



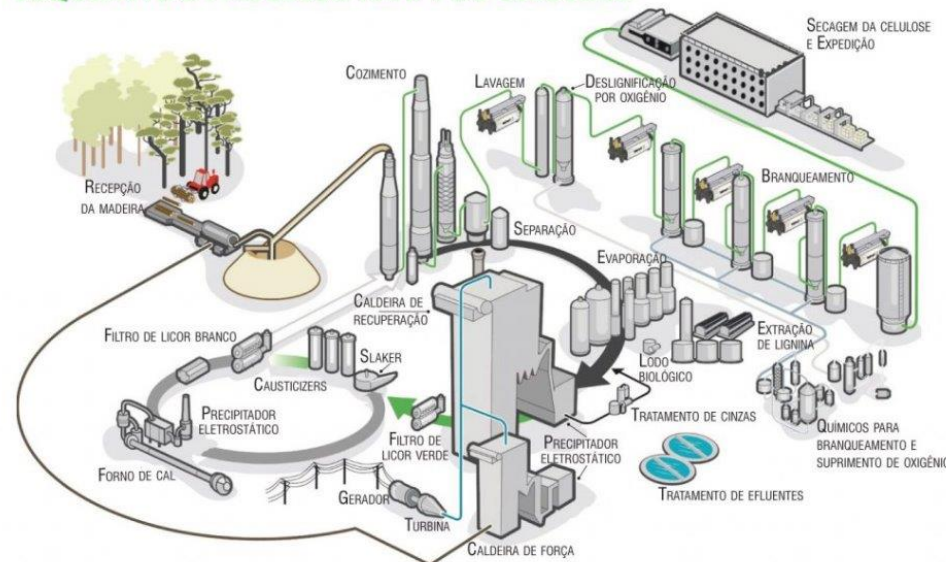
# Workshops for Mill Annual Shutdowns

BOOST FURTHER COLLABORATION WITH CUSTOMER

# What are the objectives of the **Annual Shutdown Workshop**?

- Reading and recommendations of the reports from the previous Annual Shutdown;
- What equipment will be required to perform the Services (scope by equipment);
- Critical points and opportunities during campaign;
- Spare Parts (Shutdown Planning);
- Maintenance instructions/indications (manufacturer's maintenance manual);
- Questions, suggestions, etc.

ESQUEMA DO PROCESSO KRAFT DE CELULOSE



# Annual Shutdown WorkShop

|                                                                                                                                                                                                                                                                     | Tuesday                                                                                                                                                                                                        | Wednesday                                                                                                                                                                                                                                                                                                                         | Thursday                                                                                                                                                         |                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                     | CMPC GUAÍBA                                                                                                                                                                                                    | CMPC GUAÍBA                                                                                                                                                                                                                                                                                                                       | CMPC GUAÍBA                                                                                                                                                      |                                                                                                                                                                                                                       |
| <b><u>Customers</u></b> <ul style="list-style-type: none"> <li>• Planners</li> <li>• Technicians</li> <li>• Supervisors</li> <li>• Managers</li> </ul><br><ul style="list-style-type: none"> <li>• Production</li> <li>• Processes</li> <li>• Mechanical</li> </ul> | <b>ASD - Work Shop</b><br><br><b>8 to 12 am → FBL</b><br>COC – Cont. Cooking, BSW, Diffusers<br>BAT – Batch Cooking<br><br><hr/><br><hr/><br><b>1 to 5 pm → FBL</b><br>WOB – Washing, Oxyg. Delign., Bleaching | <b>ASD - Work Shop</b><br><br><b>8 to 12 am → WLE</b><br>EVA – Evaporation<br>ASL – Ash Leaching<br>CRY – Crystallization<br>LGB – Lignoboost<br>LKI – Lime Kiln<br>RCA – Recausticizing<br><br><hr/><br><hr/><br><b>1 to 5 pm → REC</b><br>RBO – Recovery Boilers and Rebuilds<br>NCG – Mill wide NCG solutions<br>BUR – Burners | <b>ASD - Work Shop</b><br><br><b>8 to 12 am → WPH</b><br>PDU – Pulp Drying<br>BAL – Baling<br><br><hr/><br><hr/><br><b>1 to 5 pm → WPH</b><br>WHL – Woodhandling | <b><u>Valmet</u></b> <ul style="list-style-type: none"> <li>• Specialist</li> <li>• Engineers</li> <li>• Managers</li> </ul><br><ul style="list-style-type: none"> <li>• PES</li> <li>• PER</li> <li>• FSE</li> </ul> |

# Mill clock planned according to your needs



# Factors more important to **increasing revenue**?

## Preventive Maintenance

- Schedule regular inspections and servicing to avoid unexpected failures.
- Replace wear-and-tear components before breakdowns occur.

