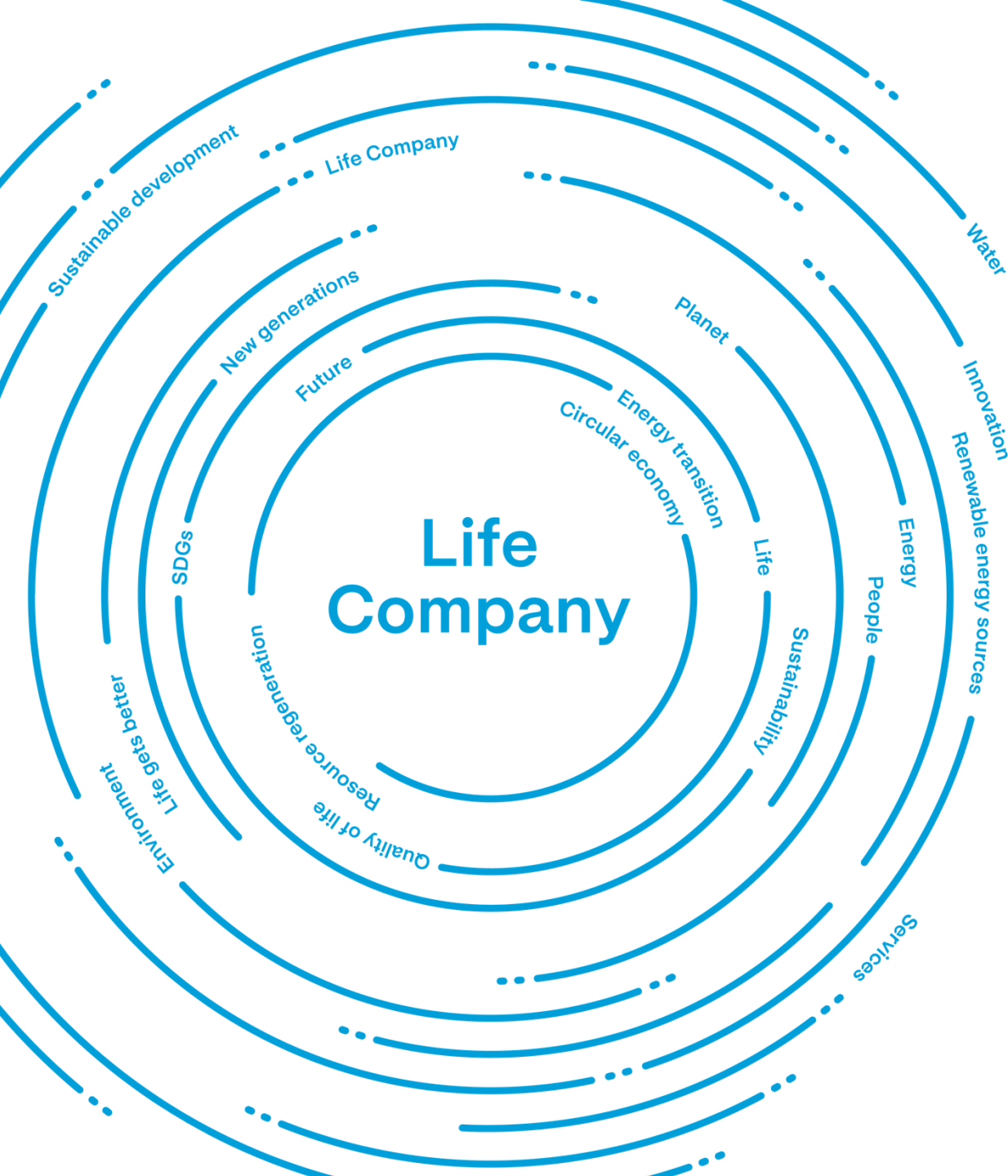




A2A Site Visit Valtellina

Roberto Scottoni
A2A Head of Hydroelectric Plants

July 2024

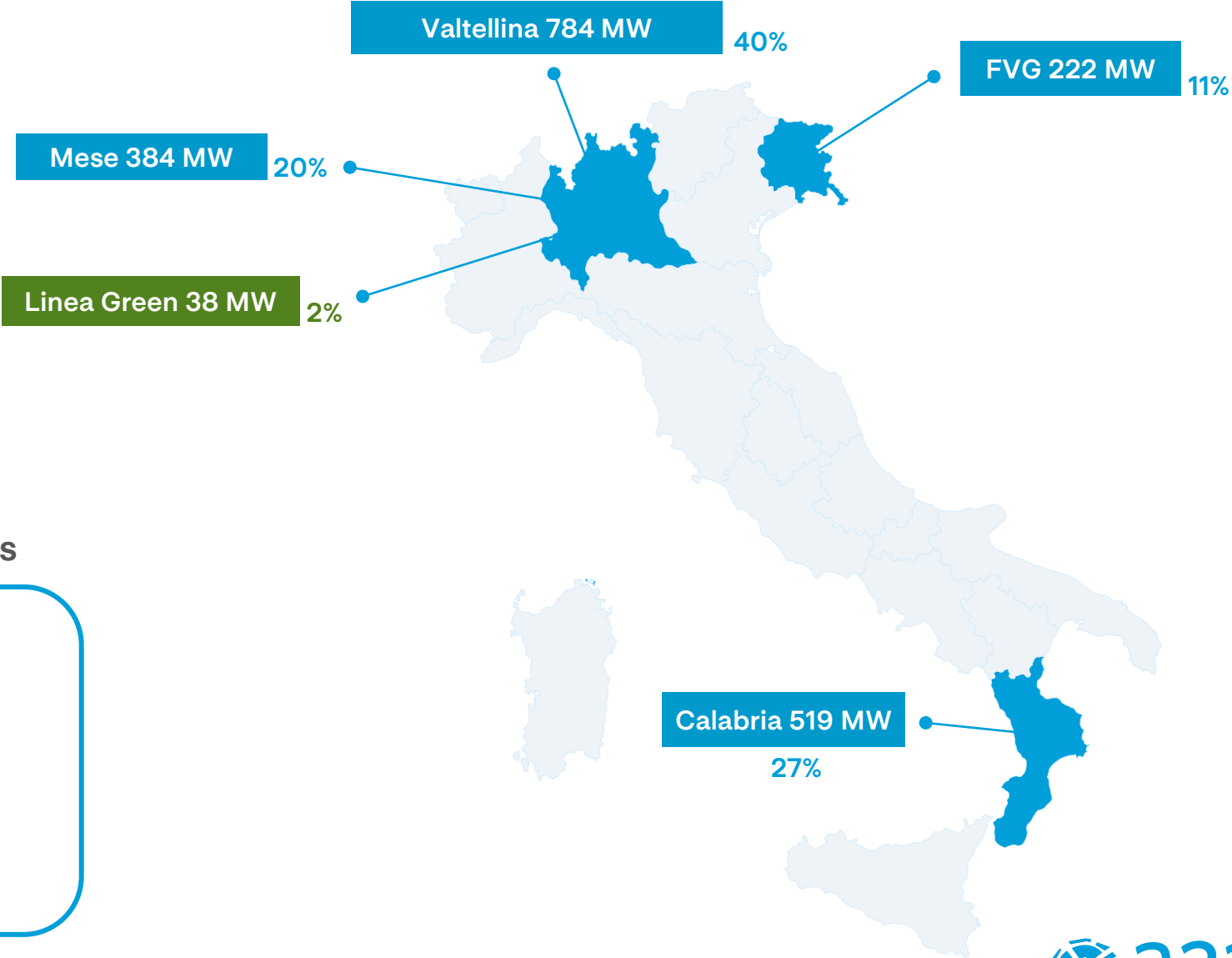
A2A GROUP - HYDROELECTRIC POWER PLANTS



Total hydro power capacity: 1,947 MW

Power Plants: 40

Power Units: 78



