

Valorisation en fin de vie. Boucler le flux matière !

Conférence plénière session 3

GDR Bois 2024

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Mark IRLE



**ÉCOLE
SUPÉRIEURE
DU BOIS**
Sciences et
technologies
des matériaux
biosourcés

A definition of recycle/recycling?

Recreative 330 Reduce

of the strength and spirits after toil; amusement; entertainment.
Recreative, re'kré-át-iv, *a.* Serving to recreate; refreshing; diverting.
Recrement, re'kré-ment, *n.* Refuse; dross.
Recriminate, re-krim'in-át, *vt.* To return one accusation with another.—*vt.* To accuse in return.
Recrimination, re-krim'in-á'shon, *n.* Act of recriminating; a counter-accusation.
Recriminative, Recriminatory, re-krim'in-át-iv, re-krim'in-á-to-ri, *a.* Recriminating or retorting accusation.
Recrudescence, re-kro-des', *vt.* To revive or show renewed activity.
Recrudescence, re-kro-des'ens, *n.* Renewed outbreak; increased severity after remission.
Recruit, re-kro't', *vt.* To repair; to supply with new soldiers.—*vt.* To gain new supplies of anything; to raise new soldiers.—*n.* A soldier newly enlisted.
Rectangle, rek'tang-g'l, *n.* A quadrilateral having all its angles right angles.
Rectangular, rek-tang'gú-lér, *a.* Right-angled.
Rectification, rek'ti-f-ká'shon, *n.* Act or operation of rectifying; process of refining by repeated distillation.
Rectifier, rek'ti-fi-ér, *n.* One who or that which rectifies; a refiner of alcohol.
Rectify, rek'ti-fi, *vt.* (rectifying, rectified). To correct; to refine by repeated distillation.
Rectilinear, rek-ti-lin'é-al, rek-ti-lin'é-ér, *a.* Consisting of straight lines.
Rectitude, rek'ti-tú-d, *n.* Integrity; probity; uprightness; honesty.
Rector, rek'tor, *n.* A ruler; an Episcopal clergyman who has the cure of a parish; a head of certain institutions, chiefly academic.
Rectorial, rek-tó-ri-al, *a.* Pertaining to a rector or rectorship.
Rectorship, Rectorate, rek'tor-ship, rek'tor-át, *n.* Office or rank of a rector.
Rectory, rek'to-ri, *n.* A church or living held by a rector; a rector's house.
Rectum, rek'tum, *n.* The lowest part of the large intestine opening at the anus.
Reclinate, re-kúm'ben, *a.* Leaning; reclining; reposing; inactive.
Recuperate, re-kú-pér-át, *vt.* and *i.* (recuperating, recuperated). To recover.
Recuperation, re-kú-pér-á'shon, *n.* Recovery.
Recuperative, re-kú-pér-á-tiv, *a.* Tending or pertaining to recovery.
Recur, re-kér', *vi.* (recurring, recurred). To return; to be repeated at a stated interval.
Recurrence, re-kú'rens, *n.* Act of recurring; return; recourse.
Recurrent, re-kú'rent, *a.* Recurring from time to time.
Recusancy, Recusance, re'kú-zan-si, re'kú-zans, *n.* Nonconformity.
Recusant, re'kú-zant, *a.* Obstinate in refusal; refusing to conform to the established church.—*n.* A nonconformist.
Red, red, *a.* Of a colour resembling that of arterial blood.—*n.* A colour resembling that of arterial blood; a red pigment.
Redact, re-dakt', *vt.* To edit; to give a presentable literary form to.
Redaction, re-dak'shon, *n.* Act of preparing for publication; the work thus prepared.

ch, chain; g, go; ng, sing; TH, then; th, thin; w, wig; wh, whig; zh, azure.

