Several barriers to upgrading existing social housing with innovative energy systems (IES) have been identified by a study of eight large-scale renovation projects in the Netherlands. These include a lack of trust between stakeholders, opposition from tenants on grounds of increased costs or delays, or poor experience with previous energy projects.

Using modern IES, such as renewable energy and energy efficiency measures, to heat homes can help to reduce greenhouse gas emissions from a nation’s housing stock. However, as well as requiring such systems in new homes, governments must also ensure existing homes are upgraded. One of the easiest ways in which policymakers can influence this uptake is through housing association-owned social housing.

To investigate the factors that affect the adoption of IES in social housing, the study focussed on the installation of IES during eight large social housing renovation projects in the Netherlands. Each renovation project included at least 100 homes and took place between 2000 and 2008. The researchers identified problems, enabling factors and the perceptions of housing associations, tenants and local authorities of the renovations.

Of the eight projects, only three managed to successfully install IES. The other five projects failed for several reasons, including the unexpected cancellation of a nearby biomass plant building project, tenant objections to collective heating systems or higher rents, not taking account of advice from energy audits, or poor experiences in a previous project.

The study also found that perceptions held by housing associations, tenants and local authorities influenced the decision to adopt IES. For example, housing associations felt that: they needed to find additional finance to support the projects, costs and benefits were unfairly distributed between stakeholders, energy goals become less important during reorganisations within housing associations, and they mistrusted IES due to previous cost overruns.

Tenants objected to IES if they thought it would result in rent rises. Project delays also sometimes meant IES measures were dropped, and tenants were worried about problems with new technologies. Finally, local authorities sometimes set overly ambitious targets, causing tension between stakeholders. Their influence also tended to decrease as projects progressed, and they became distanced from projects in which they did not own property rights, allowing energy targets to fall in importance.

The study also identified several enabling factors, which could be used by policymakers to ensure such projects are successful. These include a motivated project leader, a skilled project team, external subsidies, testing of IES options, and the use of written energy audits and feasibility studies.