

GETTING YOUR PUBLIC POOL FACILITY RIGHT



IAKS - International Association for Sports and Leisure Facilities

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Our network is the meeting place for architects, engineers, clients, designers, local authorities, technical and operative management, sports federations and clubs!

IAKS has partners and members in 153 countries. National sections serve local interests, organise regional and own events and provide information to the members of their countries.

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GETTING YOUR PUBLIC POOL FACILITY RIGHT

RECOMMENDATIONS FOR THE DELIVERY OF PUBLIC SWIMMING POOLS

Author: IAKS Pool Expert Circle

Communities contemplating or starting on a public swimming pool project face a wide range of questions. This white paper from the IAKS Pool Expert Circle offers advice for successful decision making.

Highly complex project – and often unknown territory

Public swimming pool facilities are a cornerstone of local community infrastructure. They provide affordable opportunities to learn life skills, exercise and socialise, all of which contribute to supporting healthy communities. At the same time, they are deceptively challenging to build and operate. Often those responsible for delivering these projects, such as municipal staff and decision-makers, are facing the challenge of a new-build or renovated pool project for the first time in their careers. As pool facilities are highly specialised and complicated projects, it is important to have the right experience and expertise available from the very beginning.



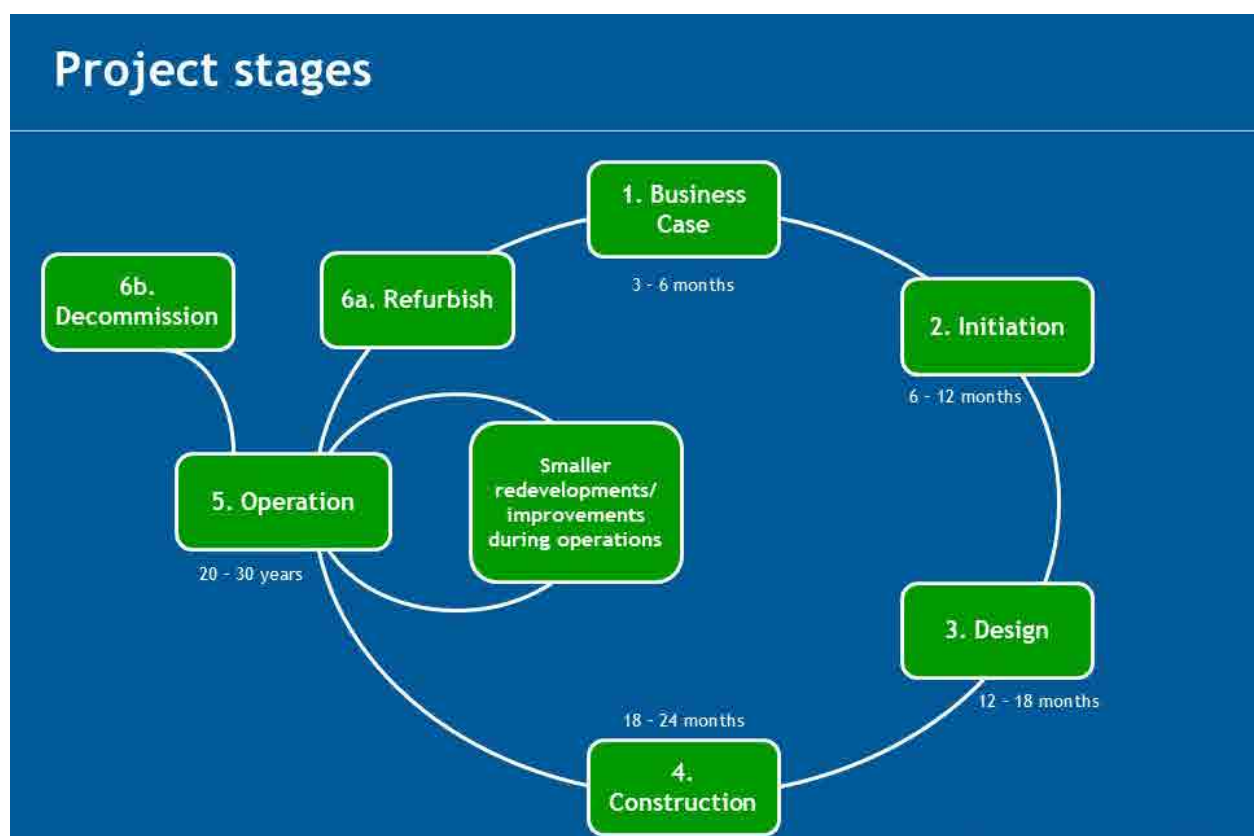


How to approach a project and define responsibilities

Good design needs to be based on a clear understanding of user and operational needs, current trends and best practices in water leisure and leisure behaviour. It is also essential to consider lessons learned from recently built pools in other communities and countries. Providing the right facilities, that are built to last, in the right place, is fundamental to long-term success and impact. Poorly planned and/or badly designed aquatic complexes create barriers to participation and can create operational cost burdens that threaten their sustainability.

