

# ¿Dónde se decidirá el future del cobre?

Perspectivas de la oferta en América Latina



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## We are enthusiasts with an insatiable curiosity

We have experts along and across the value chains with deep industry knowledge.

We build and maintain sophisticated, cross-linked, forward-looking econometric and technical models.

We use scenario frameworks and conduct research to explore compelling views of the future.

We consistently deliver trusted and timely

data, intelligence and actionable insights.

We engage the market in a captivating, thought provoking and accessible way.

We are enthusiasts when it comes to the commodity space, from ore in the ground to how the metals are used in

what

we do

We are enthusiasts when it comes to the commodity space, from ore in the ground to how the metals are used in everyday life, and everything in-between. Our insatiable curiosity drives us to explore every aspect of the value chain in detail.

5



# Our work forms a cross-commodity and value-chain ecosystem that is synthesized and shared with our clients



#### **Outlooks**

Serialized works and data that narrate our most confident forward-looking scenarios on industry and the value chain the industry serves.



**Monitors** 

Serialized works and data that explain what has or is happening within the context of our expectations as set out in our forward-looking works.



**Assets** 

continually updated comprehensive bottom-up intelligence on costs, revenue and emissions for individual assets across the commodities we support.



Insights

Works that integrate into our views and advance our understanding of industry and the value chain the industry serves.

This is our thought leadership.

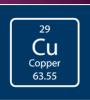


**Analysts** 

Our analysts are available to our clients to help navigate the dynamic market space with a ready industry network. We are the natural extension of their internal workflows. Our data is available via AIP for seamless integration.



### CRU's Copper Services network map



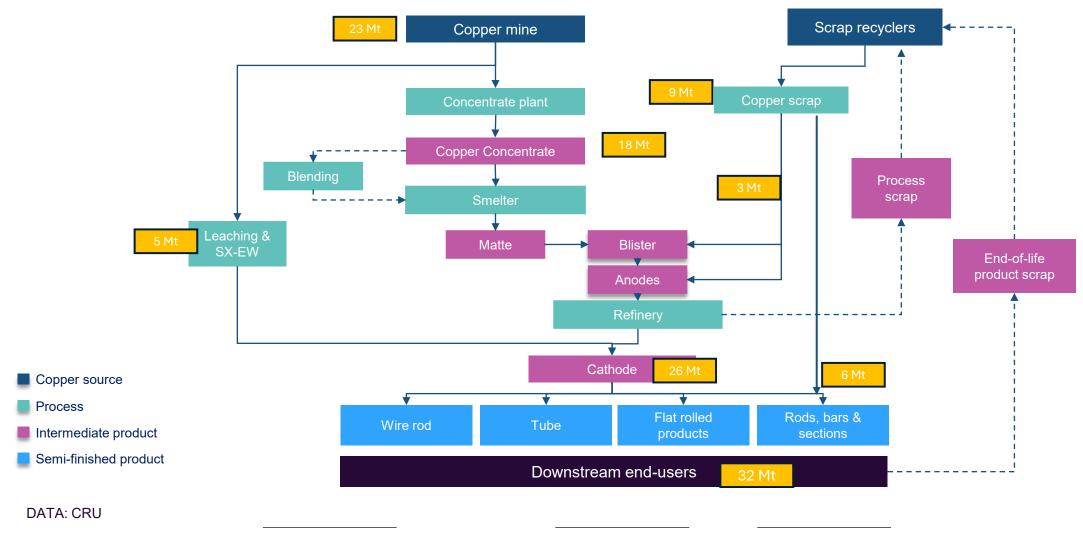
|  | Mining   |              | Processing  |                           | Consumption |
|--|----------|--------------|-------------|---------------------------|-------------|
|  |          | Concentrates |             | Refined metal             |             |
| Primary Services                           |          |              |             |                           |             |
| Copper Markets CP                          | <u> </u> |              | $-\bigcirc$ | $\overline{\hspace{1cm}}$ | <b>─</b>    |
| Copper Concentrates CP                     | <u> </u> | <u> </u>     | <b>—</b>    |                           |             |
| Copper Long-term <sup>P</sup>              | <u> </u> | <u> </u>     | $-\bigcirc$ | <b>─</b>                  | — <u> </u>  |
| Copper Mining Assets                       |          |              | _           |                           |             |
| Copper Mining Emissions                    | <u> </u> | _            |             |                           |             |
| Copper Smelting & Refining Assets          |          | _            | <u> </u>    |                           |             |
| Metallic Wire & Cable Market <sup>CP</sup> |          |              | $-\bigcirc$ |                           | <b>─</b>    |
| Ancillary Services                         |          |              |             |                           |             |
| Cobalt/ Moly/ Nickel/ Zinc prices          | <u> </u> |              |             |                           |             |
| H <sub>2</sub> SO <sub>4</sub> Market      | <u> </u> |              | <u> </u>    |                           |             |
| Precious Metals Markets <sup>P</sup>       |          |              |             |                           |             |
| Battery Value Chain <sup>C P</sup>         |          |              |             |                           | · ·         |