A2A Hydro Power Plants groupings

- IMV - Valtellina
- IMC - Calabria
- IME - Valchiavenna
- IMF - Friuli



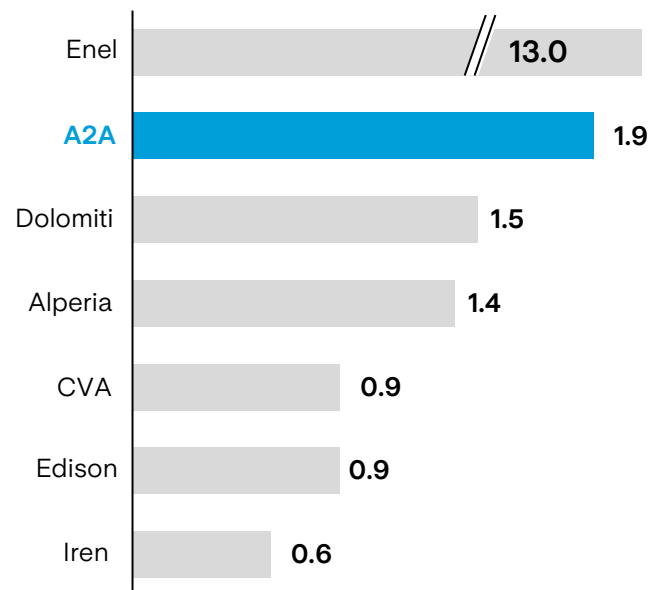
Linea Green Hydro



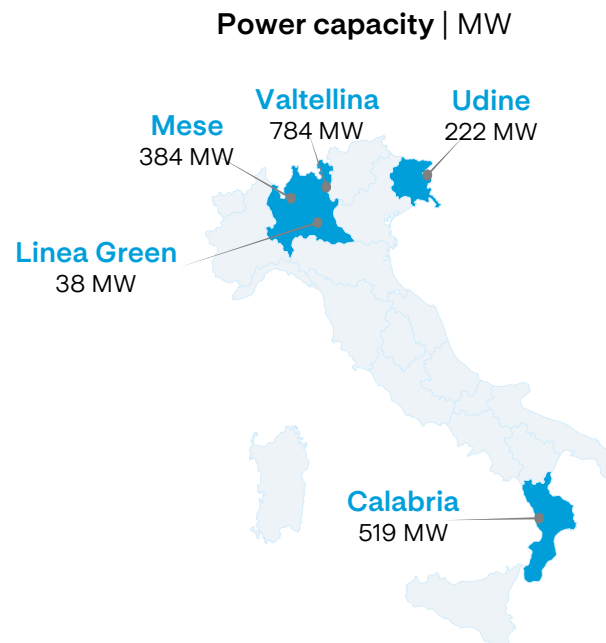
A2A HYDRO POWER PLANTS – MAIN CHARACTERISTICS



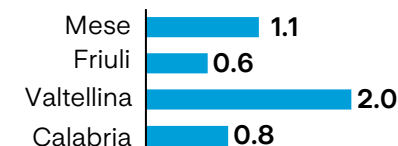
Capacity by operator¹ | GW



A2A hydro plants



Energy generation | TWh



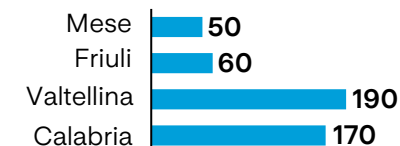
⚡ 4.5 TWh

Catchment area | Km²



📍 3,100 Km²

Reservoirs volume | Mm³



💧 470 Mm³

A2A is the 2nd player for installed hydro power capacity in Italy

1: Source: A2A Analysis on public data. 2023.