Thus, it is essential for the success of a project to make informed decisions in a logical and sequential order. We recommend a methodical approach where all the needed steps are completed successfully. While the terminology and precise project delivery methodologies vary between countries, the principles remain the same.

The following figure includes an overview of the project phases, which are described in more detail below.



Source: Kannewischer Management AG, IAKS Pool Expert Circle

Step 1 – Business case

Establishing the fundamental goals and clearly defined outcomes of a project is the first step. These goals should be set in an open participation process that considers the full range of needs in a community, including those of organised sports groups, institutions such as schools and the public.

This is then elaborated through the development of a detailed business feasibility study that also considers regional planning implications. This study should develop a demand-oriented offering so that a sound financial framework is established.

In the case where an older existing facility is being considered for replacement, a cost comparison between redevelopment and a new building's cost (including decommissioning) is recommended, together with a range of criteria including environmental impact, energy efficiency, functionality, market appeal and long-term benefits to the community.

Step 2 – Initiation stage

After having developed a clearly defined business case for the project, the approach to financing it should be developed. This often involves complex political approval processes that can take a significant amount of time.

Also, during this stage a large team of specialists will be assembled. The long-term success of swimming pools depends upon many factors over its life cycle because pools are complex to operate. This is the time to ensure that pool experts for design, project delivery and for ongoing management and operations are involved from the beginning of the design process. As well, the construction procurement appropriate for the context should be evaluated.