C = Classic available

P = Premium available



## Mapping the copper market value chain

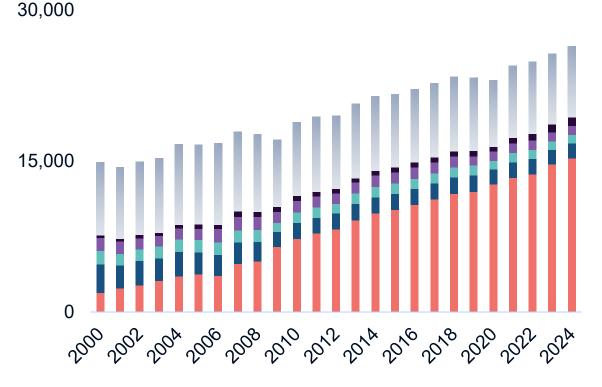


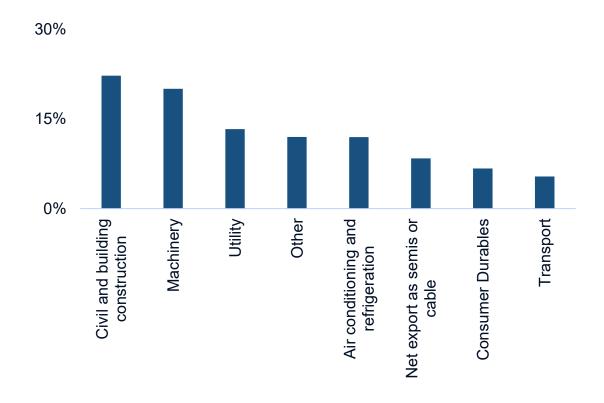


#### Refined copper consumption largely led by China



Chinese copper consumption by end use 2010-2024, %



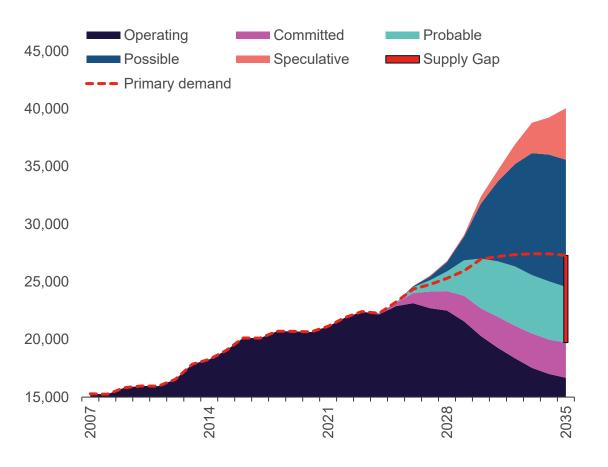


DATA: CRU

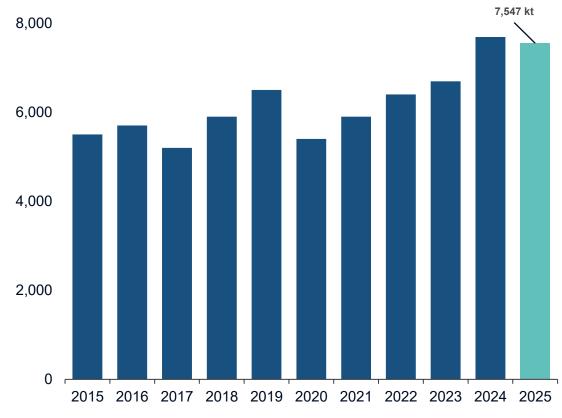


#### Supply gap next decade reflects an opportunity to invest in copper

#### Forecast