covery.
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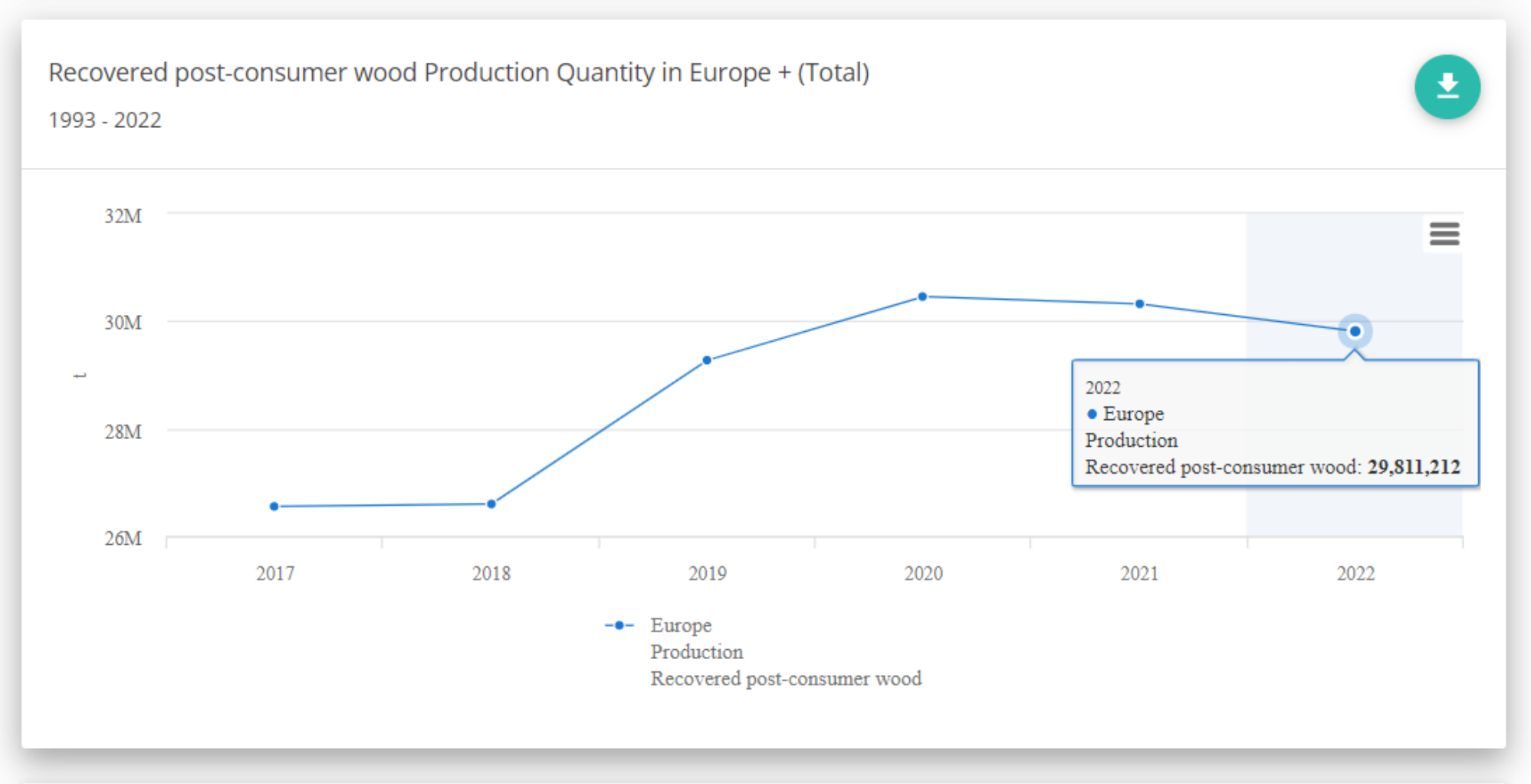
Appropriate use of materials in old products	R8	Recycle	Useful materials within the product are extracted, separated and used as secondary materials for new products.
	R9	Recover	The organic parts of a product are burnt with energy recovery

Better design, manufacture and use	R0	Refuse
	R1	Rethink
	R2	Reduce
Maximise the lifespan of products and their components	R3	Re-use
	R4	Repair
	R5	Refurbish
	R6	Remake
	R7	Repurpose
Appropriate use of materials in old products	R8	Recycle
	R9	Recover

Circularity strategies based on work by:
 Potting, J., Hekkert, M. P., Worrell, E., and Hanemaaijer, A.
 (2017), *Circular economy: measuring innovation in the product chain* (No. 2544). PBL Publishers.

