



Reduce energy costs, protect the environment

with efficient machine designs from SENNEBOGEN



Choose the right system for your application!

Your benefits from 5 systems

Up to 90 % less emissions

Most advanced diesel, hydraulic and control technology





Up to 55 % less energy consumption

Energy Recovery System

SENJEBOGEN Green**Hybrid**





Up to 50 % <u>lower energ</u>y costs

Electric machines



Up to 30 % more efficiency

Electric travel drive



Up to 75 % savings potential

Equilibrium technology







BALANCER Equilibrium





- **Specific fuel consumption** reduced by working in EcoMode with reduced engine speed
- **Minimal fuel consumption** in idle mode thanks to automatic lowering of engine speed by 40 %
- The engine switches off when not needed:
 no emissions, no consumption due to automatic stop
- Large-scale hydraulic valves and lines for the best efficiency
- Extended oil service life enables significantly **longer change intervals** of 4,000 operating hours
- **Thermostatically** controlled fan drive operates based on the actual needs



* compared with Stage IIIa (2006) emission standard.





Reduce costs by 50 %:

modern electro-hydraulic drives

- **Higher value retention** thanks to the long service life of the hydraulic components
- Very low operating consts thanks to lower energy costs
- Significantly longer maintenance intervals than with diesel engines
- Low maintenance costs: Reduction in fuel and oil filters/oil changes
- Always ready for use refueling and fuel storage not required
- Very environmentally friendly, completely emissionfree - no exhaust gases
- Work in greater comfort thanks to vibration-free drive and very quiet operation
- Cleaner engine compartment, even after long operating period



Clearly arranged electrical components; Standard components with great availability

- cal **2**
 - Future-oriented electro-hydraulic drive: efficient, environmentally friendly, durable

egreen





30 years tried and tested in countless projects

835

BENJEBOGEN

SENNEBOGEN eGreen:

customized electro-projects



Find the perfect solution for stationary and more complex mobile applications with SENNEBOGEN.

- **SENNEBOGEN diesel power packs** for convenient electromobility of electric material handlers (available as an external power pack device or as an integrated version)
- Different power supplies can be planned depending on specific operating conditions:
 - Ceiling power supply via bridge crane
 - Conductor bars
 - Cable carriers/drag lines
 - Customized solutions for cable reels, winding cylindrically or spirally

Why SENNEBOGEN electric solutions?



>30 years of experience in developing electric applications

U stops to refuel and fuel storage areas







Ceiling power supply via overhead bridge crane



Powerpack at the rear for mobile use without cable power supply

Green Hybrid Energy Recovery System





Save up to 55% energy*

- A combination of hydraulic cylinders at the boom and nitrogen piston accumulators with gas recover energy during the work procedure
- Use of the recovered energy during the next working cycle reduces the engine power required

Safety



¹⁰ * depending on the machine type between 35% and 55% energy can be saved. Availability in selected machines only.



The benefit of the SENNEBOGEN Green Hybrid system

Almost constant power across the entire cylinder work path



The EQ-Balance principle

Simple effective

BALANCER Equilibrium

Work with just 50 % of the installed motor and hydraulic drive power compared with conventional machines thanks to intelligent power distribution. There is no easier way of lowering your operating costs.





BALANCER Equilibrium

Up to **75 %** savings potential*

	100%		savings 50%		savings 75% 25%	
Traditional diesel material			SENNEBOGEN	SENNEBOGEN EQ-Balancer		

electric engine

ENEBOGEN

with electric engine

* compared with diesel powered machine without the balance principle.

handler



seNjebogen

5.2 t load capacity

application in the scrap yard











Green Efficiency Drive

Electric travel drive for log handling





Why choose an electric travel drive for log handling?

- Integrated power management: intelligent control of energy flows when driving and operating
- Lower heat loss compared with hydraulic travel drive
- Recuperation of braking energy: low-wear braking action
- Dynamic and precise driving
- Calm, quiet driving experience
- Ready for (semi) automated functions





The new "Green Efficiency Drive", an electric travel drive concept for Pick & Carry...







SENNEBOGEN Maschinenfabrik GmbH Hebbelstraße 30 94315 Straubing, Germany Tel. +49 9421 540-0 marketing@sennebogen.de www.sennebogen.com

SENNEBOGEN LLC

SENNEBUCEN LLL 1957 Sennebogen Trail Stanley, North Carolina 28164, USA Tel. +1704 347-4910 sales@sennebogenllc.com www.sennebogen-na.com

SENNEBOGEN Pte. Ltd. 25 International Business Park # 04-11/12 German Centre Singapore 60 99 16 Tel. +65 6562 826-0 info@sennebogen.asia www.sennebogen.asia