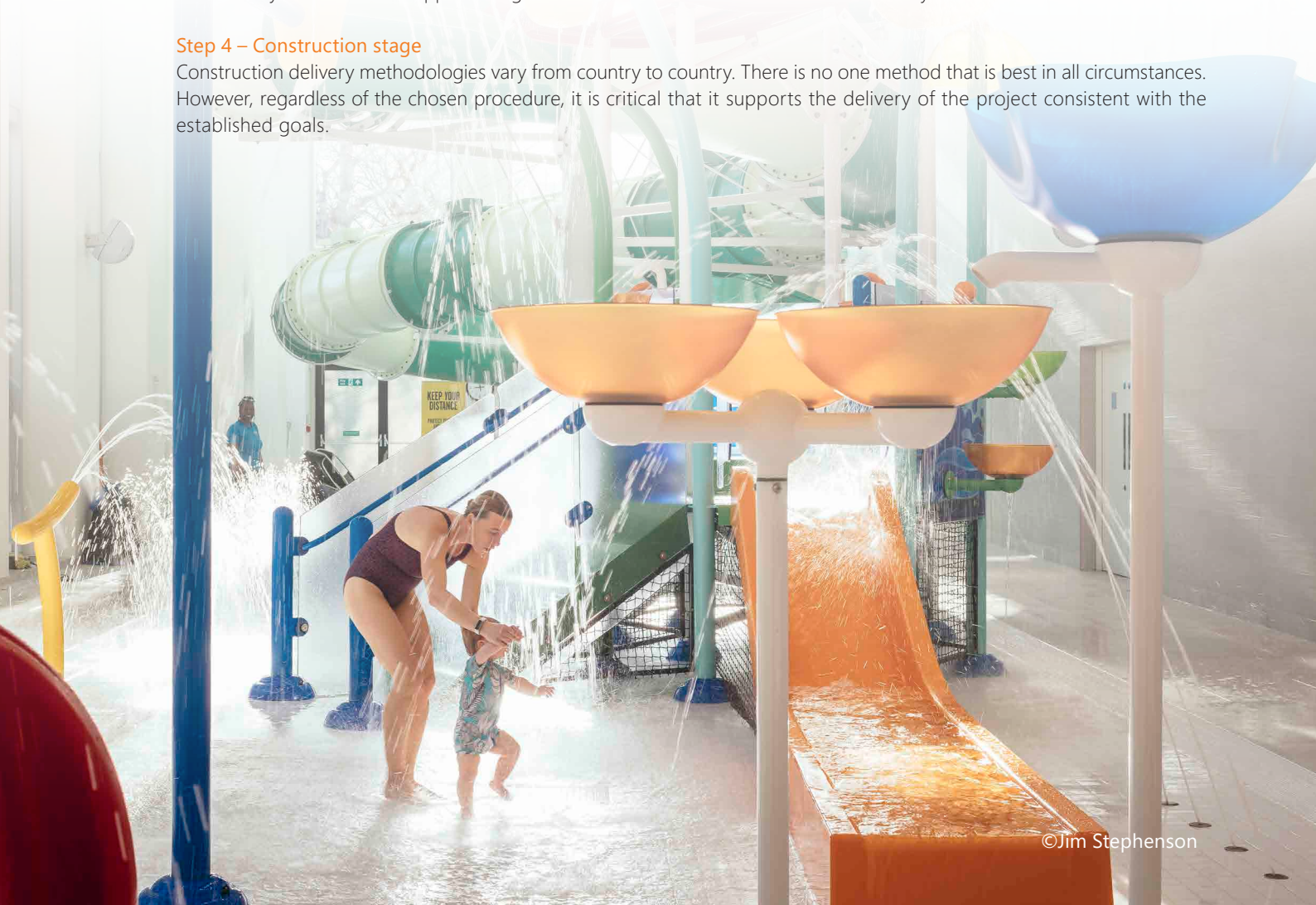
Step 3 – Design stage

At this stage, the client's ambitions for the project are translated into what is going to be built. The architecture and engineering teams will develop a design that responds to a variety of key goals including:

- Functionality for both users and the operators.
- Quality of experience. Good architecture provides an inspiring and attractive facility while respecting functionality.
- Environmental and social sustainability.
- The balancing of needs and life-cycle costs. It is important to evaluate both the investment during construction as well as the ongoing operating and decommissioning costs.
- Flexibility and adaptability to changing needs in the future prevents the necessity to build a new facility after a few years. The ability to retrofit also supports long term economic and environmental sustainability.

Step 4 – Construction stage

Construction delivery methodologies vary from country to country. There is no one method that is best in all circumstances. However, regardless of the chosen procedure, it is critical that it supports the delivery of the project consistent with the established goals.





Step 5 – Operational stage

The new facility will serve the community for many years. It is important to ensure high quality service through professional, goal-driven management. As well, an appropriate budget to maintain and upgrade the facility throughout its life cycle must be ensured.

Throughout all project stages, a key part of success is establishing clear roles and responsibilities for those involved. A good starting point is as follows:

- Setting project goals: The owner, including civic leaders, staff, and the community.
- Project brief: Often supplied by a specialist consultant/expert and the operator.
- Design: A team of specialists including an architect, a variety of engineers and others.
- Project schedule and construction cost budget: Typically, architect and project manager working together.
- Construction: Contractor or construction manager.

Why building a pool? Defining clear goals

Establishing clear goals has many benefits. They provide a critical frame of reference when making the many challenging decisions one will encounter along the way. It is important to set clear goals prior to determining all of the spaces you will provide and the functions they will support. Many projects have suffered when goals weren't followed during the process. Clear goals will give answers to these questions:

- Why is a pool being built?
- What should it achieve?
- How will success be measured?



