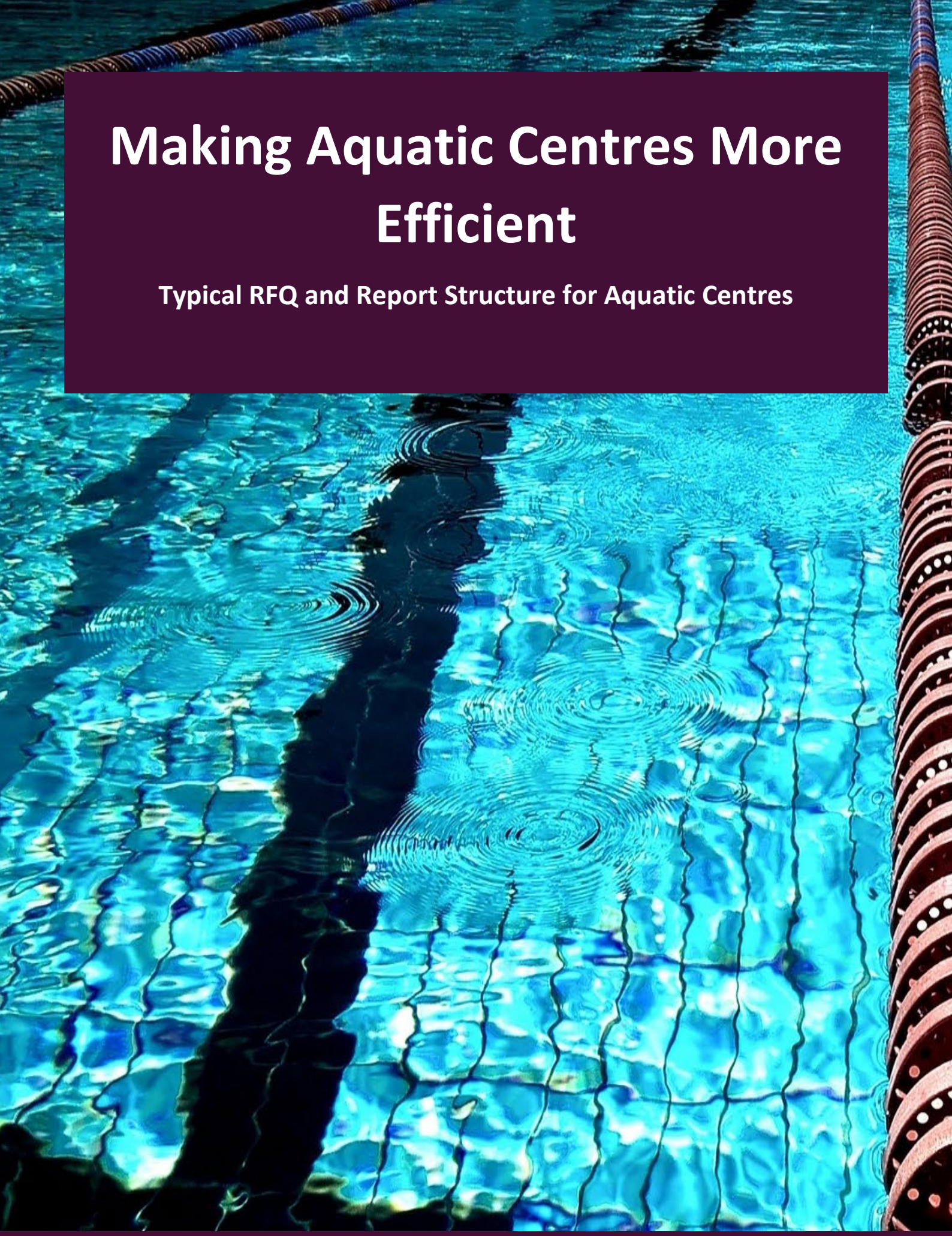
Making Aquatic Centres More Efficient

Typical RFQ and Report Structure for Aquatic Centres



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Introduction

SmartConsult provide detailed reports for both new and for retrofitting Aquatic Centres with new heating and cooling systems. The systems we are advocating allow councils and pool operators to go off gas and fully electrify their Aquatic Centres. Our reports show the comparison between the existing operating costs of the installed system and the proposed new electric system. Traditionally heat pumps have not been installed in the lower latitudes in Victoria, SA and Tasmania, due to outdated heat pump designs. The new heat pumps we recommend work well in these latitudes and provide a very acceptable level of efficiency.