copper mine production; '000 t



#### Historical ten-years-ahead supply gaps, '000 t

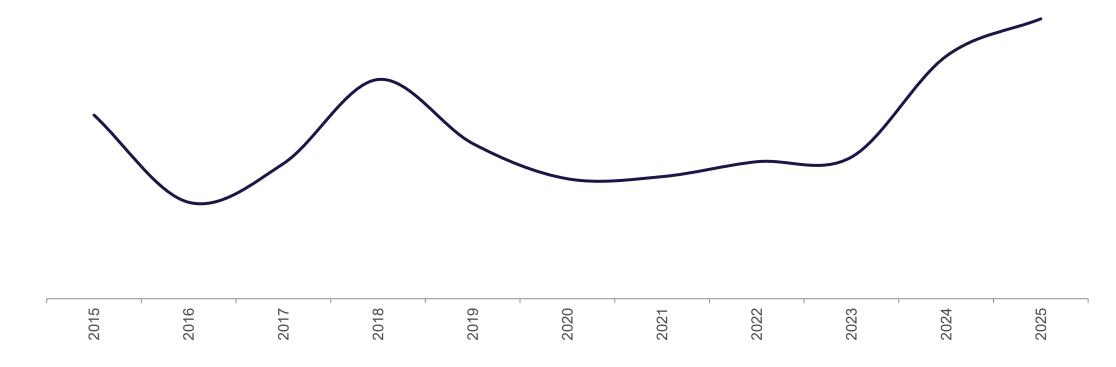


DATA: CRU Long Term Market Outlook



## Our incentive price has already risen by 18% in the last 2 years

Historical incentive price forecast, \$/t (Real \$2025)

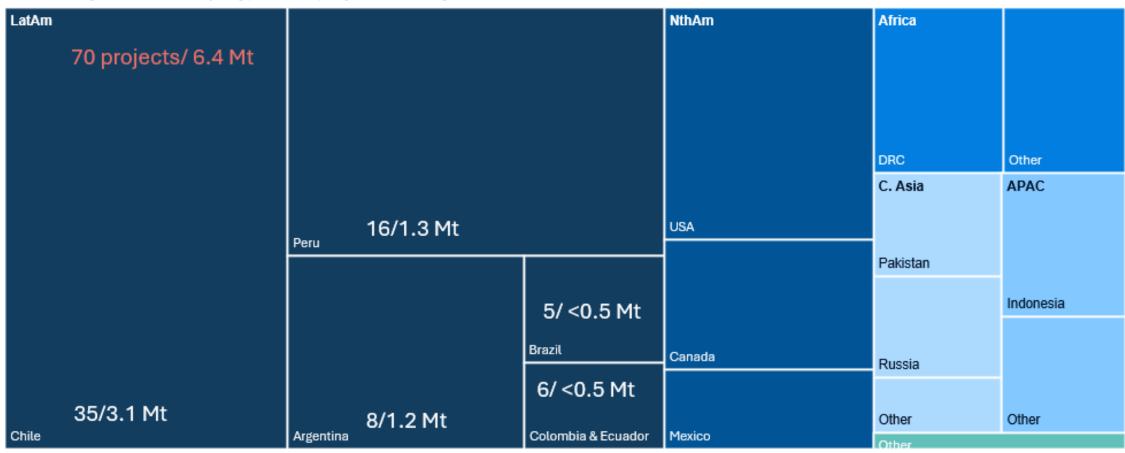


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## Where is the copper located for the future? 185 projects worldwide

