

The Energy Transition of Phasing out and/or technology reconversion of Coal Power Generation



Ministerio de
Energía

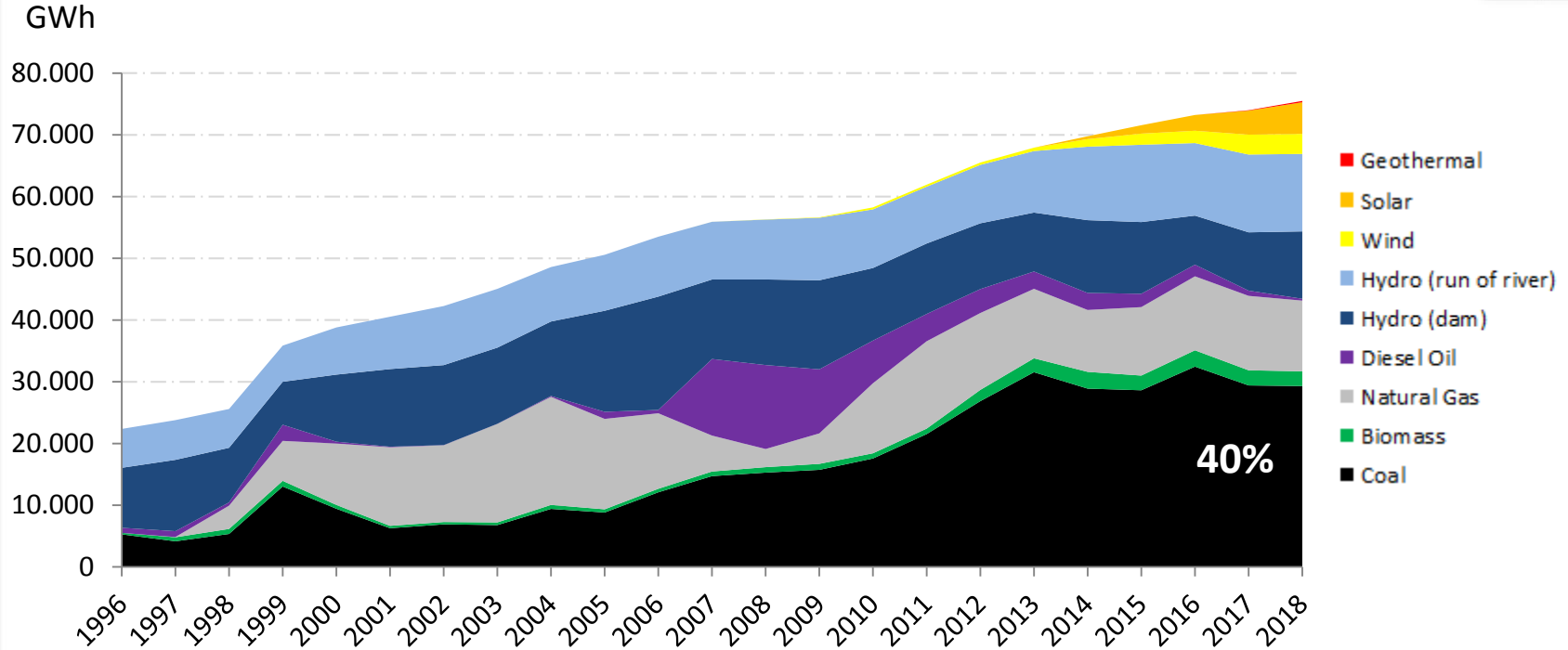


Bárbara Eguiguren

Energy Forecasting and Regulatory Impact Analysis Division
Ministry of Energy, Chile