VALTELLINA - TERRITORIAL EXTENSION

3 hydraulic tunnels to the reservoirs

Livigno

Viola

2 main reservoirs

Braulio

Valtellina

	Hydraulic tunnel
	Penstock
	Hydro PP
	Hydro PP in cavern



	Dam
	River barrier



VALTELLINA - OROGRAPHIC SCHEME



VALTELLINA - RESERVOIRS & HYDRAULIC TUNNELS



4 reservoirs



San Giacomo Dam 1938-1950



Cancano Dam 1954-1956

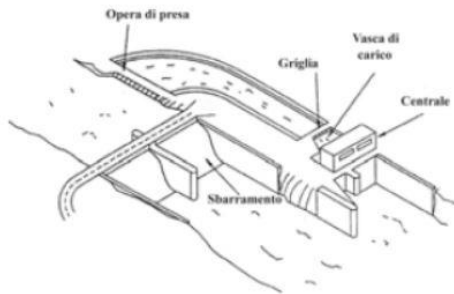


Val Grosina Dam 1958-1959



Sernio River barrier
1936-1938

Reservoirs Volume 190 Mm³



43 water intakes



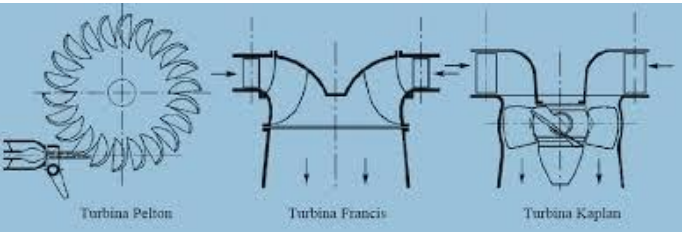
160 km hydraulic tunnels

VALTELLINA HYDROELECTRIC PLANTS - HIGHLIGHTS



11 Power Plants

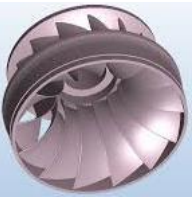
20 Power Units



13 Pelton 
(TANDEM Premadio)



4 Kaplan 



6 Francis 



784 MW Power capacity

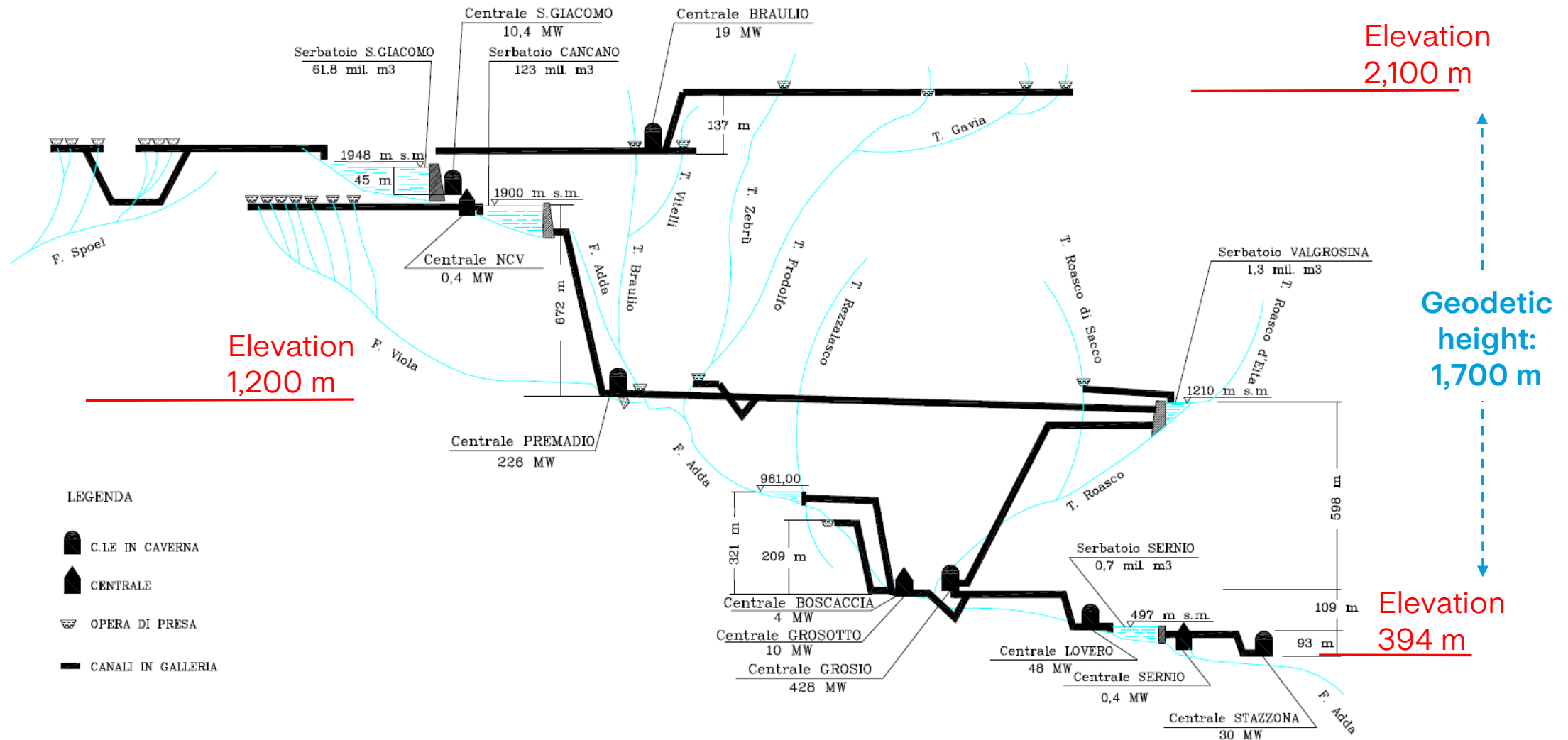
2 TWh Energy generation (per year)

