

# The opinion of the opponent of the master thesis

**Work title:** Heating of an apartment building using renewable energy sources

**Author of the work:** Bc. Nour Kováčová

**Opponent of works:** Ing. Karolína Vyhlídalová Ph.D

## Work description:

The master thesis deals with a heating system and domestic hot water preparation for a new apartment building. The theoretical part discusses heat pumps and biomass boilers. Wood pellet boiler and air to water heat pump were chosen as a possible heat source for the building. Both variants were compared based on the environmental impact, economical costs, spatial requirements, and user comfort to decide the most suitable choice.

## Work evaluation:

	Great	Very good	Good	Unsatisfactory
1. Professional level of work	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Suitability of used methods and procedures	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Use of professional literature and work with it	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Formal, graphic and linguistic arrangement of the work	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Fulfillment of the assignment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Comments about the above mentioned:

The linguistic arrangement of the work could be of better quality.

## Comments and questions about the work:

1, Which values of a heat transfer coefficient do we use for the reference building in the energy label of a building. Which values were used by you? Is the building's energy label classification as a "C-economical" truth?

2, In the dimensioning of the pipe diameter of 10x1 mm was sometimes designed. Is it the correct approach? Are pipes of this diameter available for the heating system?

3, One of the variations deals with the wood pellet boiler. Did you consider the appropriate roadway needed for re-filling the wood pellet storage?

4, The air to the water heat pump is a source of the noise. What is the acoustic level of the chosen units? Will the noise produced affect the building occupants? What arrangements would you propose if that was indeed the case?

## **Conclusion:**

The assignment of the master thesis was fulfilled in all points of the assignment. The student proved in the work that she is familiar with the given issues of heating. I recommend the thesis for defense.

Classification level according to ECTS: **B/1,5**

Date: Opponent's signature: .....