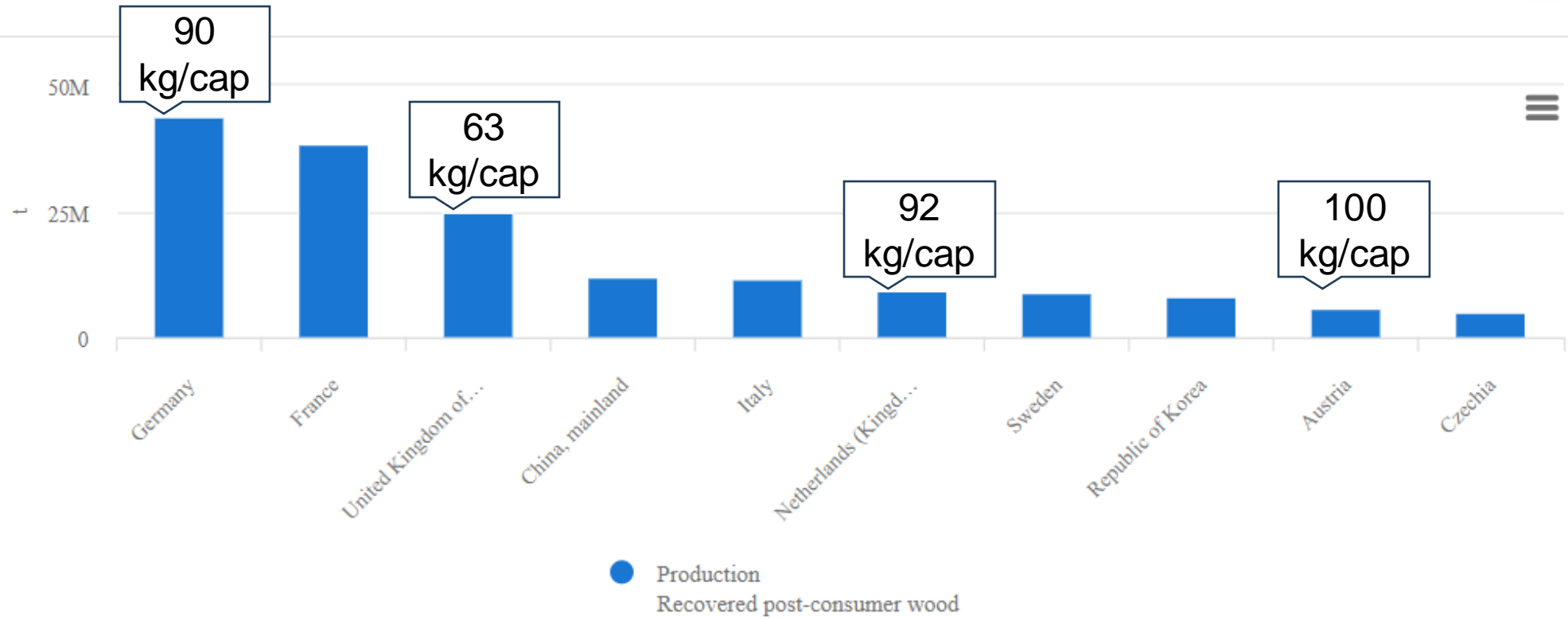
How much recovered wood is there?

