Title: Nexterra syngas could replace natural gas in lime kilns
Author: Anon
Publication year: 2008
Journal name: Pap. Ind.
Citation: vol. 25, no. 5, Oct. 2008, p. 13 (P)
ISSN: 1048-8251
Abstract: After two years of testing at its product development centre in Kamloops, Nexterra Energy Corp of Vancouver, BC, Canada, has confirmed that synthetic gas, or syngas, produced by its biomass gasifier, is able to replace at least 60% of fossil fuels used in lime kilns. Substitution of 95% may be possible at many pulp mills and up to 100% in certain types of boilers, depending on the biomass feedstock and existing equipment configurations. The company claims that syngas provides a cheaper, carbon neutral and renewable fuel alternative, and is to work with FPInnovations and Kruger Products Ltd to apply its technology in industrial use. (1 fig) (Short article)

Language code: English
Controlled term: energy source
gas
lime kiln
Subject heading: Production and recovery of cooking chemicals, pulp industry byproducts
Energy

Update: 0905
Document type: Journal article
Reg.number: 225360
Document location: Pira
Company name: Nexterra Energy Corp

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Title: Achieving thermocompressor efficiency and performance
Author: Anon
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Journal name: Pap. Ind.
Citation: vol. 25, no. 5, Oct. 2008, pp 21-22 (P)
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Abstract: The thermocompressor presents one of the most challenging operational and design selections in a steam and condensate system. This complexity can lead to misunderstandings, poor applications and incorrect operation of a thermocompressor. Thermocompressors are used in the paper industry for two applications. Boost thermocompressors increase low pressure steam to a higher pressure, whereas re-circulating thermocompressors recompress blow-through steam from a dryer section or a Yankee dryer. The management of thermocompressor performance is usually achieved using one of three control strategies: differential pressure, blow-through steam or flow control, or pressure control. There are various recommendations in terms of best practices for thermocompressor application and design. A production plan should be developed showing the expected performance for the dryer or dryer section steam and condensate system. The plan should address the minimum and maximum production conditions. Explicit siphon performance curves and data should also be obtained. These curves and the supporting data should at a minimum show the interdependent relationships of blow-through steam, condensing load and differential pressure, and should agree with the production plan for the dryer section. (1 fig)

Language code: English
Controlled term: compressor
dryer section
Subject heading: Paper, board and nonwovens making - wet laid processes and equipment
Energy