It is also important to become clear on the community needs that your project is not intended to address. This is relevant to avoid misunderstandings and to keep the project focused on the agreed-upon goals and objectives.

A deep understanding of your community is critical to setting appropriate goals. This requires a public participation process that balances input from both individuals and organised user groups. Individuals and non-users are often under-represented in public participation processes. As well, it is recommended to continue the public participation through all project phases and that this process is designed to be appropriate for each stage of the project.

At a minimum, goals need to be set in the following areas:

- Social goals, such as the improvement of public health indicators, increase in physical activity for all ages and social cohesion in the community.
- Environmental goals, such as requiring carbon-free operations and minimising embodied carbon. The decision to refurbish instead of building new may be a factor here.
- Economic goals, such as operational cost recovery, subsidy per visitor and life-cycle costs.

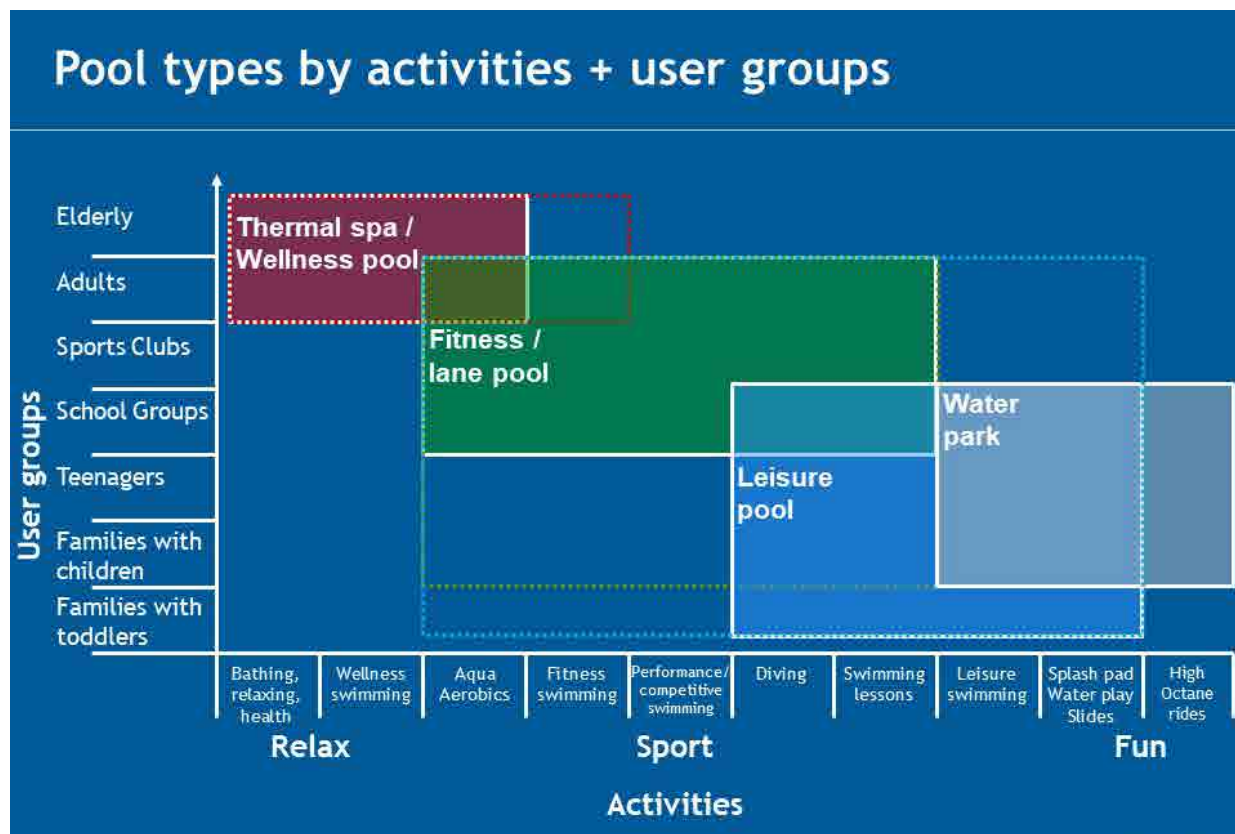
It is important to discuss and set clear targets and to also establish evaluation criteria. As well, these goals can sometimes be contradictory. For instance, considerations such as economic performance (cost recovery) vs. social and health benefits (low or free admission). Having appropriate evaluation criteria helps to resolve these situations.

