

**Energy security as an essential component  
of the Republic of Armenia national security**



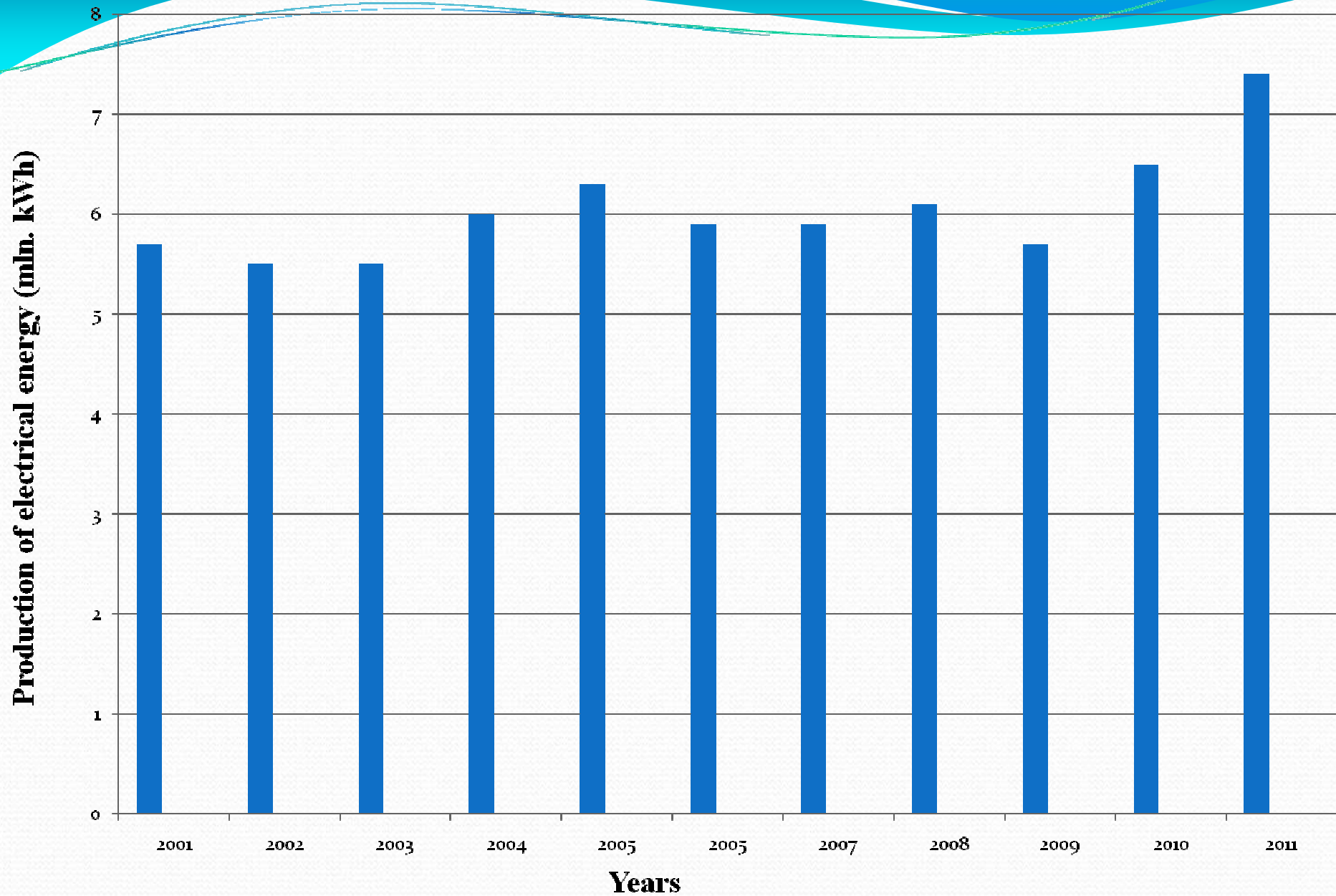


# Levels of energy security

1. Political energy security
2. Economic energy security
3. Manmade energy security

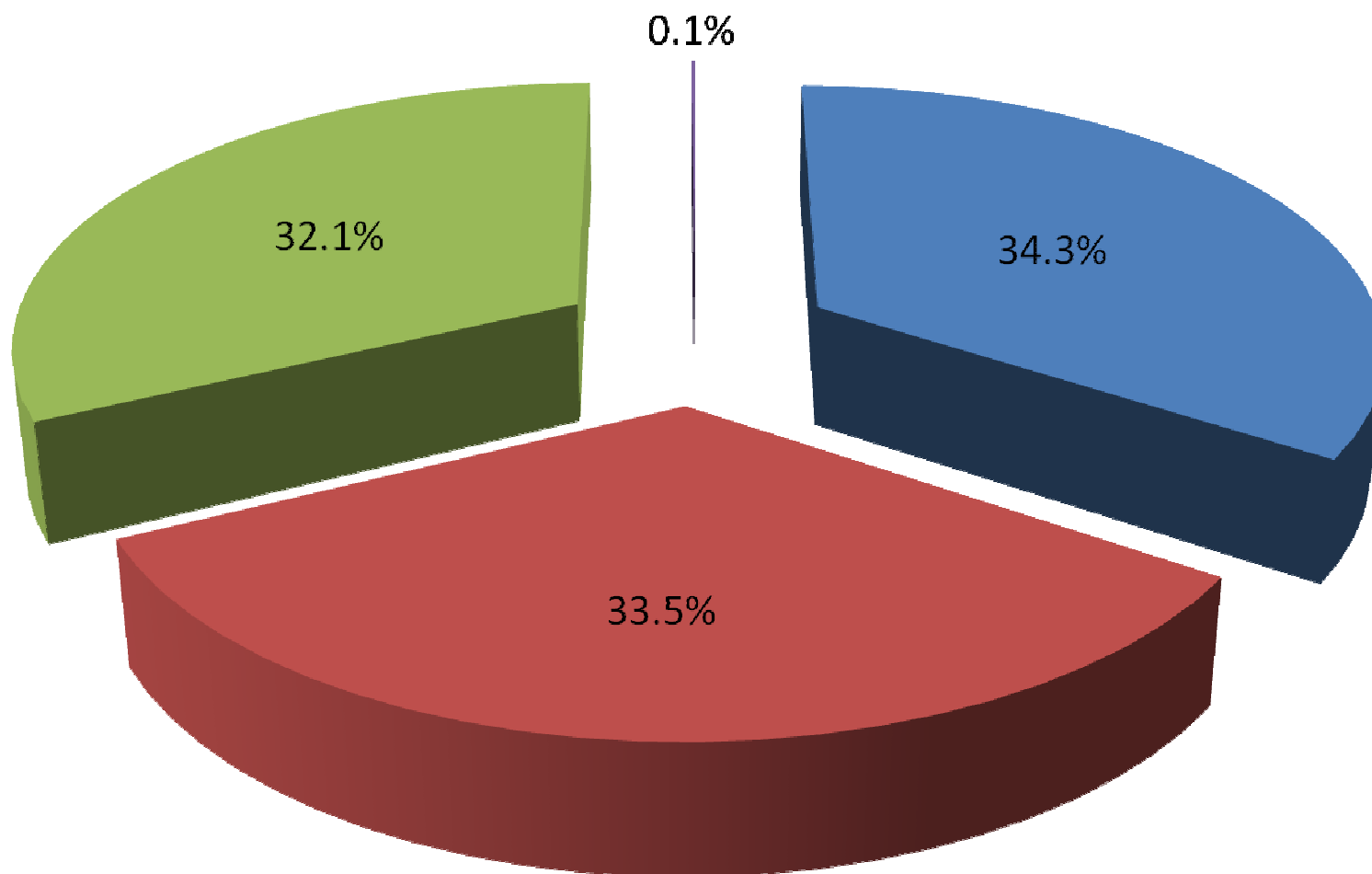


## Electricity Balance

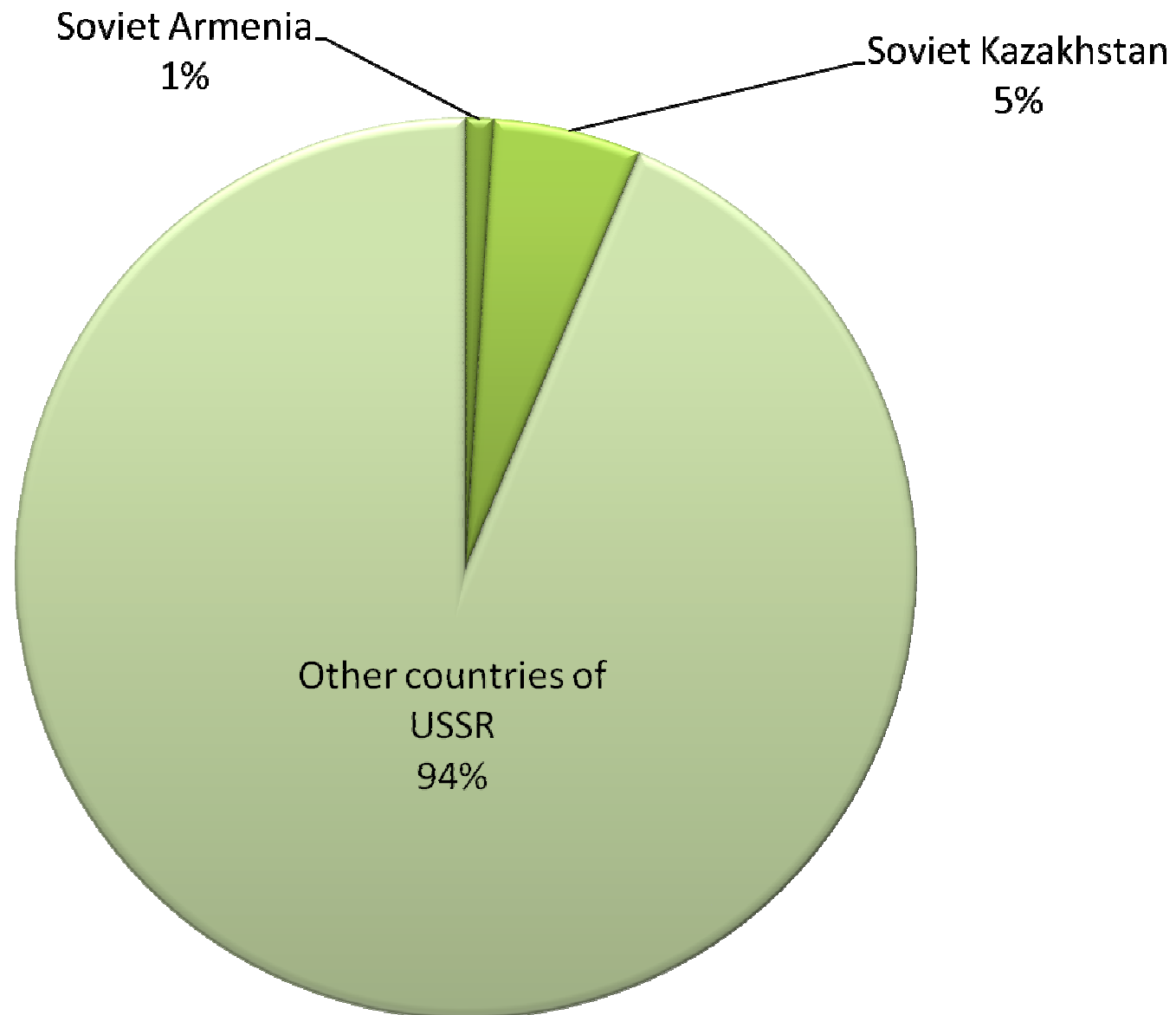


## Production of electrical energy in 2011

- Nuclear power plant
- Hydroelectric power plant
- Geothermal power plant
- Wind farms



## Production of electricity in 1986



2010-94 small HPP

2012-134 small HPP (69 small HPP under construction)





Theoretical potential is more than 10,000 MW









Minimum wind speed is 5-6 m/s  
Duration of the wind flow reaches to 5,200 hours/year





The average yearly value at 1 m<sup>2</sup> horizontal surface is 1,720 kWh/m<sup>2</sup>  
(in Europe this figure is 1,000 kWh/m<sup>2</sup>)  
Record duration of sunshine in the pool of Sevan is 2,800 hours per year





Many areas of Armenia, especially the plain of Ararat, can be compared with subtropical zones of Central Asia.