(annual energy consumption Regione Lombardia ~ 70 TWh)

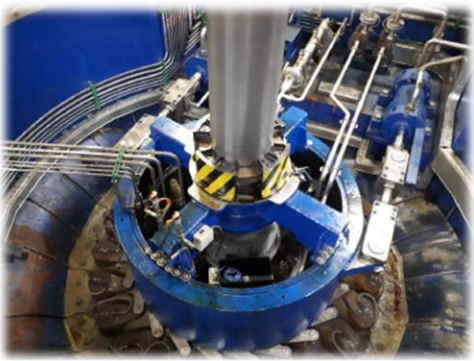
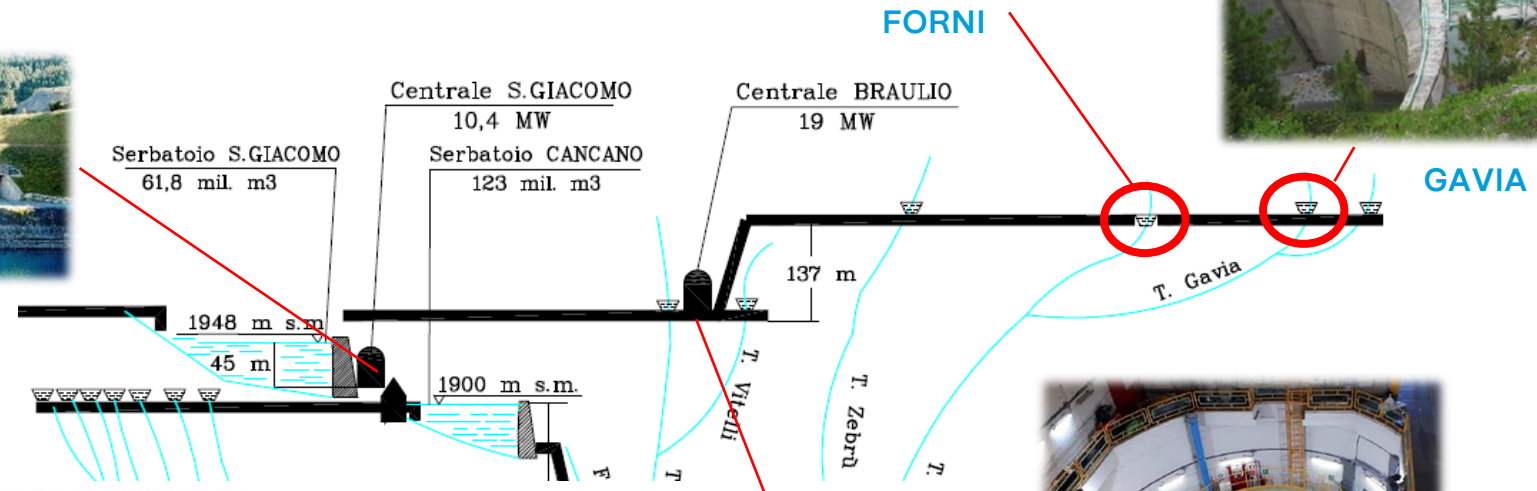


89% Average energy conversion efficiency

VALTELLINA - ALTIMETRIC SCHEME



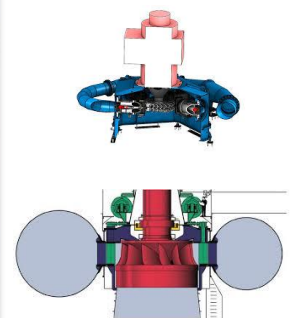
GAVIA & FORNI INTAKES – BRAULIO & S. GIACOMO PLANTS



