

CLEARWATER TECHNOLOGY GROUP

REPRESENTATIVE REFERENCES

PACKAGING PAPER & BOARD SECTOR CLIENTS

- SMURFIT-KAPPA GROUP
- ST REGIS PAPER CO
- VPK GROUP, BELGIUM
- CHENMING GROUP, CHINA
- JACKSON PAPER, USA
- SMITH ANDERSON
- SOLVAY PAPERBOARD, USA
- MONDI, CZECH REPUBLIC & UK
- PANTHER PACKAGING GmbH, GERMANY
- RIGID PAPER
- IGGESUNDS
- EUROPA CARTON, GERMANY
- SONOCO
- ST PAPER, CANADA
- ARAB PAPER, SAUDI ARABIA

TISSUE SECTOR CLIENTS

- SCA HYGIENE
- KIMBERLY-CLARK
- GEORGIA PACIFIC
- PROCTER+GAMBLE
- CEL-TECH INTERNATIONAL
- NAMPAC, SOUTH AFRICA
- P.R.B., SPAIN
- KRUGER, CANADA
- SCOTT PAPER, CANADA
- LPC GROUP
- ST PAPER, USA
- DEAMAS DISPOSABLES
- ABU DHABI NATIONAL PAPER MILL, UAE
- TRINIDAD TISSUE, TRINIDAD & TOBAGO
- SAUDI PAPER, SAUDI ARABIA

FINE & SPECIALITY PAPER SECTOR CLIENTS

- ASIAN PULP & PAPER, INDONESIA
 - ARJO-WIGGINS
 - SMURFIT-KAPPA
 - BOWATER INC, USA
 - TULLIS RUSSEL
 - MEAD-WESTVACO CORPORATION, USA
 - CURTIS FINE PAPERS
 - DE LA RUE (PORTALS) SECURITY PAPERS
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- M-REAL GROUP, SWEDEN
- INVERESK
- SAPPI EUROPE
- MINFENG GROUP, CHINA
- SNCPM, TUNISIA
- PAPETERIES DE GASCOGNE, FRANCE
- SPB HOSHANGABAD, INDIA

GRAPHICAL PAPER / NEWSPRINT SECTOR CLIENTS

- AYLESFORD NEWSPRINT
- ABITIBI-CONSOLIDATED
- UPM KYMMENE
- MONDI-SHANDUKA, SOUTH AFRICA
- OKIPP LIMITED, NIGERIA

GOVERNMENTAL & GENERAL SECTOR CLIENTS

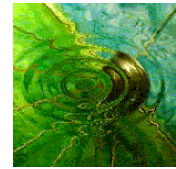
- EUROPEAN UNION CENTRE FOR ECONOMIC DEVELOPMENT
- GOVERNMENT OF GUATEMALA
- STATE OF GEORGIA, USA
- UNIVERSITY OF MANCHESTER
- STATE OF FLORIDA, USA
- STATE OF ALABAMA, USA
- UK GOVERNMENT "WRAP" ORGANISATION
- GOVERNMENT OF INDIA
- UK GOVERNMENT DEPARTMENT OF TRADE & INDUSTRY
- BAE SYSTEMS (BRITISH AEROSPACE)
- AIRBUS INDUSTRIE, GERMANY

PROJECT REFERENCES - EXAMPLES

Clearwater has active confidentiality agreements in force with many of our clients. Specific identification of client projects is therefore avoided in the listing given below. The listing is therefore intended to be merely **indicative** of the scope and nature of the group's experience.

PACKAGING PAPERS AND BOARDS:

- USA - New 2-ply linerboard PM, OCC based stock prep. + fractionation – full process design, real-time simulation and optimisation.
- Canada – OCC stock preparation system – full design and engineering.
- UK – NSSC mill oxygen delignification system – turnkey implementation
- UK - multi-ply linerboard machine, stock prep. & double fractionation system – total RCF and de-ashing design responsibility.
- USA – New 2000 tpd fluting (medium) mill – owners engineer & virtual real-time process simulations.
- UK – PM conversion to linerboard – detailed pre-engineering & process design.
- USA – Process de-bottlenecking 1300 tpd packaging mill
- UK – Linerboard machine optimisation & pre-engineering
- UK – Pulp mill – total simulation / optimisation project and long term strategic planning.
- UK – New OCC based stock preparation plant – full design & engineering.



