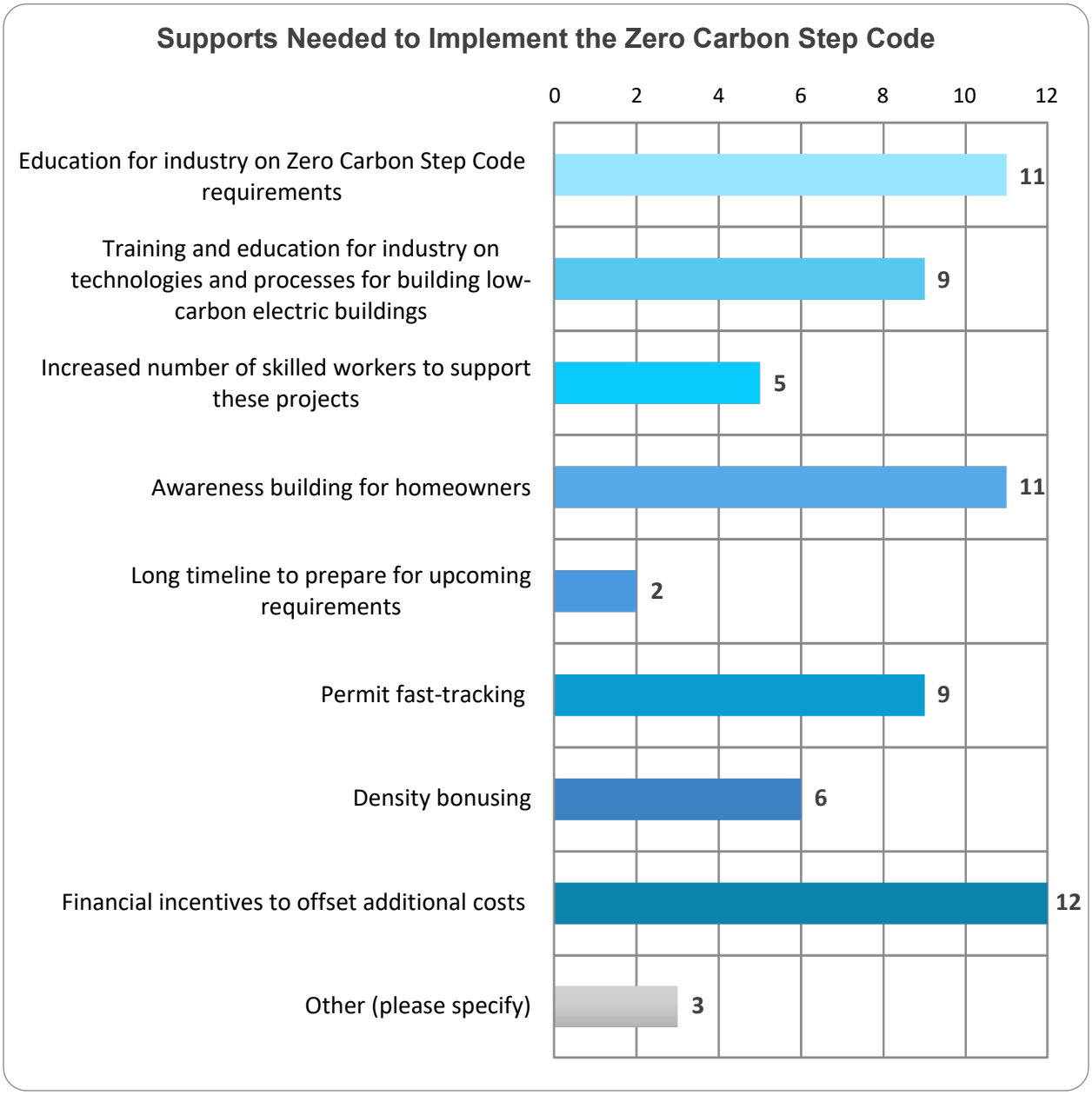
Question 14) What challenges designing/constructing designing/constructing buildings with electric heating and hot water systems have you experienced (or would you expect to experience)?



Other:

- “Increased electrical grid load, susceptibility to power outages and downed power lines, melted sea floor power transmission cables from mainland, higher utilities bills, reduced natural gas usage"
- "BC Hydro is not prepared for this!"
- "Lack of island power generating sources, reliance on power transmission from mainland via sea floor cables"
- "Lack of 'buy-in" (awareness) on the part of much of the development industry and ignorance and lack of buy-in on the part of elected officials, and ignorance (lack of training, education, buy-in) on the part of local government staff"
- "Disinformation caused by Fortis. Their advertising would lead people to believe that NG (methane) is a clean fuel and that they capture all of it from dumps."

