

Soviet Electric Power Capacity

The USSR has adequate mineral fuel reserves for the production of power, and the use of nuclear fuels would not be required on a national basis for some time. However, there are some heavily industrialized areas, particularly the Leningrad and Moscow complexes, which have highly developed industries and inadequate local fuel resources. Nuclear power plants may well satisfy the growing needs of the older industrial areas.

The hydroelectric power capacity of the USSR was an estimated 6.0 million kw in 1956. The planned capacity for 1960 is 17.3 million kw. It seems doubtful, however, that the 1960 goal will be reached; actual capacity will probably be on the order of 15.0 million kw. No plans have been announced for the period 1961-65, but a 1962 objective of close to 20 million kw would be reasonable.

Hydroelectric Potential

The Soviets have claimed that the water power potential of the European USSR (including the Urals and Caucasus) is about 60 million kw, or about 18 percent of the national total. However, according to Russian sources, only about one-half of this 60 million kw is believed to be economically or technically exploitable. Thus, exploitable water power resources in the European USSR (including the Urals and Caucasus) amount to about 30 million kw, of which 7.2 million kw, or 24%, had been exploited at the end of 1956. It is estimated that by 1962 the installed hydroelectric power capacity will be about 14 million kw, or somewhat more than 46% of the water power potential of the European USSR, rather than 75%. Total electric power generating capacity in the European USSR was 34.5 million kw in 1956. It is expected to be 65.0 million kw in 1962. (See table attached.)

The economically and technically exploitable hydroelectric resources east of the Urals are estimated at 140 million kw. In 1956, installed hydroelectric capacity was about 1.2 million kw, or 14.5% of capacity from all sources. Installed hydroelectric capacity east of the Urals is expected to be 6 million kw in 1962, representing 20% of the total area capacity, or about 4% of the area hydroelectric potential. Total generating capacity in this area was 8.3 million kw in 1956. It is expected to be 30 million kw in 1962. (See table attached.)

The major hydroelectric projects (over 400,000 kw) in the USSR which are given in the attached tables are those known to be under construction now or planned to be under construction prior to 1960. The capacity figures indicated are from Soviet announcements and represent ultimate installed capacity. The dates marked as planned are from Soviet announcements, while the others are estimated.

Installed Electric Power Generating Capacity in the USSR
East of the Urals

<u>End of Year</u>	<u>Hydro Capacity</u>	<u>Percent of Total</u>	<u>Thermal Capacity</u>	<u>Percent of Total</u>	<u>Total</u>
Hydro Potential	140.0*				
1955	1.0	13.3	6.5	86.7	7.5
1956	1.2	14.5	7.1	89.5	8.3
1962	6.0	20.0	24.0	80.0	30.0

* This is the economically and technically exploitable hydro potential, amounting to one-half of the theoretical hydro potential.

Installed Electric Power Generating Capacity in the European USSR
(Including Urals and Transcaucasus)
 (million kw)

<u>End of Year</u>	<u>Hydro Capacity</u>	<u>Percent of Total</u>	<u>Thermal Capacity</u>	<u>Percent of Total</u>	<u>Total Capacity</u>
Hydro Potential	30.0*				
1955	5.0	16.0	24.7	83.2	29.7
1956	7.2	20.9	27.3	79.1	34.5
1962	14.0	21.7	51.0	78.3	65.0

* This is the estimated economically and technically exploitable hydro potential, amounting to one-half of the theoretical hydro potential.

Major Hydroelectric Projects in the Area East of the Urals

<u>Location</u>	<u>Planned Final Capacity (thousand kw)</u>	<u>Year of Initial Operation*</u>
East Siberia		
Irkutsk, Angara R.	600	In operation 1950
Bratsk, Angara R.	3,600	Planned 1950
Ust Ilim, Angara R.	3,000	Est. 1965-70
Yeniseisk, Angara R.	2,000	Est. 1965-70
Krasnoyarsk, Yenisei R.	3,400	Est. 1962-63
West Siberia		
Novosibirsk, Ob R.	400	Planned 1957
Tomsk, Ob R.	630	Est. 1964-65
Kazakhstan		
Ust Bulatayev, Irtysh R.	435	Planned 1958
Smalbinskaya, Irtysh R.	500	Est. 1963-64

* Year of installation and operation of first generating unit. Usually all generating units of major hydroelectric stations are not installed until 2 to 5 years after year of initial operation.

Major Hydroelectric Projects in European USSR

<u>Location</u>	<u>Planned Final Capacity</u> (thousand kw)	<u>Year of Initial Operation*</u>
Biyashev, Volga R.	2,100	In operation 1955 Plan full operation by end 1957
Stalingrad, Volga R.	2,300	Planned 1958
Saratov, Volga R.	1,000	1962-64
Cheboksary, Volga R.	540	1962-64
Nizhne Narsk, Kama R.	900	1962-64
Votkinsk, Kama R.	540	Planned 1959

* Year of installation and operation of first generating unit. Usually all generating units of major hydroelectric stations are not installed until 2 to 5 years after year of initial operation.