

ESPP catalogue of nutrient recycling projects and networks

NOTE: this does NOT include companies or utilities already operating nutrient recovery or selling technology commercially, because these are already inventoried elsewhere (P-REX eMarket and ESPP website members' pages at www.phosphorusplatform.eu, NAPPS P-recycling operator inventory)

P present at Berlin P-recovery workshop 4th March 2015

Nutrient recycling research projects (technology, demonstration, implementation assessment)

Name	Description	Funding	Website	Email contact
Best Resources from Water	Learning from Best Practices on Resource Recovery from Water	TKI (NL)	http://bestresourcesfromwater.org/	Kees.Roest@kwrwater.nl
A_Propeau	Includes P filtering from artificially drained agricultural fields	IWT, Belgium		Stany.Vandermoere@UGent.be
AquaEnviro UK	Sustainable fertiliser from renewable energy byproducts	UK NERC	www.aquaenviro.co.uk/limited/newsarticle/Leading-the-field-in-sustainable-fertiliser-research	
BioEcoSIM	P		www.bioecosim.eu	
Biorefine cluster	P	InterReg	www.biorefine.eu/cluster/projects	
DeBugger	P Demonstration of efficient Biomass Use for Generation of Green Energy and Recovery of Nutrients	EIT KIC InnoEnergy	http://www.kic-innoenergy.com/case-study/debugger/	Ludwig.hermann@utotec.com
End-o-sludg	P Marketable sludge derivatives	FP7	www.end-o-sludg.eu	richard.clarke@uuplc.co.uk
FERTIPLUS	P		www.fertiplus.eu	
Circular economy for plant nutrients	P	German BMBF		



ImproveP	P				https://improve-p.uni-hohenheim.de
INEMAD					http://www.inemad.eu
LIFE PHORWater	P	Struvite recovery from wastewater	LIFE+		www.phorwater.eu Laura.pastor@dam-aguas.es
ManureEcoMine	P				www.labmet.ugent.be/content/manureecomine
LIFE NCOVERY	P	WWTP of the future: Nutrients and energy recovery from wastewater	LIFE+		www.life-necoverey.eu cgarciab@cetaqua.com
NewFert		Nutrient recovery from biobased Waste for Fertilizer production	H2020	Just starting	jbl@fertiberia.es
Northern Ireland EPA project	P				
Nutricycle					www.dlvinnovision.be/dlvinnovision/en/mip-icon-2011-nutricycle
RISE Foundation	P	Nutrient recovery and recycling in European agriculture – a review			www.risefoundation.eu Annabelle.williams@risefoundation.eu
NUTS		Transition towards Sustainable Nutrient Economy in Finland			www.nutrient.fi/en
OCAP		Optimisation of carbon, nitrogen and phosphorus cycles in the city (Paris)			fabien.esculier@pon-ts.org
PhosFarm					www.igb.fraunhofer.de/en/press-media/press-releases/2013/phosfarm-agricultural-phosphorus-recovery.html



Nutrient Clearing House	Centralized upgrading plant for the recovery of mineral nutrients and critical metals	MIP	http://www.i-cleantechvlaanderen.be/nl/nch	gert.de.bruyn@rhdhv.com
PRecover	Recovering phosphorus from sewage sludge to fertilizer	Finland Min. Agri		kari.ylivainio@luke.fi
PProduct	Potential of sewage sludge phosphorus in plant production	Finland Min. Agri		kari.ylivainio@luke.fi
P-REX	P	FP7	http://p-rex.eu/	christian.kabbe@kompetenz-wasser.de
PROMISE Finland	Phosphorus Recycling of Mixed Substances	BONUS EEIG	http://www.bonusportal.org/projects/innovation_projects/promise	minna.sarvi@luke.fi
R3Water	P Resource efficiency, reuse and recovery in urban wastewater treatment	FP7	http://r3water.eu/	Klara.westling@ivl.se , uwe.fortkamp@ivl.se
RecoPhos (thermal)	P Thermal production of P4 based on InduCarb furnace	FP7	www.recophos.org	
RecoPhos Germany	P Chemical treatment of ash with phosphoric acid to produce a phosphate fertiliser		www.recophos.de	
REFERTIL	P Competitive manufacturing of ABC Animal Bone bioChar		www.refertil.info	biochar@3ragrocarbon.com
ReuseWaste			www.reusewaste.eu	
Sustainable Airport Cities	Pilot for recycling of P from wastewater of airport/planes	TKI (NL)	http://www.kwrwater.nl/tki/sustainable_airport_cities/	Kees.Roest@kwrwater.nl
Routes	P Enhanced sewage sludge stabilization for its agricultural easy recovery	FP7	www.eu-routes.org	mininni@irsa.cnr.it