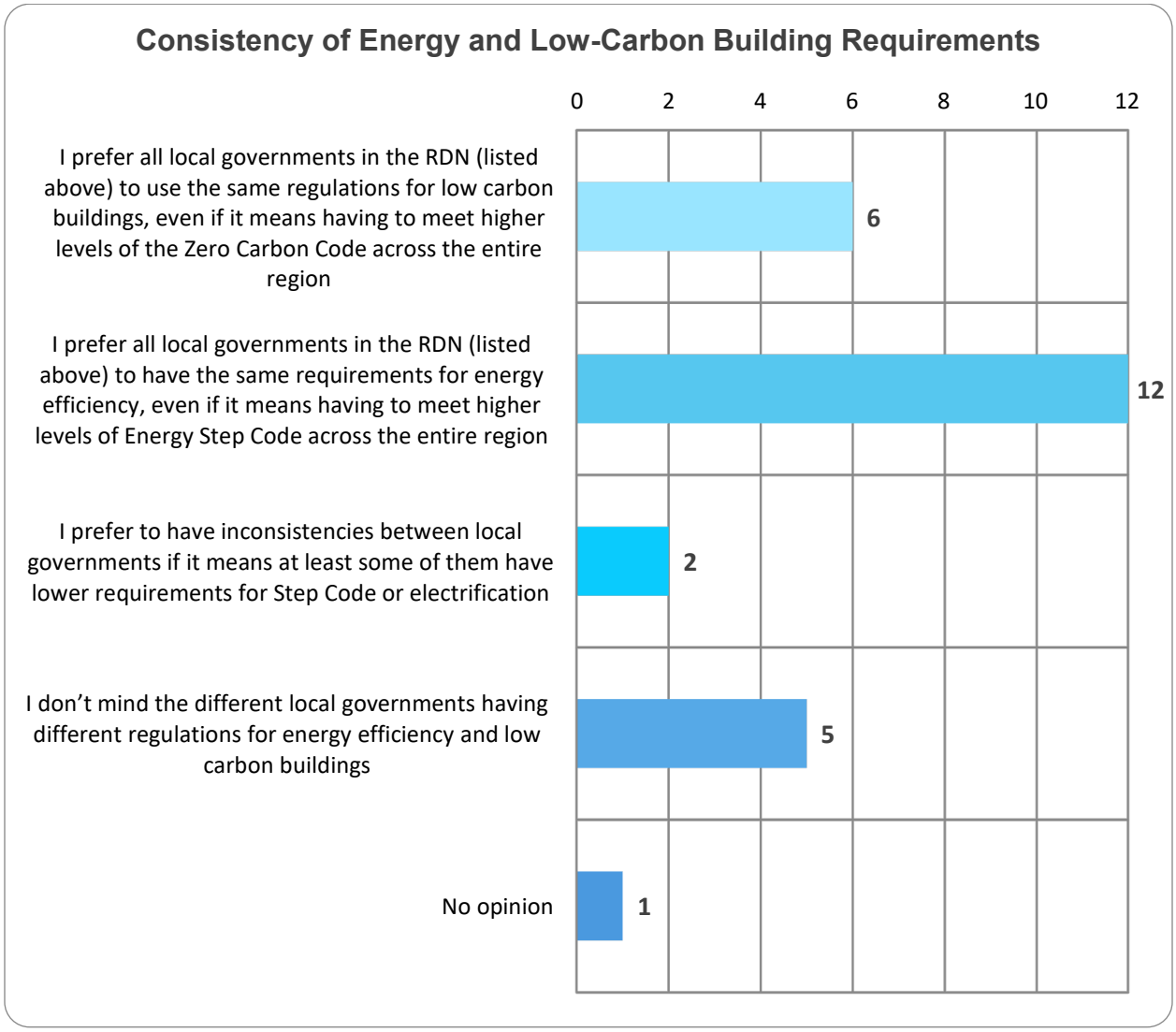
Question 15) What type of support would help you or your peers implement the Zero Carbon Step Code? [select your top three choices]