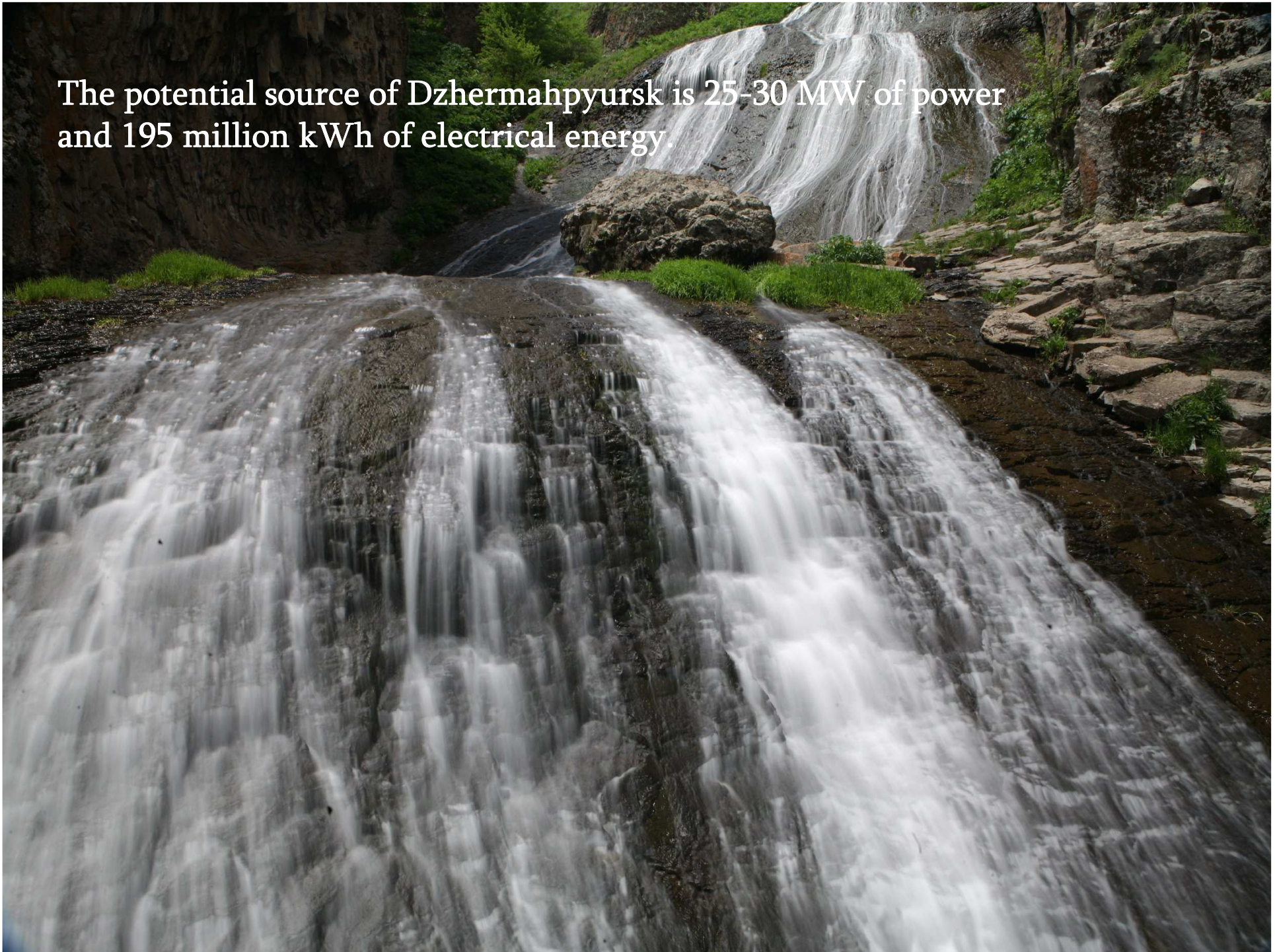
In the warm season the duration of sunshine in Armenia is 82 – 87% of the yearly sunshine.

The average duration of sunshine is 58%.  $\frac{1}{4}$  of Armenia has the reserve of solar energy of 1,850 kWh per year





The potential source of Dzhermahpyursk is 25-30 MW of power and 195 million kWh of electrical energy.







Thank you for attention