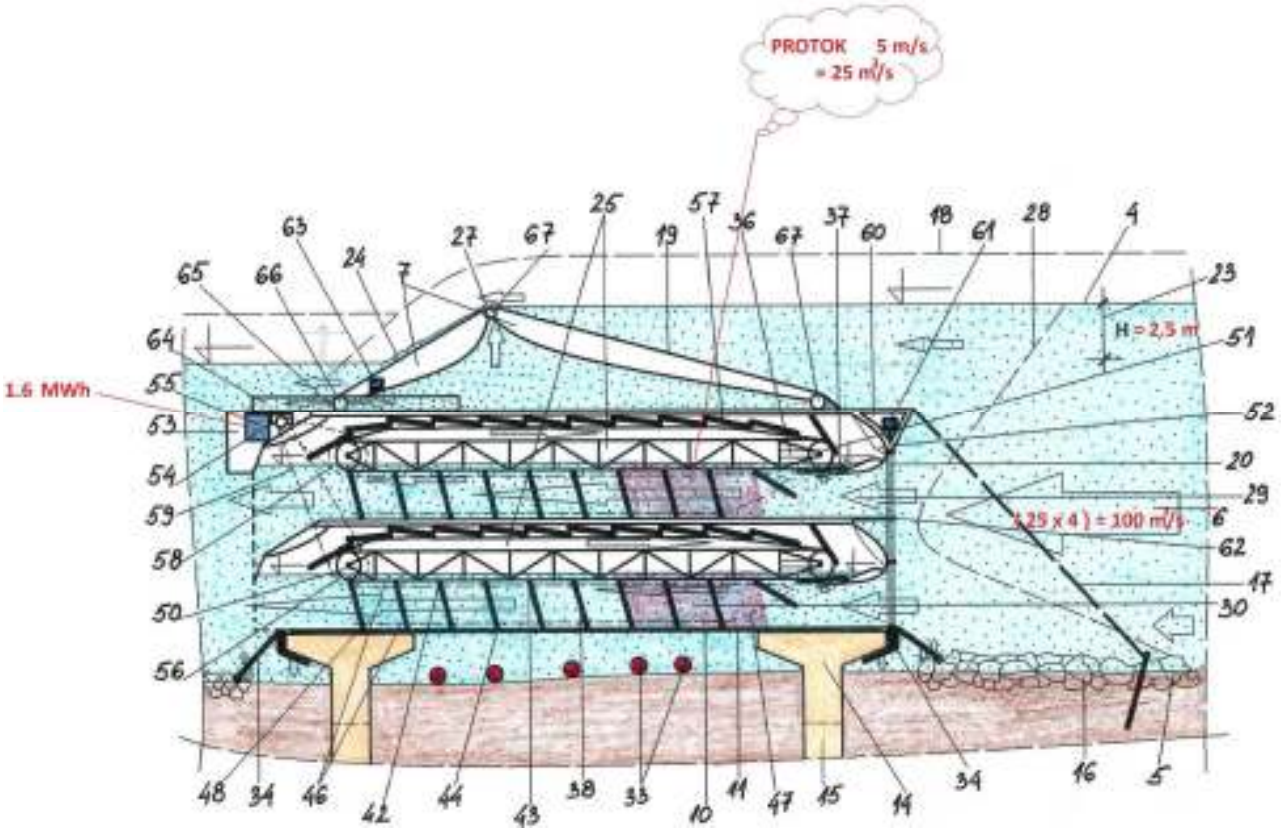

In this solution, hydropower plant can operate as local generator connected to a local power grid.

Production of electrical energy from cascading hydropower plant is realised in this way: Pylons (15) are fixed to the river bed (5), on them are laid band foundations (14). Two cascading turbines are interconnected (10) and put on band foundations. (14).

Achieved water height difference “H” (23) creates pressure to cascading power plant. Regulators (20), gradually leak water (6) towards pipes (29) of the turbine with rate of inflowing water (6) Water (6) in pipes (29) accelerates, blades (38) of the turbine utilise it to convert to mechanical energy. The pressure of trapped air (25) prevents water penetration (6). This way, flowing water (6) is directed thru pipe (29) of the turbine where is utilised on turbine blades (38).

The turbine blades (38) on return path are moving thru air almost without any undesirable environment resistance. The direction of the movement of turbine blades (38) is achieved by “U” profiles (46) and guides (47). Such relation is balanced and stabilised with overflowing (27) water over the barrier (19). In this way, we accomplish stable RPM on electric energy generator (55).

In total, pipes (29) have several times bigger volume than planned utilisation of water flow (6) per second in the river. This enables that water flow potential (6) is maximally utilised almost to the turbine standstill by using software control.

When the cascading plant is in operation, one can observe overflow of a small amount of water like a waterfall, while the majority of water is directed thru turbine. Favourable cascade is regulated by embankment made of metal net filled with local stone. The reduction is not necessary, and energy is transferred directly to a generator shaft.