SAN GIACOMO
9.4 MW



BRAULIO
2 x 9.2 MW + 1 x 1 MW = 19.5 MW



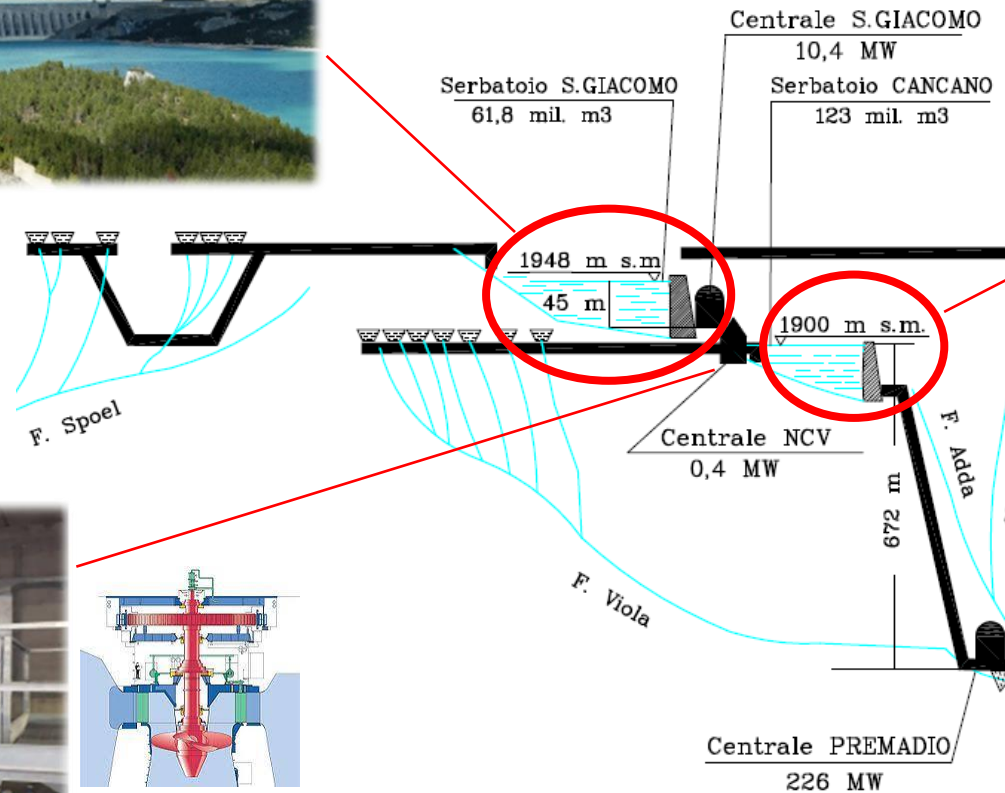
S. GIACOMO & CANCANO DAMS – VIOLA & PREMADIO PLANTS



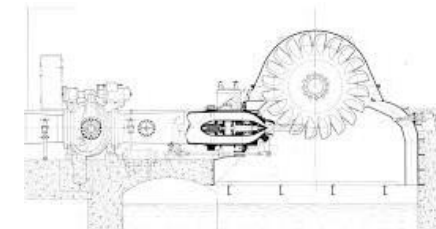
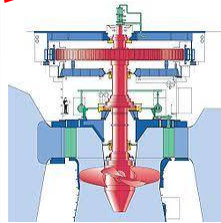
SAN GIACOMO DI FRAELE DAM