## Upgrades and Retrofits

- Improve performance with updated components or software.
- Extend equipment lifespan and enhance efficiency.

## Technical Training

- Provide operator and maintenance team training.
- Increase safety and reduce misuse-related issues.

## Emergency Repair Services

- Offer rapid response for unexpected equipment failures.
- Minimize production losses and restore operations quickly.

## Energy Efficiency Assessments

- Analyze equipment energy consumption.
- Recommend improvements to reduce operational costs.

## Calibration Services

- Ensure equipment accuracy and compliance with industry standards.
- Recommended for measurement and control devices.

## Spare Parts Management

- Identify critical spare parts and maintain inventory levels.
- Reduce downtime by ensuring availability.

## Remote Monitoring and Diagnostics

- Implement IoT solutions for real-time performance tracking.
- Enable predictive maintenance and faster troubleshooting.

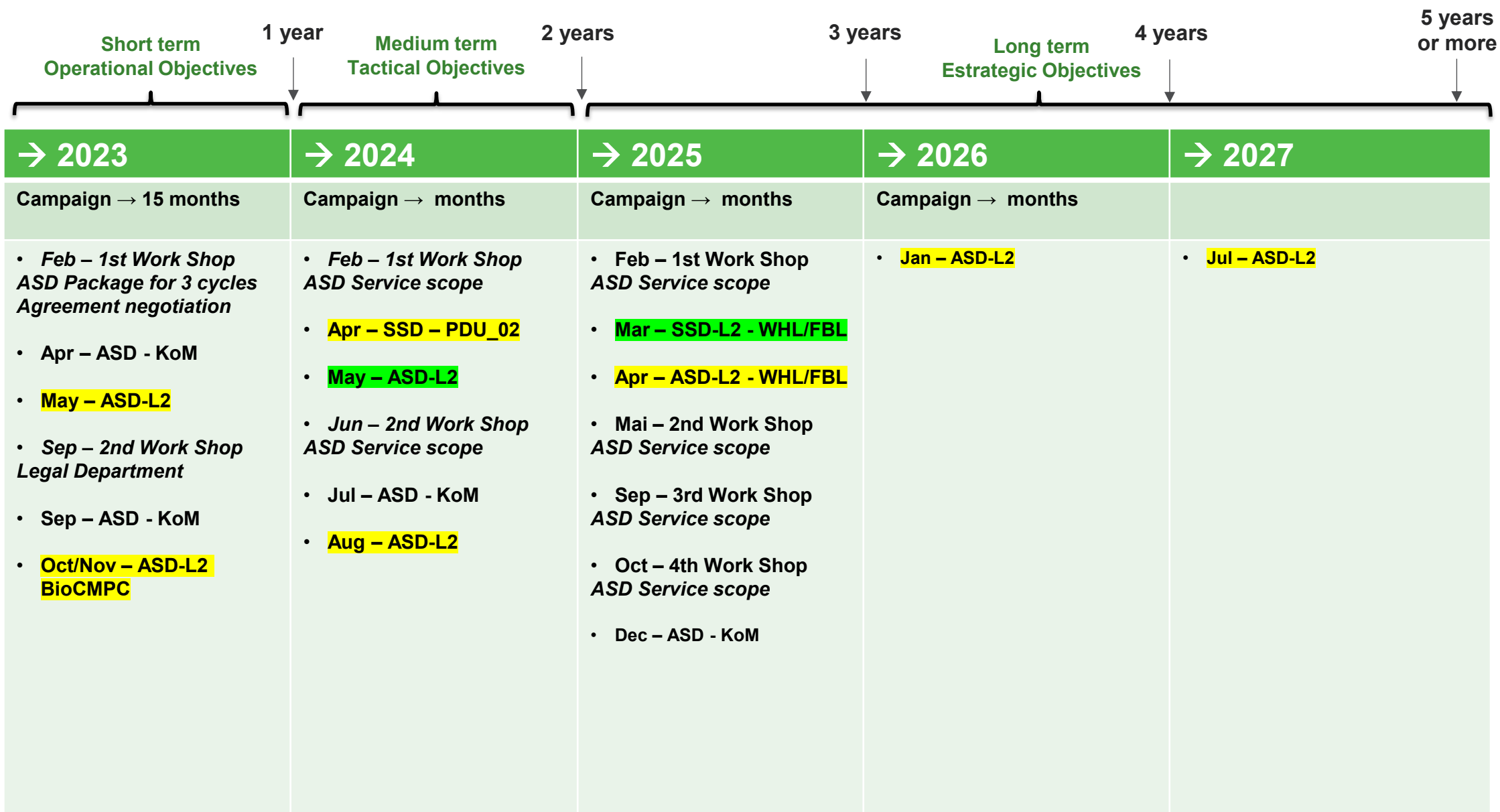
## Documentation and Compliance Audits

- Review and update equipment documentation.
- Ensure compliance with safety and regulatory standards.