Sources of as-yet uncommitted capacity (2025-2035) Projects > 20,000 t/y

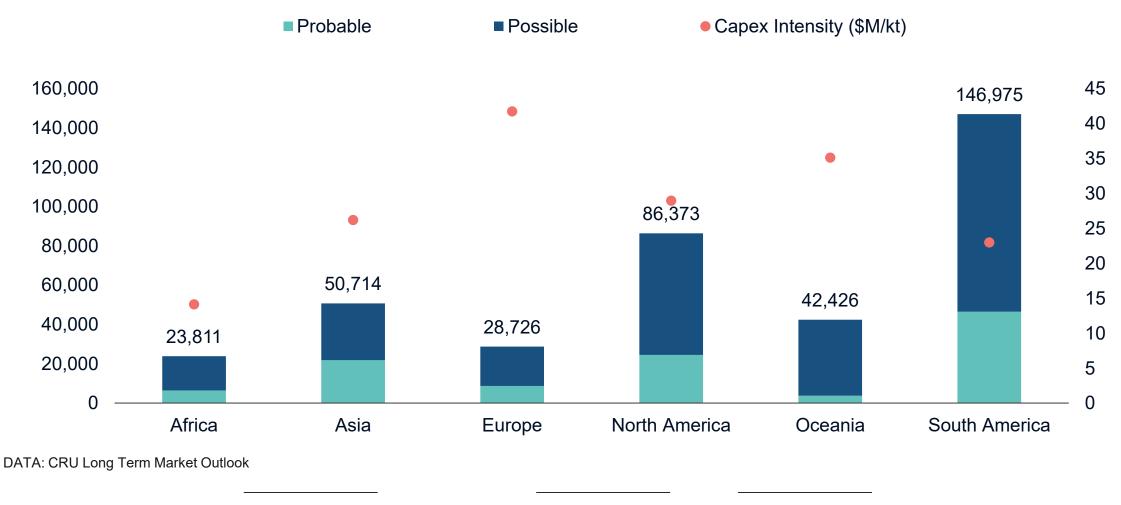


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## At least 60 uncommitted projects and \$130 bn are required by 2035

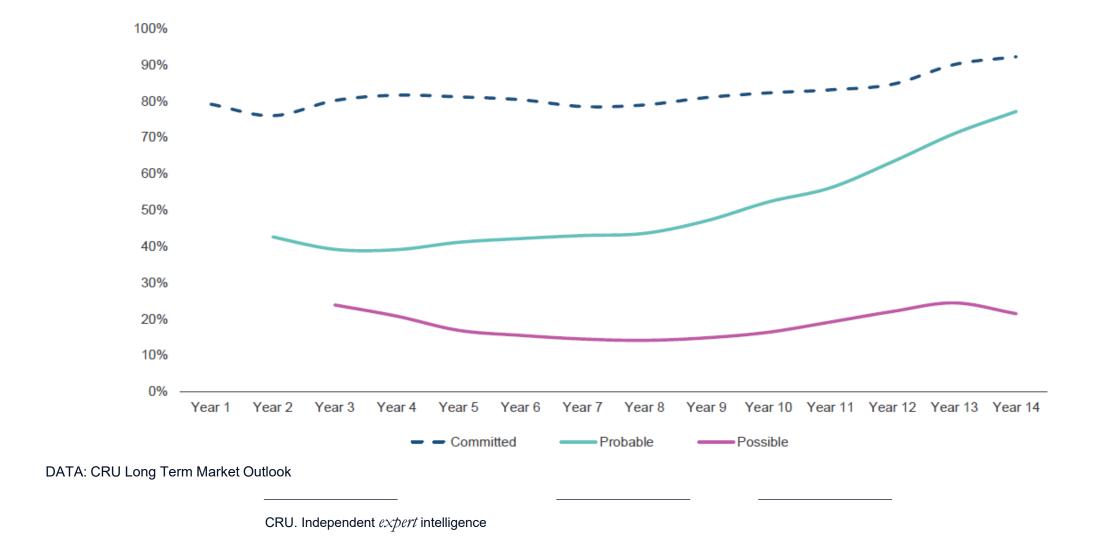
Initial capex by status & region (LHS, \$M), capital intensity (Cu \$/'000 t, RHS)





### Project delivery has been systemically underwhelming

Project development by starting classification (% tonnes delivered vs. forecast), 2010 - Present