I wish I knew 🤔



Top 10 countries - Recovered post-consumer wood Production Quantity

Sum 1993 - 2022



How we recycle wood



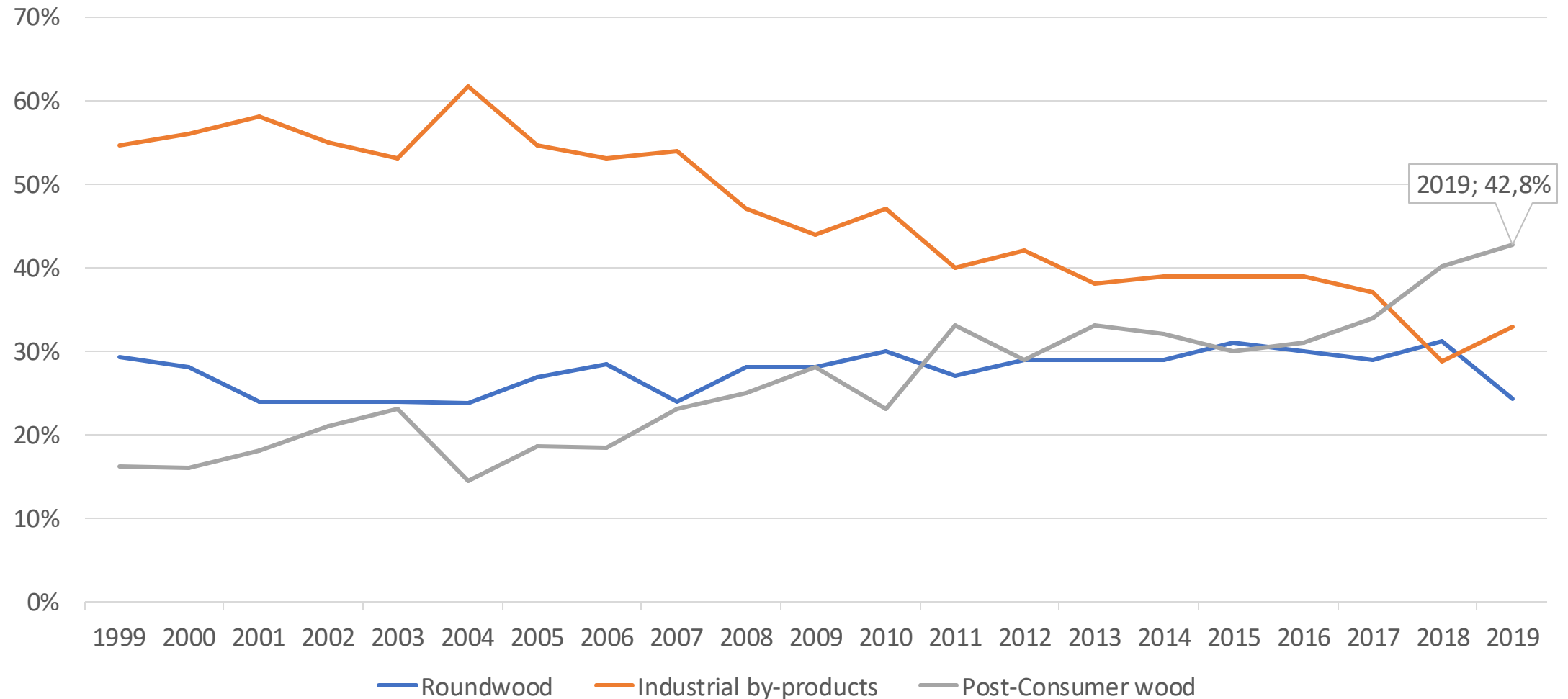
Source: enva.com



Source: greensolutionsandmore.com



Wood demand in the EU Particleboard industry

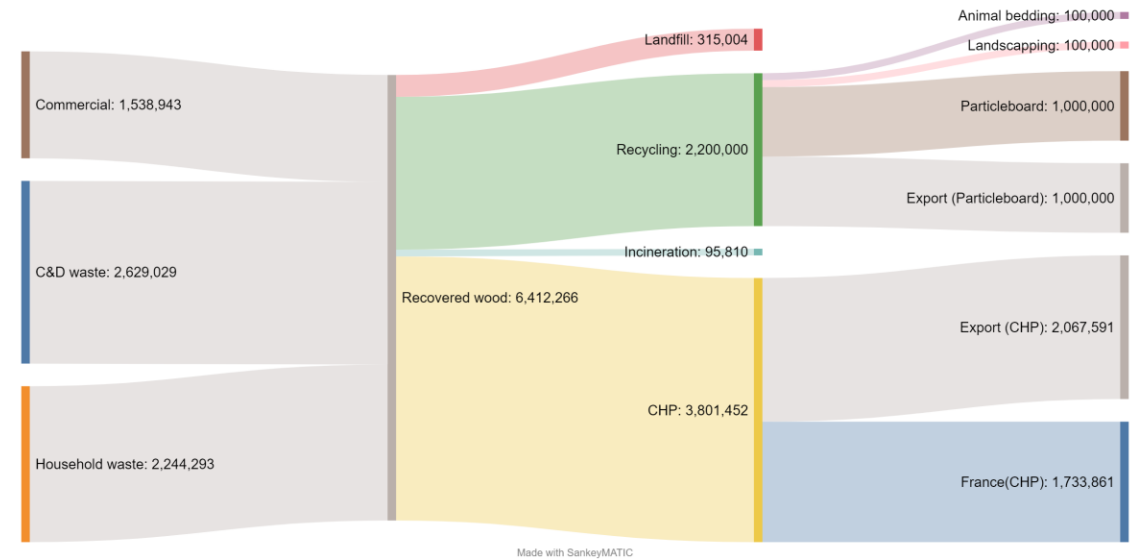


Source: EPF Annual Report 2019-20

Current challenges to recycling wood

Challenge No. 1

- Particleboard manufacture alone cannot use all the recovered wood available
 - Must find new methods of recycling wood into products



Challenge No. 2

- Economic viability of particleboard production under risk due to increasing presence of fibreboard
 - How to separate out fibreboard?
 - What to do with separated fibreboard?



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Wood sorting by grade and the separation of MDF, absolutely no problem! The steps TOMRA have taken