After setting the goals more detailed decisions can be taken to what exactly should be built.

What should be built? Target groups, activities, and pool types

The variety of possible pool types is becoming much more diverse than most people realise. The chosen pool type(s) should reflect the target groups and activities that are most critical to the community. In making these decisions, one will consider that different aquatic activities require different temperatures, water depths, shapes and equipment.

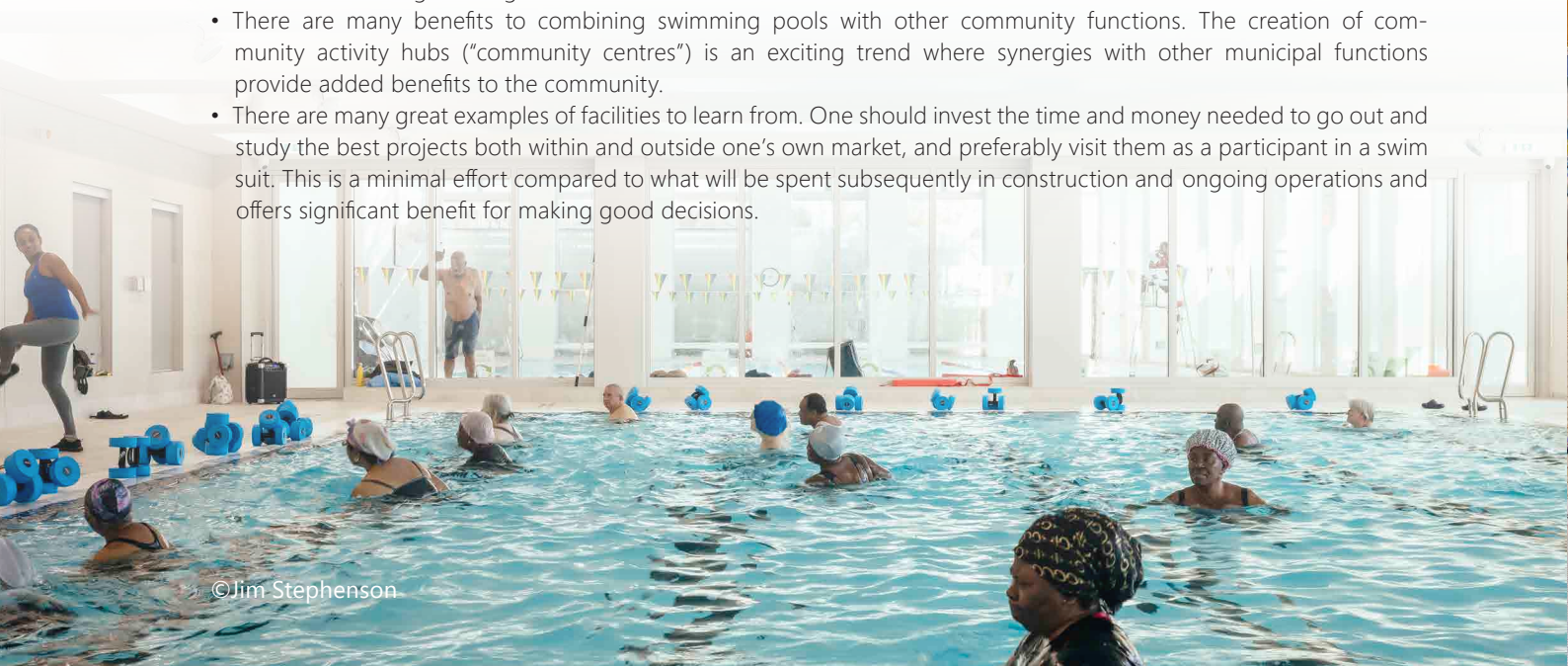
The following table provides an overview of the main pool types, activities and user groups.