Update: 0905
Document type: Journal article
Reg.number: 225362
The German paper industry produces approximately 23 million tons per year (tpy) with a turnover of some EUR 14 billion. The industry faces rising energy prices, changing end-user markets and growing competition from Eastern Europe and Asia. Many companies are building mills in Russia or China to avoid logistic and transport costs. According to Siemens, compared with other sectors, the paper industry has been slow to adopt intelligent, modern technology, partly because of its decentralised and heterogeneous structure. Siemens SiPaperCIS is a package of modular information technology (IT) systems specifically designed for the pulp and paper industry. The package includes modules covering energy supplies, multimotor drives for all production and converting processes, process automation systems, measurement, sensor and camera systems for machine and quality control, water management systems, IT solutions offering MES, enterprise resource planning (ERP), workforce, information and documentation, and life cycle services for maintenance, repair and modernisation. A decentralised energy management system provided by Siemens IT Solutions and Services enabled Sappi's Gratkorn mill to produce all its energy requirements onsite and to feed surplus energy into the national grid. (1 fig)
the effect of the catalyst in improving digestibility. These results support the research into the use of Liriodendron tulipifera as a material for bioethanol production. A 30.82% improvement is observed through the use of ammonia solvent (10%) in the pretreatment when used at 200 deg C for 60 min. A 13.45% improvement in digestibility, which suggests that ammonia is not suitable as a catalyst in the organosolv pretreatment process. The pretreatment process is investigated since this improves the accessibility of cellulose on cellulose in the study of lignocellulosic biomass as a resource in bioethanol production. Bioethanol presents an alternative to fossil fuels in transportation given the environmental, economic, and national security concerns raised by the use of fossil fuels. (2 fig, 7 ref)
The paper industry in China is facing increasingly tighter requirements for environmental protection, as well as increasing costs of raw materials and auxiliaries. Optimisation of mill subsystems, including rejects disposal, sludge and water treatment, could help improve a mill's profitability. Although low water consumption reduces effluent treatment and discharge volumes, as well as providing savings in fresh water, contaminants in the water system become concentrated. A combination of anaerobic and aerobic systems is the most economical treatment for COD effluent. Using an anaerobic step, up to 85% of COD can be removed and most of the organic contaminants are transformed into biogas. The non-degradable organic material would then be digested in the aerobic treatment. Many operational problems can also occur from calcium accumulation in the water system. The lime trap is a new technology that could be used to overcome these negative effects, while at the same time delivering additional positive effects, including flash oxidation and odour reduction. The "waste to energy" concept requires adequate separation and preparation of residuals/rejects into the two main composition groups: pulper rejects with high calorific values and fine rejects/sludge with far lower calorific value. Incineration will be one of the most important approaches to eliminate pollution and gain energy. For a region with many paper mills, a large size incineration plant could collect and burn rejects and sludge from different mills, while small paper mills could construct their own burning facility. (5 fig)
measured data. Analysis considers total energy consumption and the major areas of consumption. Means of energy saving, production or recovery are identified and a detailed report produced for the customer. The third stage is the development of an engineering offer based on the most cost-effective approaches developed in the second stage. A case study shows the practical operation of an energy audit. The audit examined the air handling systems on two paper machines, A and B, also examining their related steam and condensate systems. For machine B, the hot water cycle was also examined. Measurements were made and present processes analysed. Solution proposals developed for the air handling system comprise a lower hood intake air temperature for the operating mode, energy saving though increased use of air recovery systems and integration of a process for waste water heat recovery. Proposals for air conditioning/hall ventilation included operating mode optimisation by using the Voith Energy Optimization System (EOS). Outcomes from Voith Paper energy audits include sustainable energy saving solutions, locating hidden potential, customer satisfaction and an amortisation period which is generally less than 12 months. (3 fig)
The lack of availability of pure biomass in sufficient quantities for power generation means that the combustion of a variety of fuels and fuel mixes is increasing. A greater emphasis on fuel flexibility and efficient emissions control in power generation is leading to a need for new technological solutions. Metso Power, a producer of boilers, has recently expanded its know-how and offering in flue gas cleaning, and has signed an exclusive agreement with the Danish filter systems manufacturer, Simatek A/S regarding dry flue gas cleaning technology. The license rights apply to bag filter-based flue gas cleaning systems, and the agreement allows Metso Power to provide optimised solutions and suitable technology for both new and existing power boilers. This will give customers the opportunity to buy the boiler and related systems form a single supplier, allowing the whole delivery process to be handled in an efficient and coordinated way. Metso is now one of the few companies able to supply complete solutions for flue gas cleaning, including Nox reduction, dust separation and heat recovery. (3 fig)
Simulation, biorefining, nanotechnology and functional materials. Sappi is developing eucalyptus and sulphite pulps for its Maastricht and Gratkorn mills.

Language code: German
Controlled term: energy policy
   energy source
Subject heading: Energy
Update: 0906
Document type: Journal article
Reg.number: 225556
Document location: KCL
   Pira
   STFI
Original title: Herbsttagung 2008

Title: B and B goes for the screw
Author: Anon
Publication year: 2009
Journal name: Pap. Osterreich
Citation: no. 12 2008 - no. 1, 2009, pp 32-33 (K, P, S)
Abstract: BEA Electrics Osterreich's hydropower installation for Brigl und Bergmeister's Niklasdorf mill features a 17m long, 3.2m diameter water-driven screw conveyor. The concept is suitable for a water drop of nearly 4m and a flow rate of 3.7 cu m/s, and meets current water legislation requirements. The screw rotates at approximately 22 rpm. Its rotation is converted to 1,000 rpm by a drive feeding a 132 kW generator. The installation includes a braking mechanism to avoid excessive rotation in the event of disruptions or disconnections. The generator enables B and B to recover the energy of residual water being returned to the River Mur.

Language code: German
Controlled term: hydroelectric power
   new installation
   power plant
Subject heading: Company information - technical aspects
   Energy
Geographic location: Austria
   Europe
Update: 0906
Document type: Journal article
Reg.number: 225561
Document location: KCL
   Pira
   STFI
Original title: B und B setzt auf die Schnecke
Company name: BEA Electrics Osterreich
   Brigl und Bergmeister