CANCANO DAM



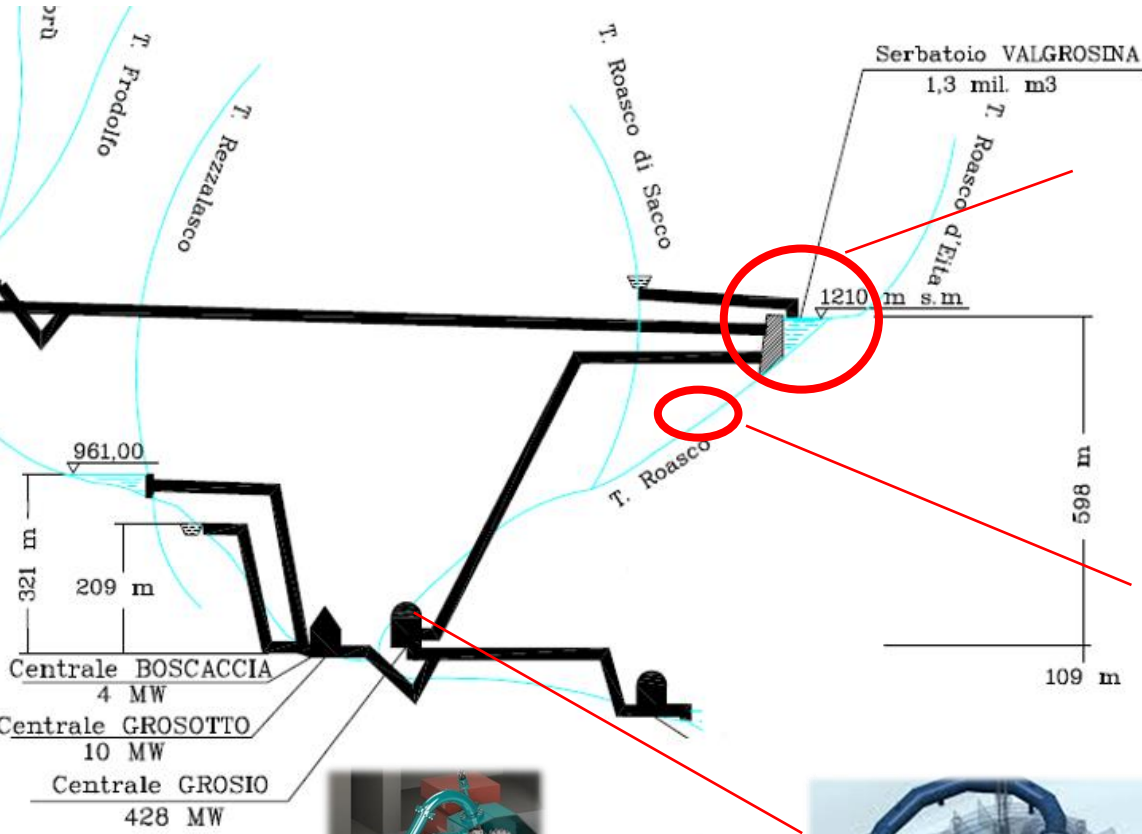
VIOLA
0.4 MW



PREMADIO

$2 \times 83 \text{ MW} + 1 \times 78 \text{ MW} = 245 \text{ MW}$

VALGROSINA DAM – GROSIO PLANT



VALGROSINA DAM



FUSINO DAM

DAM FOR INDUSTRIAL USE FOR GROSIO PP
(FIRE FIGHTING FUNCTION)



BOSCACCIA ⚙️
4.2 MW

GROSOTTO ⚙️
12.5 MW



GROSIO



$3 \times 107 \text{ MW} + 1 \times 110 \text{ MW} = 431 \text{ MW}$

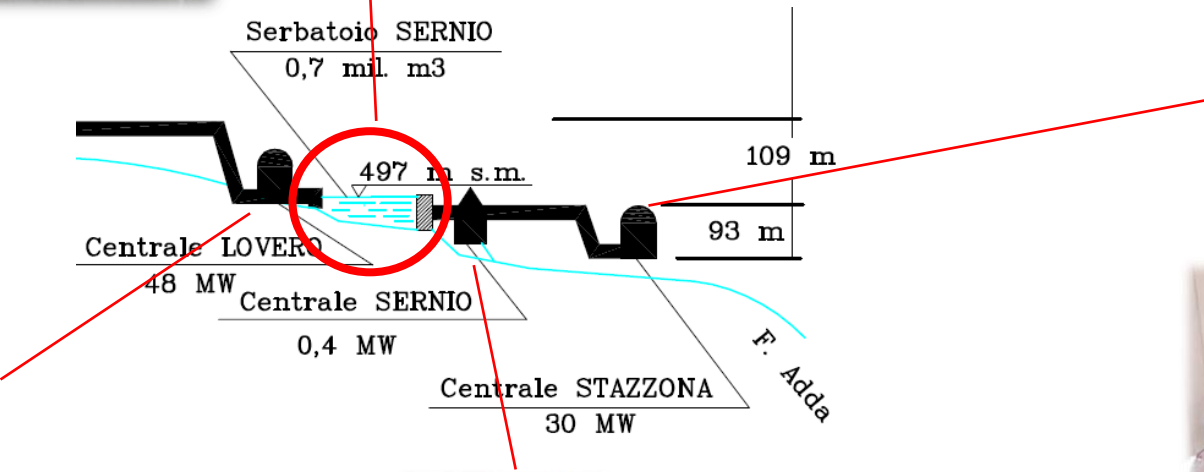


SERNIO BARRIER – LOVERO & STAZZONA PLANTS

GROSOTTO reservoirs



SERNIO
River barrier



STAZZONA

2 x 18.8 MW = 37.6 MW



LOVERO

2 x 28.9 MW = 57.8 MW



SERNIO
0.35 MW