- UK – Multi-ply packaging machine and RCF stock preparation & fractionation system process limitation evaluation, conceptual design, pre-CAPEX engineering and costing.
- Germany – complete closed loop backwater system – zero discharge
- UK – Research & Development project into oxygen de-lignification
- Czech Republic – major sack kraft machine uprating: full process studies
- UK – New high-speed, high output fluting mill feasibility studies
- UK – OCC based stock preparation plant – full design & pre-CAPEX engineering.
- UK – Integrated pulp & paper mill – new waste plant design and first phase implementation.
- UK – Automated warehouse and mechanical handling system
- Finland – advanced process evaluations & optimisation studies
- USA – New white top machine – conceptual design studies
- UK – Converting plant modernisation
- UK – 2-ply liner machine EPC (turnkey) rebuild including new dryers, steam system and sectional drives
- UK – turnkey rebuild of liner machine stock prep system to accommodate plasterboard liner production.
- USA – gypsum board liner machine: full process design and project management
- Czech Republic – major up-rating of twin-ply OCC-based liner board machine and all systems: process de-bottlenecking and conceptual designs

TISSUE:

- UK – Major tissue machine rebuild project management
- UK – Advanced re-creping system installation on 3 tissue PMs.
- UK – New Yankee cylinder and hood installation.
- UK Tissue Mill – UK's first 3 component yankee chemical system design & project management.
- UK – Tissue machine stratified flowbox and stock approach installation
- Spain - Complete new tissue mill & DIP uprating – turnkey engineering
- UK – Tissue Mill specialised broke system re-design and project engineering.
- Spain - Complete re-engineering & rebuild design of multi-ply rewinder (napkin + towelling).
- Poland - Due diligence assessments of potential tissue mill acquisition.
- UK - Major upgrading of tissue mill de-inked RCF plant – full engineering design and project management.
- France – process optimisation.
- UK – Tissue mill process optimisation & uprating – major engineering feasibility study.
- Spain – advanced predictive control system
- UK – Tissue – full site process evaluation, simulation and uprating study.
- UK – Speciality mill (tissue) – total systems optimisation.
- France – Mill process control system
- UK – IPPC environmental certifications - various
- UK – New tissue mill & RCF plant – total project management and installation implementation.
- UK – Speciality mill (tissue) – major project engineering and management.
- UK – major tissue mill rebuild evaluation, pre-CAPEX engineering and CAPEX costing.
- Spain – major high-speed tissue machine rebuild - feasibility and pre-engineering.
- UK – tissue machine drying uprate project.
- Switzerland – due diligence reporting on mill acquisition
- UK – Automated warehouse feasibility study
- Sweden – new tissue mill project management
- UK – Advanced chemical recovery system
- Finland – DIP / RCF plant optimisation
- France - DIP / RCF plant optimisation
- UAE – process design for new tissue machine and de-inking plant



- USA – all process engineering for 8 new machines and 3 de-inking systems across 4 separate sites over a 5 year implementation programme
- Canada – advanced creping technology development

FINE PAPERS:

- UK - Fine paper DIP – full project management
- UK - Fine paper machine wet-end rebuild – complete engineering design.
- UK - Fine paper TCF oxygen/peroxide bleaching system – turnkey engineering.
- UK – Fine paper mill optimisation & PM rebuild – detailed pre-engineering optimisation study.
- UK – Major RCF plant upgrade – fine paper – full process evaluation and design.
- UK – Speciality mill – major project design and pre-CAPEX engineering and costing.
- UK – Speciality mill – conceptual design and project engineering.
- UK – Security paper machine and systems rebuild project engineering, design and management
- UK – Speciality mill: machine and systems re-engineering.
- India – New bank note watermark forming system

GRAPHICAL GRADES:

- UK – Newsprint – optimisation and predictive control system.
- UK – Newsprint – RCF plant yield optimisation studies
- UK – Newsprint – major de-inking and RCF plant rebuild engineering
- UK – LWC – energy reduction programmes
- South Africa – newsprint mill upgrade process engineering
- UK – Steam system upgrading and control systems
- UK – Newsprint: site wide energy and water reduction programme implementation.
- UK – newsprint RCF plant conversion from twin to single loop operation (3 RCF systems)
- Nigeria – Reactivation and modernisation of integrated CRMP newsprint mill

OTHER PROJECTS:

- Germany – aircraft factory centralised cooling fluid system design
- Guatemala – forest industry and pulp mill feasibility study
- Ghana – plantation-based pulp, paper and power project first phase feasibility study
- UK - DTI “Smart” Innovation award – innovative de-inking technology.
- Ireland – waste-paper based paper industry feasibility study
- France – El Salvador: relocation of complete de-inking plant
- Canada – large scale power generation gasification and flue gas desulphurisation – full turnkey delivery
- Sweden – Spain: relocation and modernisation of complete tissue mill
- China – waste water treatment project
- United Arab Emirates mill – waste water treatment system
- USA – feasibility study and selection of packaged gas turbine powered distributed generator units (2-15 MW)
- UK – Wind Farm feasibility study
- USA – Major non-wood based pulp and paper mill feasibility study and business plan development
- UK – Hydro-power project EPC
- China – 20MW + 50 Te/hr steam co-generation plant for mill – complete EPC project study + BOOT
- Sweden – Indonesia – relocation and re-installation of complete paper mill