SuWaNu	P Sustainable Water Treatment and Nutrient Reuse Options		http://suwanu.eu/	
TL-BIOFER	P	LIFE+	http://www.life-tlbiofer.eu/	
VALODIM	Optimal Valorization of Digestate, NPK recovery (NOTE: follows Phosph'OR)	French BPI	www.bpifrance.fr/content/download/131337/2292074/file/20140221%20Valodim%20-%20PSPC.pdf	sperandio@insa-toulouse.fr apaulhe-massol@arterris.fr
ValueFromUrine	Demonstration of a bio-electrochemical system for recovery of nutrients from urine.	FP7	www.valuefromurine.eu	Philipp.kuntke@wetsus.nl
Wetsus Phosphate Recovery theme	Phosphate recovery from iron phosphate and iron based phosphate adsorbents	Kemira, ICL, STOWA	www.wetsus.nl/phosphate-recovery	Leon.korving@wetsus.nl
AV CleanPhos				
IF20 - COOPERL				
OmzetĀAmersfoort	Wastewater resource factory	LIFE+	http://www.omzempuntamersfoort.nl	tbrand@valleiveluwe.nl
AVA CleanTech	Hydrothermal carbonization (HTC) for sewage sludge treatment.	Swiss Federal Office for the Environment (FOEN)	www.ava-co2.com	tk@ava-co2.com
Tetraphos®	Phosphoric acid dissolution of ash then purification	Remondis Aqua	http://www.remondis-aktuell.com/en/remondis-aktuell/032014/water/phoenix-from-the-ashes/	info@remondis-aqua.de
POWER	Renewable P-fertilizer from livestock effluent to prevent water eutrophication	CARIPLO Foundation	http://users.unimi.it/ricicla/	fulvia.tambone@unimi.it ; fabrizio.adani@unimi.it



[i.it](http://www.espp.org)

KRN-Mephrec	P Transforming sewage sludge to energy, fertiliser and iron in a single step	BMBF	http://www.nuernberg.de/inter-net/krn_mephrec/	
Budenheim process	Low temperature CO ₂ P extraction from sewage sludge to produce phosphoric acid	Private company		eva.stoessel@budenheim.com
Tianshui Shui Sweetest Apples Ltd	Growing apples with urine	SOHO China Foundation	www.toilechina.com.cn	szqa@sina.com
Waste to Product (W2P)	Valorization of industrial wastes brines containing N,P,Ca,Mg as chemicals/fertichemicals	Spanish RD (Mineco)		jose.luis.cortina@upc.edu
ZAWENT	Integrating water, energy and nutrient recovery in the cities of the future	MIP	http://www.i-cleantechvlaanderen.be/nl/zawent	peter.de.smet@cleanenergyinvest.be

Related networks and platforms

IWA Resource Recovery Cluster	P IWA Specialist Group for Resource Recovery	Network	http://www.iwa-network.org/cluster/resource-recovery-from-water-cluster	Hong.Li@iwahq.org
Netherlands Nutrient Platform	Dutch sustainable nutrient network	Membership network	http://www.nutrientplatform.org	w.debuck@nutrientplatform.org
Vlaams Nutriëntenplatform	Flemish sustainable nutrient network		http://www.vlakwa.be/initiatieven/nutriëntenplatform/	sbouteli@ovam.be
German Phosphorus-Platform (DPP)		Membership Network	www.deutsche-phosphorplattform.de	info@deutsche-phosphorplattform.de
WssTP (European Water Platform)			http://wsstp.eu/	

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www.phosphorusplatform.org



www.wissenschaftscampus-rostock.de/

**ScienceCampus Rostock
Phosphorus Research**

ESPP	European Sustainable Phosphorus Platform	Membership network	www.phosphorusplatform.eu	info@phosphorusplatform.eu
ARBOR	Nutrient recovery from digestate	InterReg	http://www.vcm-mestverwerking.be/publicationfiles/VCM001_Rapport_04_LR.pdf	
ARREAU Resource Recovery WG	EIP Water Action Group	Membership network	http://www.eip-water.eu/ARREAU	Theo.van.den.Hoven@kwrwater.nl
Baltic Sea Action Group	Membership	Network	www.bsag.fi	
NAPPS	North America Partnership for Phosphorus Sustainability	Membership network	https://sustainablep.asu.edu/	hirowe@asu.edu
PhoSciNet (ended 2011)	European Phosphorus Sciences Network	COST	www.phoscinet.org	
SusPhos	Sustainable industrial phosphorus chemistry		www.susphos.eu	marissa.de.boer@vu.nl
European Compost Network (Task Group 'Biobased products')	Quality assurance for recycled organic waste products – sludge compost	Membership Network	www.compostnetwork.info	info@compostnetwork.info
Phosphorus Sustainability Research Coordination Network	Five year research network on themes of P efficiency and P recovery and the synthesis if the two.	US NSF	www.sustainableP.asu.edu	hirowe@asu.edu