Source: Kannewischer Management AG, Mike Hall, Irina Korneychuk, Jens Oyas Moller

The following considerations affect the pool offering decision:

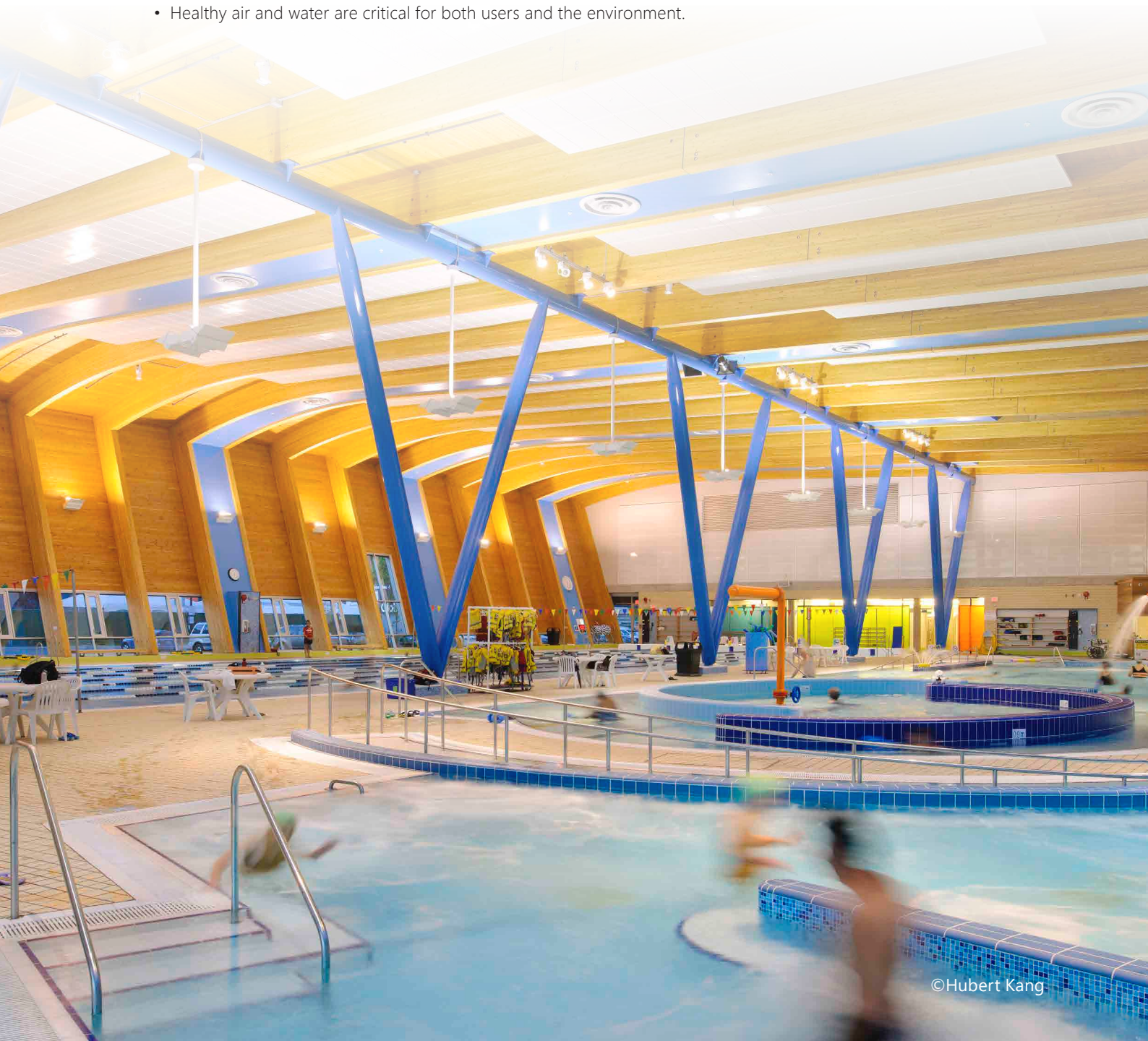
- Pool facilities should be created appropriate to their purpose(s).
- In smaller facilities, a pool should serve as many activities as possible while minimising conflicts between user groups.
- It is essential for success that a contemporary pool facility must accommodate all through the integration of universal and inclusive design strategies.
- There are many benefits to combining swimming pools with other community functions. The creation of community activity hubs ("community centres") is an exciting trend where synergies with other municipal functions provide added benefits to the community.
- There are many great examples of facilities to learn from. One should invest the time and money needed to go out and study the best projects both within and outside one's own market, and preferably visit them as a participant in a swim suit. This is a minimal effort compared to what will be spent subsequently in construction and ongoing operations and offers significant benefit for making good decisions.