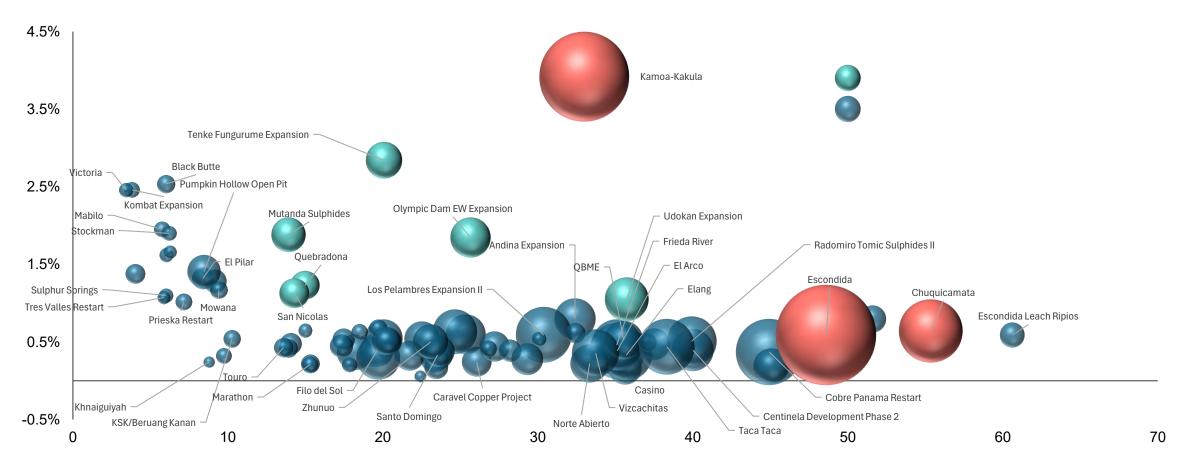


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#### Today's pipeline demands increased risk appetite

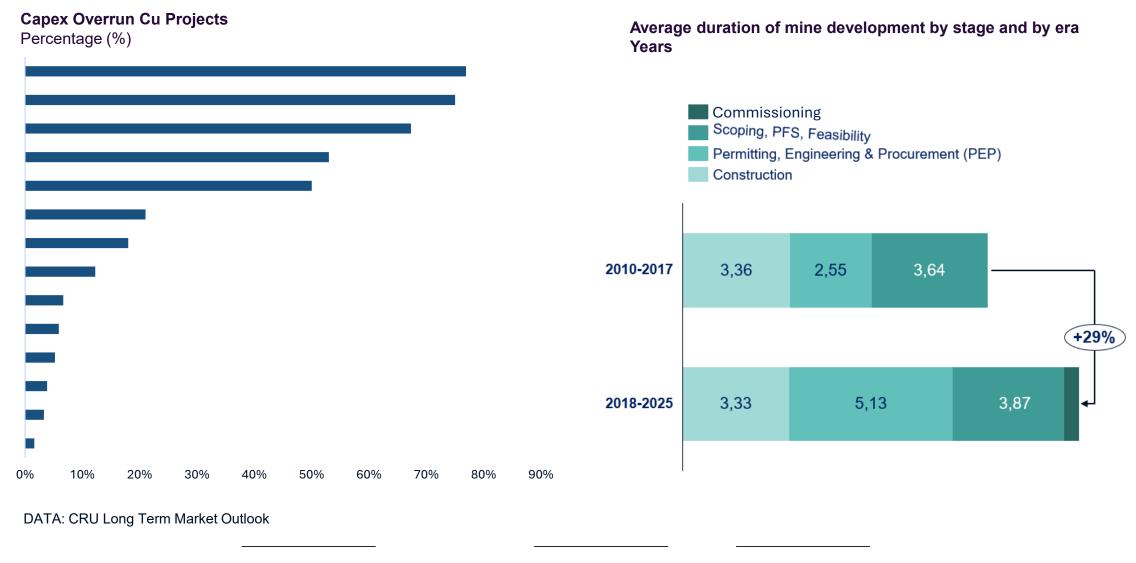
Project\* reserve grade (Cu %, y axis), mine life (years, x axis), annual production (bubble size)