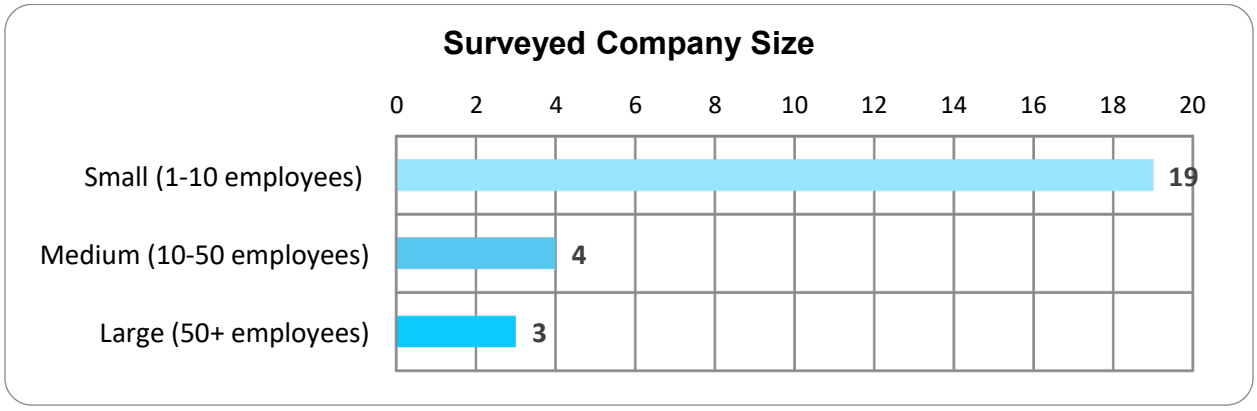
Other:

- "Better training for plan checkers and building inspectors"
- "While installing electric systems and solar panels is a great way ahead, builders and owners really need to understand that conservation of energy is the key. Building better building envelopes that are better insulated and air tight is key. Installing a high performance system in a building that leaks energy makes little sense. Build the envelope as best as possible and even a crappy old heating system will use less energy than a new heating system in an inefficient building."

Question 16) How important is it to you to have consistent requirements for energy efficiency and low carbon buildings across local governments in the Regional District of Nanaimo, including the City of Nanaimo, District of Lantzville, Town of Qualicum Beach and the RDN Electoral Areas?



Question 17) What is the size of the company you work for?



Q 18) Is there any other feedback or comments you would like to provide?

Theme: Guidance and incentives needed

"It is imperative that the Province of BC refines and upgrades the Zero Carbon Step Code to address embodied carbon and to this end BC Housing to publish guidance documents for local governments on "development policies that target embodied carbon in both new construction and building retrofit and renovation."

"Providing incentives is key. The step code was designed in conjunction with industry and the timelines meet what industry can deliver on while meeting our provincial carbon reduction requirements. The key is not to arbitrarily accelerate things because it makes local politicians feel good"

Theme: Consistency of requirements across local governments

"Consistent requirements (including submission requirements) across all municipalities would help reduce incomplete permit applications"

“The entire RDN needs to be at the same level. This simplifies it for the industry so that they don't have to look up different requirements for different neighborhoods. Builders/developers will build in areas with more lenient rules. Don't give them that opportunity. Focus on the building envelope. Conserving energy should be the priority over more efficient systems. Systems can be improved later. The walls wont be opened up for 40 or 50 years.”

Theme: Building envelope and lot sizes

“We need to focus on the building envelope. If we build it correctly, then consumed energy becomes less of a talking point because we will be using less of it. Mechanicals can for the most part be easily upgraded or converted at a later date. You don’t get many opportunities to upgrade the building envelope so we might as well do it correctly the first time. Increasing awareness and education of homeowners is key. We need them to understand and to ask for buildings to be built better. Energy labeling should be mandatory and be used as a selling feature. Driving demand will steer the industry in the right direction. Airsealing and compartmentalization of buildings has drastic effects on efficiency and comfort. Build tighter (with proper ventilation) should be a priority. Technologies such as aerosolized caulking make sealing very easy.”

“Local Government rules need to change to make development of more energy efficient homes: - smaller lots and smaller setbacks and allowable increased lot coverage -> homes can be simpler in design for efficiency and have less rear yard/front yards and exterior side/flanking setbacks to fit same sized home on smaller parcel - Design Panel scope reduced (energy efficiency and cost reduction over aesthetics) - eliminate perimeter wall height requirements (straight wall more efficient over walls with corners and cantilevers and stepbacks) - Passive Shading systems allowable as encroachments into south facing setbacks (except sides) - larger roof overhangs, shade sails, etc. - must start getting uptake on solar panels on houses (Calgary's electrical provider, Enmax, was providing grid tied solar panels to building and home owners to install on their roofs - maybe this could be setup through a regional crown corporation-ish structure) - local government incentives from green roofs and green walls - incentivize builders to include full in-ground basements where grades allow in single family homes, duplexes, multiplexes and townhouses (underground living space is naturally insulated) - need incentives to

offsets rock excavating costs. A review of all local government owned buildings and parcels is needed for feasibility of solar and wind power generation Strongly suggest local government work with first nations and provincial government to look at tidal power generation, wind power and solar power on the island on a large scale."

