



# SCIENCE OF THE SNOWY SCHEME

## with Kirsten Banks

### PUMPED-HYDRO

#### Multiple choice questions

1

What power station is Kirsten Banks in?

CIRCLE ANSWER

Guthega

Tumut 3

Tumut 2

2

How many units are there in this power station?

CIRCLE ANSWER

4

300

6

3

Each unit generates how many megawatts?

CIRCLE ANSWER

300MW

1,800MW

10MW

#### What is pumped-hydro?

Use the word bank below to complete the definition

reused | water | higher | electricity | reservoir

Pumped-hydro is when water is drawn from a lower reservoir and pumped up to a higher reservoir so the water can be reused to generate electricity.



Tumut 3 Power Station

## Comprehension

### How does pumped-hydro work at Tumut 3 (T3) Power Station?

Water is drawn up from Jounama Pondage, via the impeller which pushes water uphill to Talbingo Reservoir.

The impeller pressurises the water to push it up. The generator is used to drive the impeller. Power is drawn from the electricity network to drive the generator when pumping, which now has effectively become an electric motor to drive the pump and push the water up the hill

Pumped-hydro allows water to be moved from a lower reservoir to a higher reservoir to be stored and made available to generate renewable electricity.

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### Answer the questions in sentences

#### 1. Which power station is fitted out to perform pumped-hydro?

Tumut 3 Power Station is fitted out to perform pumped-hydro.

#### 2. Where is the water drawn from and which reservoir is it pushed up to?

The water is drawn from Jounama Pondage and pushed up to Talbingo Reservoir.

#### 3. What does the impeller do and what drives it?

The impeller pressurises the water to push it up and the generator drives the impeller.

#### 4. What does pumped-hydro allow to happen?

The pumping feature allows the generator to drive the impeller which pressurises the water to push it up. In this mode, the generator is powered by electricity drawn from the network, in place of gravity, to effectively become a motor.



## Snowy 2.0 project | Listening skills

1

What is the new pumped-hydro project called?

Snowy 2.0 project

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2

What are the names of the two connecting reservoirs?

1. Tantalangara

2. Talbingo

3

What will the water be used for that sits in Tantalangara reservoir?

To generate renewable electricity

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4

When will the water be used?

When demand is high

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