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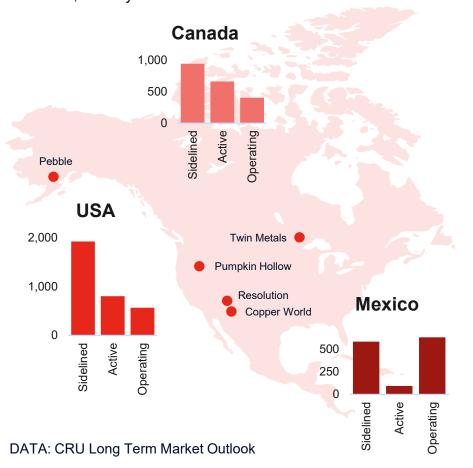
#### Capex overruns and delays? The perfect storm

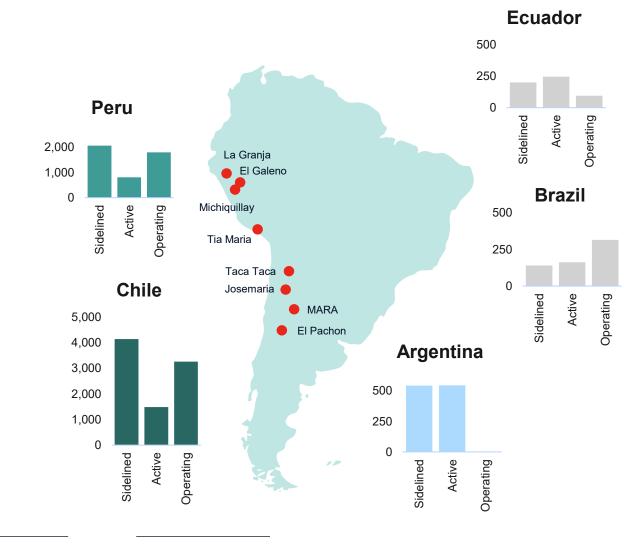




#### 'Sidelined' projects add the bulk of potential projects in Americas

'Sidelined', 'Active' and 'Operating' tonnes by country 2010-2024; '000 t/y





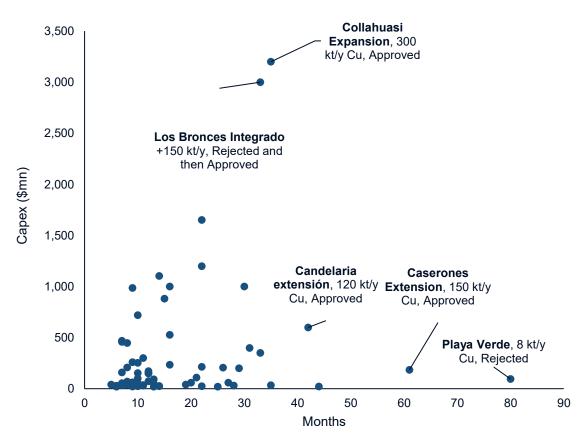


#### Chilean look-up in projects – permits and their behaviours

#### Main causes behind mining project delays or conditional 25%

# 0% Fauna Archaeological Indigenous communities **Environmental Pollution** Technical documentation Water extraction rights Protected areas

#### Duration of environmental assessment for a mining project



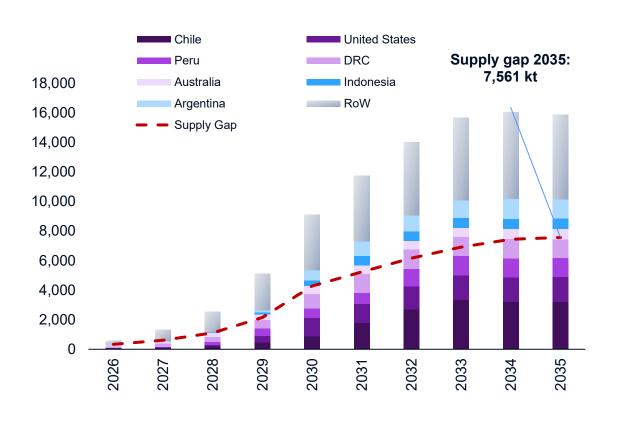
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#### Not all projects will come to fruition

Mine production forecast from uncommitted projects (probable and possible), '000 t Incentive Price (IP): Country averages vs marginal project to cover supply gap in 2035, \$/t





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2011 Independent as the extintelligence



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