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Unilin MDF production in Bazeilles

Kris Wijnendaele and 46 others

3 reposts



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ANDRITZ Pulp and Paper

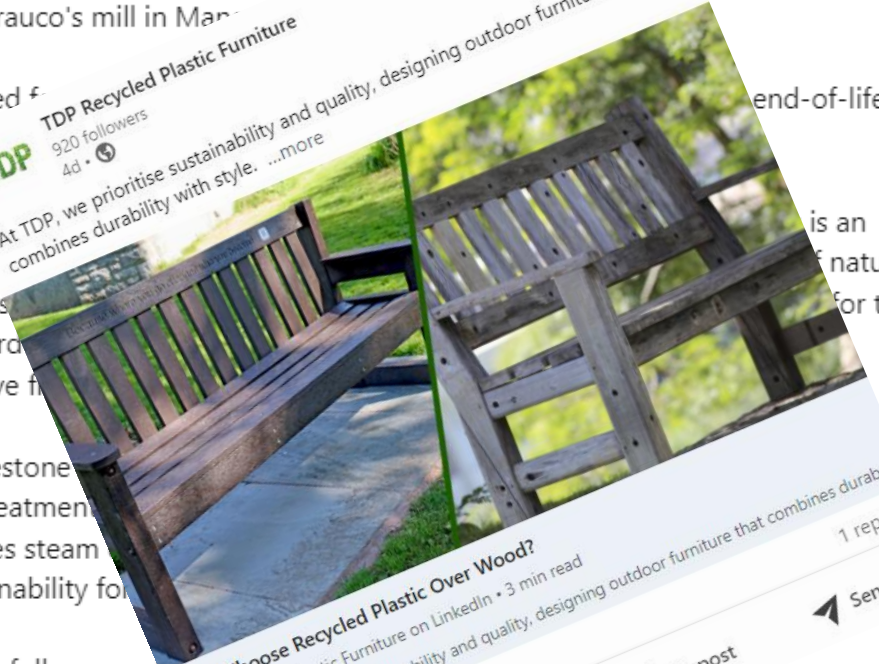
97,186 followers
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ANDRITZ will supply the world's first fiberboard recycling line to Sonae Arauco's mill in Maranhão, Brazil. The line is scheduled for completion in early 2024.

TDP Recycled Plastic Furniture
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ANDRITZ to supply world's first fiberboard recycling line to Sonae Arauco, Portugal

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Plénière 3 – Valorisation en fin de vie

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