Fires have been a constant problem amongst residents of low-income residential areas such as Lwandle, Nomzamo and Asanda Village in the City of Cape Town. A common cause of these fires have been attributed to the household usage of unsafe and potentially hazardous forms of energy used for daily activities such as candles, for lighting, paraffin for cooking and boiling water and firewood for heating of dwellings. It has often been prescribed that key to curbing dwelling fires among low-income residential areas is to increase people’s access to more modern and safe forms of energy such as electricity. Yet despite near universal access to electricity in these areas, dwelling fires remain a frequent occurrence because many households continue to utilise non-electric energy sources, as well as increasing reports of fires caused by faulty or informal electric connections.

This thesis has set out to examine the energy sources being utilised by low-income households in Lwandle, Nomzamo and Asanda Village, to understand the factors which influence these energy use choices, what implications these energy choices have for fire risk, as well as what measures households employ to mitigate the risk of fire. This research utilised a mixture of qualitative and quantitative data collection methods including focus group sessions with residents and a household survey to collect information on household energy use strategies, perceptions of safety and accessibility of energy sources and experiences of energy related fires from residents residing in different types of dwellings.

Based on the findings, the thesis observed that while electricity is the predominant energy source used in the study site, households may be unable to fully utilise it because of financial constraints or issues regarding physically accessibility to and quality of electrical connections. Approximately 67.2% of households were observed employing an energy stacking approach, alternating between electric and non-electric energy sources, namely paraffin, to meet their daily energy needs. A potential consequence of this energy stacking approach employed by households to meet their energy needs is that the majority of households continue to face the risk of a dwelling fire caused by non-electric energy sources. While non-electric energy sources were both perceived and experienced by residents as the main cause of dwelling fires in the study site, electricity was found to contribute to a number of dwelling fires, with a slight increase in the number of fires caused by electric sources observed over the last few years. Despite households being frequently exposed to many potentially hazardous electric and non-electric energy sources, many households implement a number of measures to reduce their exposure and mitigate the risk of experiencing a dwelling fire.