

# VIETNAM BIOMASS LABORATORY

Control Union is an over century old company and has been operating in Vietnam for over 20 years. Over the years Control Union Vietnam has been rapidly growing in the Testing, Inspection and Certification (TIC) industry. In 2023, to strengthen its capability in the TIC industry, Control Union opened its own ISO 17025 accredited laboratory in biomass testing. The biomass laboratory is equipped with state-of-the-art equipment giving the ability to conduct testing for all types of solid biofuels meeting the stringent requirements of export markets. With well-trained lab technicians, our mission is to deliver the most accurate test results in the fastest time. Together with our inspection and certification experience, Control Union aims to be the TIC partner of choice in the biomass industry.

## Services

- Laboratory testing for biofuels
- Metals pieces contamination screening with metals detector.
- Determination of conversion factor for wood pellets production
- Root cause analysis for contamination of metal pieces and elements such as Cl, Na, K, etc.
- Consulting testing packages such as ENPlus, ISO 17225-1, ISO 17225-2.



## Turn around time (TAT)

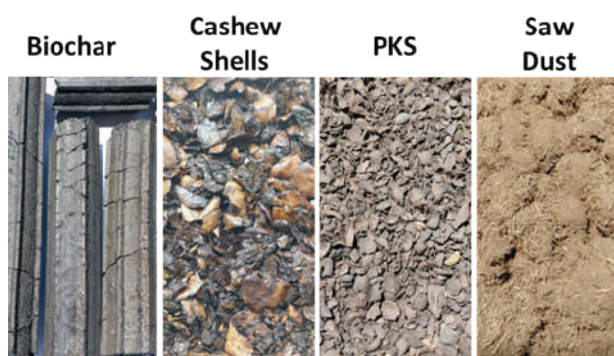
- Standard: 5 working days
- Premium: 2-3 days

## Sample types

We can conduct the analysis for all types of solid biofuels including wood pellets, wood chips, sawdust, palm kernel shells, cashew nut shells, coconut shells, biochar coal, rice husk, sorghum, grass, etc.

## Testing

- **Physical testing:** Length, diameter, fines, dust, durability, bulk density, pellet density, particle sizes, foreign matters
- **Proximate Analysis:** Moisture, inherent moisture, surface moisture, volatile matter, fixed carbon, ash,
- **Ash melting behavior:** Shrinkage temperature (ST), initial deformation temperature (IDT), hemisphere temperature (HT), flow temperature (FT).
- **Energy content:** Net calorific value, Gross calorific value
- **Elemental analysis:** Carbon, hydrogen, nitrogen, oxygen sulfur, chlorine, bromide, fluorine.
- **Trace metals analysis:** Cr, Ni, Zn, Cu, Cd, Pb, Sn, Se, B, Sb, Co, V, Mn, Ti, Ba, Be, Mo, Tl, Sr, As, Hg
- **Major metals analysis:** Al, P, Fe, Ca, Li, Mg, Si, Na, K
- **Oxides in ash:**  $Al_2O_3$ , CaO,  $K_2O$ , MgO,  $Na_2O$ ,  $P_2O_5$ ,  $SiO_2$ ,  $TiO_2$ ,  $Fe_2O_3$ ,  $SO_3$ , etc.
- **Calculation of salts in ash:** NaCl, KCl,  $CaCl_2$ , etc.



**Metal screening for wood pellets**

*Contact us to learn more about our services and how we can assist you with your biomass analysis needs.*

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