Environmental sustainability

In many communities, the swimming pool has a large share in their community's combined facility environmental impact. Thus, it is critical to make good early decisions affecting the sustainability aspects of the project. While there are many factors, they include:

- Setting clear sustainability targets.
- Reduction in embodied carbon. Refurbishment of an existing facility can have significant benefits to reduce embodied carbon but may limit functionality and increase operational costs.
- Minimisation of operational energy use and emissions. Local and renewable energy sources should be considered.
- Building management systems and seasonal control strategies are vital in controlling energy and comfort levels.
- Energy monitoring of utilities in real time is necessary to identify wastage and high consumption that can be targeted for savings.
- Building orientation and building envelope quality are important drivers to reduce energy use.
- Eventual co-location of the pool with facilities where the pool's heating needs can be offset against those having cooling needs, such as ice arenas and data centres.
- Project commissioning and staff training are important to achieve the ongoing efficiency potential of a facility. As well, it is often possible to improve energy performance through analysis of operational improvements without any, or minimal, investments.
- Healthy air and water are critical for both users and the environment.



Most important and common pitfalls

Unfortunately, pool projects often suffer from easily avoidable problems. A variety of typical challenges and how to avoid them:

- Errors in project approach, such as skipping necessary project stages (often the business case). The opportunity for greatest impact on project outcomes is at the beginning of the project!
- Improper goal setting: Either not having set goals, setting them too late in the process, having unclear goals or losing sight of the goals during the project.
- Unrealistic expectations for construction, fit-out and operational costs.
- Ineffective budget tracking.
- Lack of pool experts involved in the various stages of the project.
- Jumping ahead to solutions, prior to evaluating alternatives and basing decisions on opinions rather than facts.
- Thinking conventionally rather than future-oriented. It is easier to build what has already been there, rather than understanding new trends and user needs.
- Public consultation processes that are not well managed and where there is excessive influence from a limited number of special interest groups.
- Misalignment of goals and offering.
- Building a pool that is too large for the market demand results in significant long-term operating and maintenance costs.
- A lack of regional planning leads to a pool offering too similar to other pools in the region. This normally results in lower participation.
- Prioritising reductions in the initial cost of construction without a full understanding of the impact on additional operational costs.
- Not planning for multi-purpose, changing needs and the future reuse of the building.
- Loss of opportunity for synergies with other municipal functions.
- Inadequate separation of climatic zones within the facility (e.g. between entrance and swim hall), which can reduce comfort for the facility user and also increase energy consumption.
- Lack of appropriate life-cycle maintenance and upgrade budgeting. Deferred maintenance is more expensive than ongoing investment in minor renovations and can also lead to subsequent damage, decreasing revenues and unnecessary operational interruption.

Conclusion

While it is impossible to describe all the thousands of decisions that are needed to deliver an exceptional public swimming pool project, we have tried to describe some of those that will have the most significant impact for the project. Although many aspects of pool facility design, construction and operation vary considerably from country to country, the principles of successful project delivery are remarkably consistent. We hope that this guide is a useful starting point for a public pool project and that it helps to set a strong foundation for its future ongoing success.





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