

RENEWABLE ENERGY SOURCES

8.4. Small HPPs

8.4.3. Operation of small and microHPPs

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Unlike large reservoir HPPs, small ones don't practically make negative influence on environment. Among the factors, complicating their operation, seasonal instability of a drain, and also ice formation, prevention from damages during the ice drift, etc. are of the greatest importance.

In Russia there are tens of companies, producing separate components or complete equipment for small and micro-HPPs, including:

1. Enterprise "Kebren", St.-Petersburg — hydro power plants with capacity of 1,0; 6,0; 7,5 and 30 kW.
2. Research-and-production association "RAND", St.-Petersburg:
 - units for micro hydro power plants with capacity from 1,5 to 75 kW;
 - hydro units for small hydro power plants with capacity from 120 kW to 200 MW;
 - independent water elevating stations with productivity

from 0,7 to 5,0 m³/h.

3. Research-and-production cooperative society "Energy and Ecology", Novosibirsk:

- modules of non-dam hydro power plants with capacity of 0,5 ... 1,0 kW;
- hydro power plants with capacity of 7,5; 10; 22; 45; 50 and 90 kW;
- hydro units for small hydro power plants with capacity from 100 kW to 5 MW.

4. The Russian association of small and nonconventional power "MAGI", Moscow, — hydro units for small hydro power plants with capacity from 100 to 600 kW.

Specific capital investments for creation of small HPPs depend on many factors; their average estimation makes 13 ... 25 thousand rub. for the installed kW.