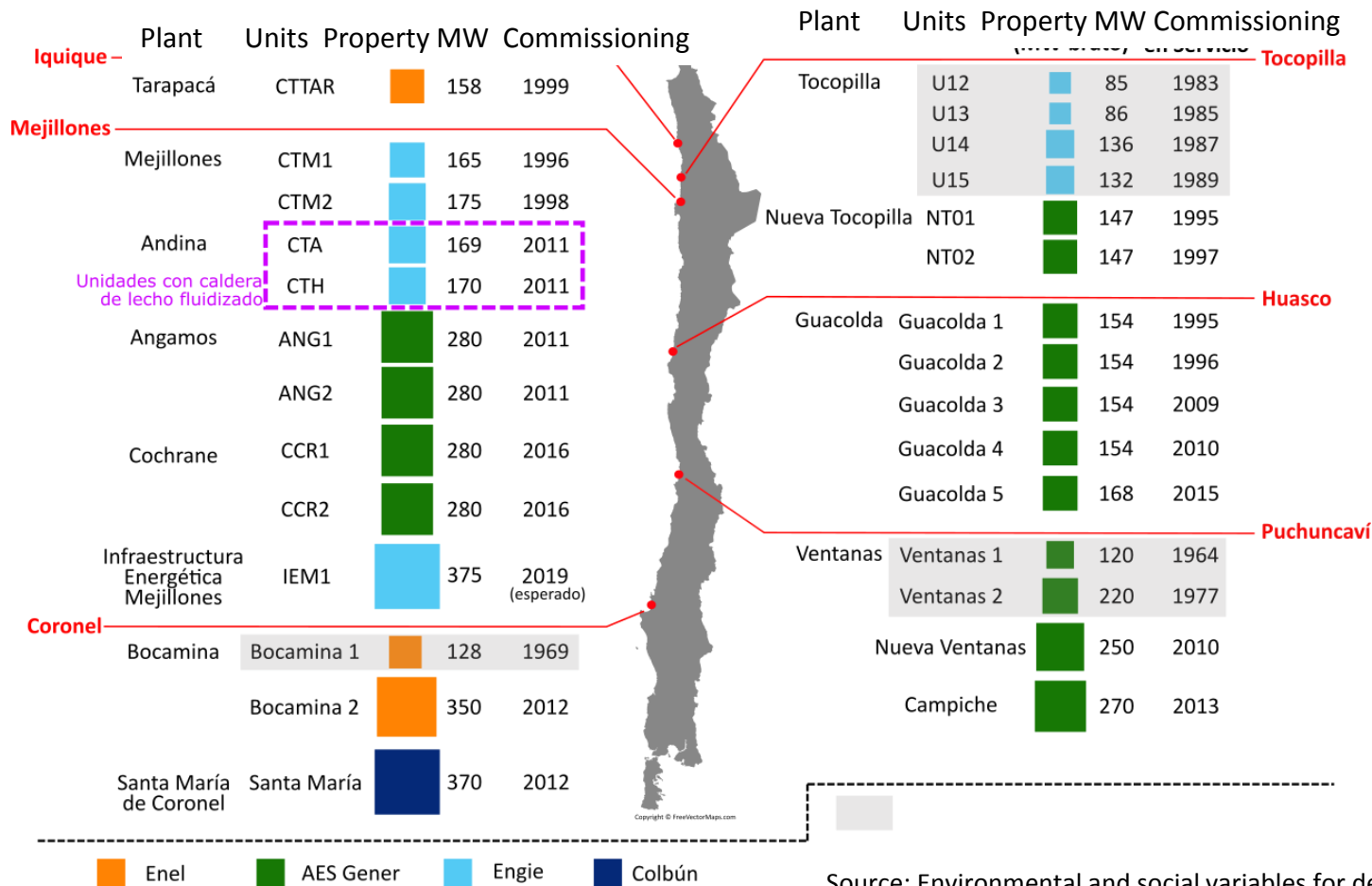
Gobierno de Chile

Role of coal in our electricity generation



Coal became an important energy source for electricity generation with droughts in the 90s and especially during the Argentine gas crisis in 2004.

28 Coal Units, they have 5 GW of installed capacity





Employment Associated with Coal Power Plants

- Direct employment: **4.391** people (contracts or subcontracts)
- Indirect employment: **9.505** people (value chain and its productive linkages)
- **0.17%** of total employment in Chile (direct and indirect)

	Iquique	Mejillones	Tocopilla	Huasco	Puchuncaví	Coronel
Direct Employment	150	1,533	589	533	808	777
% of total in commune	0.14%	3.8%	4.4%	6.8%	1.6%	0.3%



Why is Chile phasing out and/or reconverting coal power plants?

