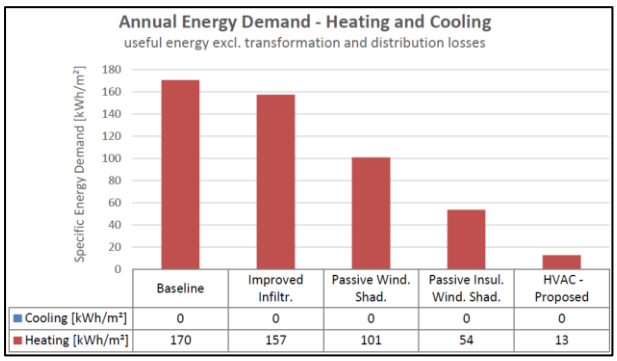
**Pilot Project Case Study**

# Vienna Boys Choir renovation of student residence in Sekirn

## Initial Situation

The Vienna Choir Boys are renovating their summer residence in Sekirn. This is a major project which involves altering both the shape as well as the use of the building which was originally built in 1960 and is currently only used for 6-8 weeks during summer by the Choir Boys. In the future, the building will be used all year around: 6-8 weeks in the summer by the Choir Boys and during the rest of the year as a student's residence primarily by international exchange students at the nearby University of Klagenfurt.

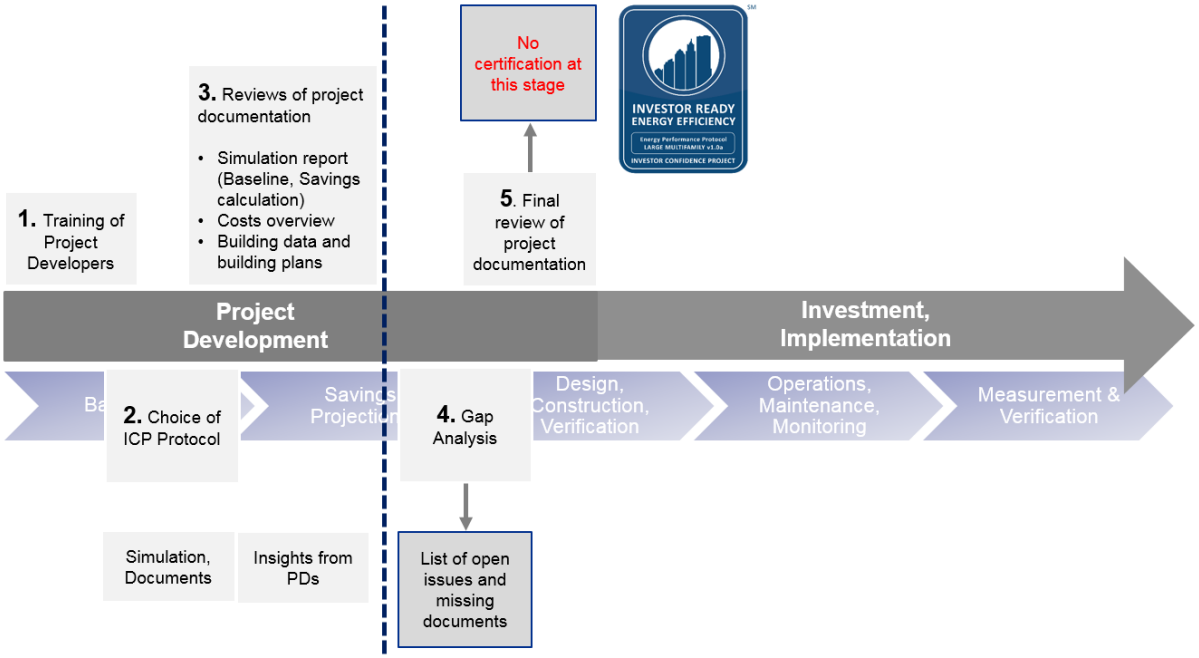
## Application of ICP Large Apartment Block Protocol




| | Baseline | Improved Infiltr. | Passive Wind. Shad. | Passive Insul. Wind. Shad. | HVAC - Proposed |
|---|---|---|---|---|---|
| Cooling [kWh/m²] | 0 | 0 | 0 | 0 | 0 |
| Heating [kWh/m²] | 170 | 157 | 101 | 54 | 13 |

Due to this change in occupancy and use, the energy baseline cannot be derived from historical energy use but has to be simulated. Therefore, the Large Apartment Block Protocol is used and IPMVP Option D – Calibrated Simulation will be applied in ICP for the first time to calculate the hypothetical energy savings. The energy conservation measures to be implemented include air tightness, change of windows, thermal insulation, and mechanical ventilation and should result in hypothetical energy savings of 92%.

Denkstatt Austria with the support of the ICP Tech Team (Verco) worked with the project developers Inprogress Architekturconsulting (Mr. Volker Dienst), ARCH+MORE (Mr. Gerhard Kopeinig) and Ingenieurbüro P. Jung (Mr. Peter Holzer) to apply the ICP Protocol and to fulfil the requirements of IPMVP Option D. As IPMPV Option D is not yet part of ICP, this can be considered a particularly innovative project which also yielded useful recommendations for the future development of ICP but couldn't be certified as an IREE project. Therefore, not all requirements of the ICP process were fulfilled as the focus was on the building simulation (energy savings calculation).




*Pilot project scope*

Specifically, the application of ICP in this pilot project started with the training of project developers and the choice of the right ICP Protocol and then focused on the technical reviews of project documentation, in particular the building simulation report. Major findings from the first technical review (and that were later addressed in the presentation at the Steering Group meeting and the second version of the building simulation report) were:

- All simulation inputs and outputs needed to be documented
- Energy savings needed to be calculated on an individual basis as well as in total
- Modeler credentials (on a person instead of a company basis) were missing

**Results**

Due to a delay in project development caused by the municipality with the rezoning application and because of different financing considerations an alternative renovation concept (existing building shape and different use, developed as a "Mustersanierung" subsidy project) was later discussed. Therefore, it was recommended to develop comprehensive OPV, OM&M and M&V plans at a later stage once the renovation concept and building use agreed on.

As a result, the application of ICP resulted in:

- feedback on required documentation for IREE certification (if possible at a later stage),
- the ICP OPV, OM&M and M&V templates for future project development, and
- the integration of project developers' feedback into the future development of ICP.

**Discussion**

The project and in particular the building simulation report as well as insights from the application of ICP and recommendations for the future development of ICP were presented by project developer Mr. Holzer and discussed at the 4th National Steering Committee meeting in October 2017.