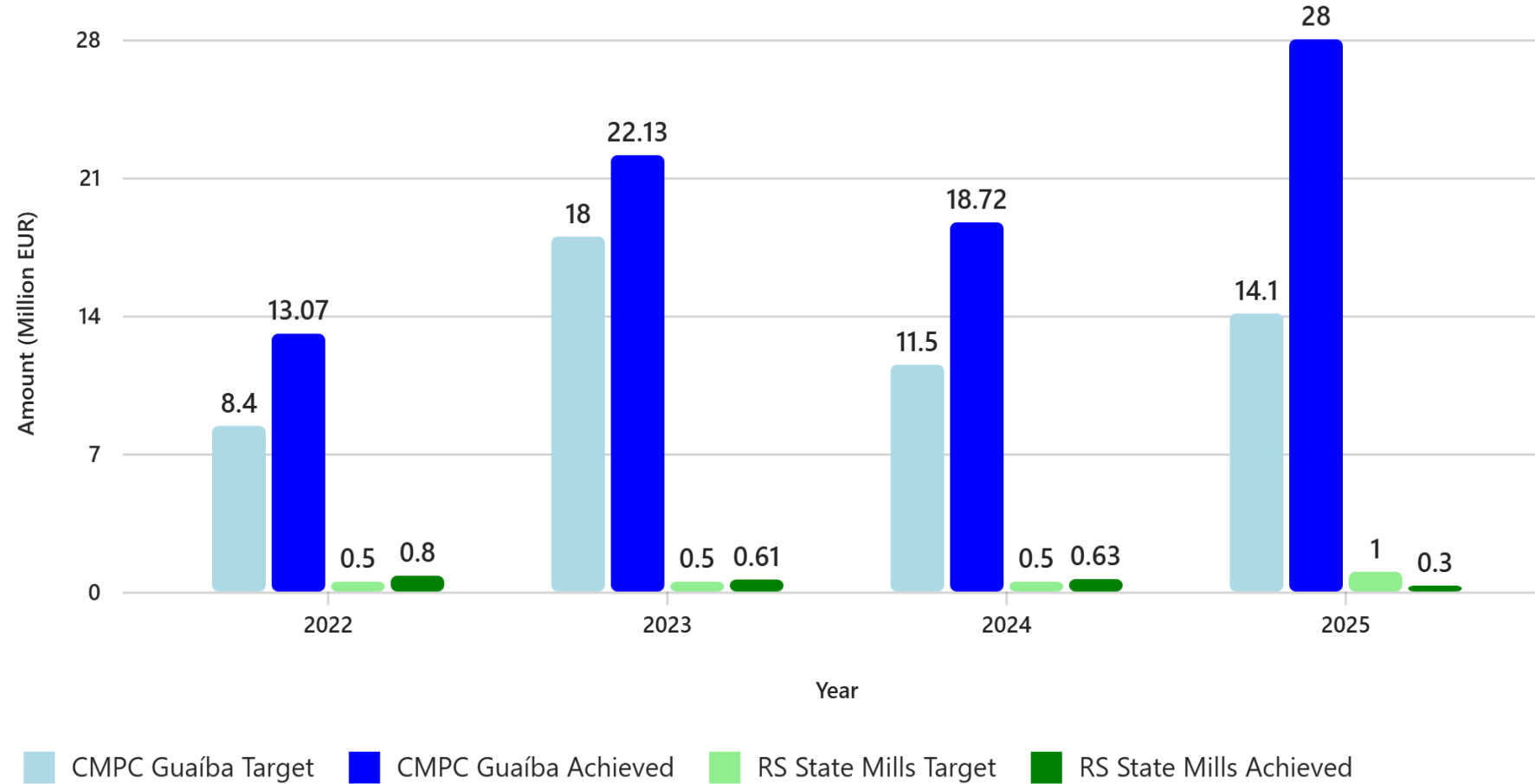
## Lifecycle Cost Analysis

- Evaluate total cost of ownership.
- Support decision-making for replacements or upgrades.





## Hub@Region Achievements



~8M EUR



~18M EUR

In such a competitive environment, dedication and discipline is essential.