International Trends: **Paris Climate Agreement**



Chile's NDC: 30% reduction by 2030,
and 45% if international funds are provided



Chilean Energy Policy 2050. Target: To diminish GHG emissions of the energy sector towards to a low carbon economy



Voluntary Agreement between the Ministry of Energy and the electric companies with coal units (AES Gener, Colbún, Enel y Engie) through the Association of Electricity Generators.

Energy Road Map 2018-2022

Voluntary Agreement

Voluntary Agreement was signed in January 2018
and ratified in May 2018, in the Energy Road Map 2018-2022



1. **Not to build more coal power plants** unless they have CCS or similar technology. ✓
2. The Ministry of Energy will lead a **working group** with main stakeholders to establish criteria to provide a smooth transition to a low carbon economy in social, economic, environmental, health, employment and technical terms. ✓
3. To define a **schedule to phase out** or reconvert existing coal power plants (June 2019).

Working Group Stakeholders

Sector	Institutions
Public	Ministry of Energy
Public	National Energy Commission
Public	Ministry of Environment
Public	Municipality of Tocopilla

Sector	Institutions
NGO	WWF Chile
NGO	Casa de la Paz
NGO	Chile Sustentable
Civil Society	Civil Society Council of Min. of Energy

Sector	Institutions
Private	Engie
Private	ENEL
Private	AES Gener
Private	Colbún

Sector	Institutions
University	Pontificia Universidad Católica
University	Universidad Adolfo Ibañez
International Inst.	GIZ – German Cooperation
Independent Inst.	National Electrical Coordinator

Sector	Institutions
Union	Association of Electricity Generators
Union	Coal Power Plants Syndicate
Clients	Mining Council
Clients	Unregulated Energy Consumers Association
Clients	Consumers and users organization (ODECU)

Working Group Calendar 2018-2019



Kick off Meeting

June, 11



Starting Work

June, 26



Health and air quality

July, 24



International experience

August, 20



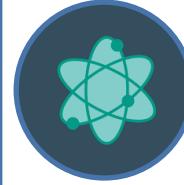
Electrical system impact

September, 25



Environmental variables

October, 23



Tecnological Alternatives

November, 20



Economical and social impacts

December, 4

January 2019: Final Learnings Presentation

June 2019: Phase out of coal power plants schedule





Working Group process



Health and air quality

Public and Environment PhD from U. de Chile; Ministry of Environment.



International experience

Agora, Germany; Dept. for Business, Energy and Ind. Strategy, UK; International Energy Agency; Sierra Club USA.



Electrical system impact

Study: National Electrical Coordinator;

Renewables Energy Chilean Association; Geothermal Council; Center of Energy, U de Chile; Valgesta.



Environmental variables

Study: Min.of Energy;

Aria Tech, France; Chilean Corporate Leaders Group for CC; Center for Climate Science and Resilience (CR2); Municipality of Coronel.



Tecnological Alternatives

Study: Ministry of Energy-GIZ;

E3G, UK; Energy Transition, Enel



Economical and social impacts

Study: Ministry of Energy-IDB;

ILO; IDB



Next Steps

To publish a **schedule** to phase out or reconvert existing coal power plants

→ June 2019

To work in an **energy transition strategy** that considers environmental, social, economic, security and flexibility aspects of the electric system.



Energy transition strategy – social impacts

1. Quantification of contracted and subcontracted personnel

- Information through companies, unions

2. Current labor profiles (labor competencies)

- National Training and Employment Service (SENCE) and other initiatives

3. Survey of job opportunities in surrounding areas

- Environmental Impact Assessment System (SEIA), Office of Sustainable Projects Management of Ministry of Economy

4. Linkage with entities that provide support for training

- Education and Dissemination Unit of the Ministry of Energy (Training Round Table), Ministry of Labor, SENCE

5. Linkage with current initiatives of local development

- Survey of labor intermediation options. SENCE, universities, local technical training institutes and centers, Production Development Corporation (Corfo), among others





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More Information:
<http://www.energia.gob.cl/pagina-mesas/405>

Thanks!

Bárbara Eguiguren
beguiguren@minenergia.cl