Theme: Permitting times/requirements

"1.) If the goal posts could be the same each and every time. Different staff within the same building department will request different items. This causes time lost increasing the costs. A streamlined system with heavy penalties for builders Bending/ Breaking the rules is required. 2.)Why are Builders allowed to falsify paperwork and building permits and get a slap on the wrist. This is bad for the industry and should not be allowed within our building departments. Building License and Business License should be suspended. Blaming a staff member does not excuse the fraud. We are professionals we can't improve this industry without accountability."

"Permit times need to be faster and more consistent throughout the year despite staff holidays. We waited for 22 weeks for a permit last year and that is very detrimental to our business for a lot of reasons. It isn't exclusive to the RDN but most regional districts timelines are far too long and virtually no accountability to any timeframe. The company that falsified
building permits and constructed multiple homes without a permit should not be allowed to apply or receive building permits. The claim that one rogue employee did that is laughable to say the least. The owner as part of BC Housing home warranty requirements cannot pass off the "general manager" role and claim they had no idea they were doing that. They are either
completely inept as an owner and in violation of BC Housing rules around people in charge of the company or they are complicit in the actions. Either way them still being able to carry on as usual is a complete slap in the face to the rest of the local industry and further risk to the community for yet another abuse. A quick BC courts record search of said company shows they have had upwards of 20 pending and past legal actions against them. This is not the behavior of a valued community business nor one the industry should support in any way."

"Permit wait times are way too long Builders breaking rules (like falsifying permits, should not be able to build)."

Theme: Electrification and hydro capacity

Promoting an electrification only approach to decarbonization for housing will likely have higher cost implications, and energy reliability challenges for both industry and homeowners. Renewable Natural Gas (RNG) should be considered by all municipalities as a low carbon energy option for new homes as it provides homeowners energy choice, resiliency, affordability, and comfort. RNG has the lowest emission factor of any energy delivered in the Province (0.29 CO_2e kg/GJ), including BC Hydro (3.0 CO_2e kg/GJ) and Fortis electricity (0.72 CO_2e kg/GJ). This is because with Renewable Natural Gas (RNG) production, methane from organic waste that otherwise would have escaped into the atmosphere is captured and used to produce RNG. The Province publishes the emissions factors including the methodology for determining the emission factors of all fuels which you can access at
https://www2.gov.bc.ca/assets/gov/environment/climatechange/cng/methodology/2018-pso-methodology.pdf

“Some of the questions are pretty leading. There also needs to be discussions with BC Hydro regarding capacity if homes are all electric, including vehicles. Many homeowners want gas fireplaces which is not addressed. Most oceanview properties in the RDN are north facing so therefore homeowners want large north facing windows which are not very energy efficient even with triple pane windows. Another form of housing that should be promoted is modular homes. These homes are land efficient and are generally rectangular in nature making it much simpler to to obtain higher energy efficiency. They are also a more affordable form of housing. District energy in higher density areas is another point that needs further discussion.”

“I participated in the panel. One concern I have is that in BC there is talk, and this came up in the panel, about having air conditioning as a necessity... In the South of France where I am now just today a mechanical contractor complained to me that in Canada we do not care about the environment as there is 'air conditioning everywhere', In the south of France where it can hit high 30s in the summer new houses are not allowed to be constructed with air conditioning *the whole country. Even though a lot of the electricity is nuclear and renewable they recognize that air condition is on of the larger consumers of electricity. They treat the high temperatures by design and adaptation. Even though we have hydro in BC I think it is an enormous mistake to believe that we all will need AC. It is not that hot and when it is we need to change our habits...i.e. less thermal bridging, not wearing sweaters and jackets on a hot day. We should not push a solution that the world is worried about. If we are able to connect the electrical grid across the nation energy not used on cooling will be able to offset dirty production elsewhere. I really think we need to reject the notion that we have to plan for air conditioning. We should be planning how to continue to avoid it in a warming planet”