The reports also include details of other energy saving systems including thermal storage, glazing and air Handling Unit efficiencies. Our innovative solutions cost a lot less to run that traditional gas system and if teamed with renewable energy lower the cost per kWh of heating and cooling per patron.

Our solutions allow Councils to meet their 'Climate Emergency Action Plan' targets by going off gas.

Typical Questions asked in an RFQ for an Aquatic Centre

Item	RFQ Questions and Prompts
1	Identify aquatic centre's existing energy demand requirements for pool & domestic hot water heating, any associated costs, including maintenance costs associated with existing infrastructure, lifecycle planning and energy use (Council will provide 12 months of current utility data)
2	Consider and compare the existing systems with one (Type 1 Report) or many (Type 2 report) other commercially available options to recommend appropriate electrification of hot water heating technologies specific to the aquatic centre using high efficiency, low environmental footprint & low environmental harm methodologies
3	Consider any opportunities for heat reclaim technologies/methodologies that may be employed to improve overall efficiency
4	Detail maintenance requirements and obligations/replacement cycles and projected costs associated with each product or technology recommended
5	Financial analysis including estimated upfront capital and ongoing operational costs of the proposed recommendations and complete RoI analysis
6	Identify any risks and/or opportunities including health and safety implications, legal implications, etc
7	Identify & scope any changes required to existing buildings, plant rooms or associated infrastructure including the electrical capacity required to move to electrification technology Proposed
8	Consider & estimate any financial penalties that may be incurred in relation to existing natural gas supply contracts i.e. MDQ (Maximum Demand Quantities), MHQ (Maximum Hourly Quantities), etc
9	Calculate the expected net increase in Councils annual corporate electricity consumption associated with moving all the aquatic centres to electrification technologies
10	Recommend any Additional onsite renewable generation such as Solar PV may be recommended to mitigate this project risk

SmartConsult's request for information includes the following headings but we will tailor the individual items to suit your centre

Site Name	Description
	Council or Client
	Centre or Facility Name
	Council or Customer Contact
Site Address and Contacts	
	Address
	Site Manager
	Contact and Email Address
Centre Opening Hours	
Centre Facilities	
	Wet Areas sizes and stats
	Dry Areas sizes and stats
Bills	
Interval Data 30 Min Gas and Power	
Electrical Infrastructure	
HVAC Infrastructure	
Boilers and general Inventory	
Pool Heating method	
Pool Sizes	
Water Consumption (interval data where available)	
Enclosure Sizes	
Domestic Hot Water System	
Centre Building Plans and Schematics	
Renewable Energy Installed on Site	

SMARTCONSULT'S STARTING POINT FOR EITHER SIMPLE OR DETAILED REPORT

Limited report status quo versus one other type of heating and cooling replacement

Item	Item Heading
1	General Information
2	Management Summary
3	Introduction
4	Commercially available options
5	Methodology
6	Parameters used to formulate this report
7	Option 1A: LCA or HFO Heat Pumps - Boiler Replacement only
8	Option 1B: LCA or HFO Heat Pumps - Boiler & A/C Replacement
9	Energy usage for the DHW system
10	Glazing and Thermal Storage -Time Shifting
11	Pool Hall AHU and other Opportunities for heat Reclaim
12	Financial Analysis
13	Electrical Capacity Changes
14	Equipment Location, Building Changes and Standards
15	Site inventory

Detailed report status quo versus multiple other type of heating and cooling replacement

Item	Item Heading
1	General Information
2	Management Summary
3	Introduction
4	Commercially available options
5	Methodology
6	Parameters used to formulate this report
7	Option 1A: LCA Heat Pumps - Boiler Replacement only
8	Option 1B: LCA Heat Pumps - Boiler & A/C Replacement
9	Option 2A: HFC Heat Pumps - Boiler Replacement only
10	Option 2B: HFC Heat Pumps - Boiler & A/C Replacement
11	Option 3A: CO2 Heat Pumps - Boiler Replacement only
12	Option 3B: CO2 Heat Pumps - Boiler & A/C Replacement
13	Energy usage for the DHW system
14	Glazing and Thermal Storage -Time Shifting
15	Pool Hall AHU and other Opportunities for heat Reclaim
16	Financial Analysis
17	Electrical Capacity Changes
18	Equipment Location, Building Changes and Standards
19	Site inventory