



**PADM Medical**<sup>™</sup>

Innovation for Life<sup>™</sup>

Creating better products that support  
individuals and communities -  
sustainably.



# The Ocean

## COVID-19 has specifically worsened the ocean plastic pollution problem

Waterlogged masks, gloves, hand sanitizer bottles and other coronavirus protective waste are already being found in our seabeds and are washing up on our beaches. These plastics are critically disturbing the natural detritus in our marine ecosystems.

Face masks used  
**EACH MONTH**

**129**  
BILLION

=

**3**  
MILLION  
masks/minute



# The Atmosphere

COVID-19 has specifically worsened  
Greenhouse Gas emissions

Every  
**200,000,000** =   
made with Polypropylene  
vs Biopolymer **2500**  
metric tonne  
excess

**1,600,000**  
equivalent (MtCO<sub>2</sub>e) green house gas (GHG)  
**EACH MONTH**



# The Solution

**So how does society continue to protect itself without putting the environment at risk?**

Use biopolymers that are produced from renewable crop resources that are not only biodegradable and compostable, but the crop pulls CO<sub>2</sub> from the atmosphere.

PPE made from Biopolymers will not have the adverse effect on our environment and if they end up in our oceans, they will not harm the detritus on the ocean floors.

**Now we can protect ourselves without harming the environment.**





**EZZIMED™**

**ECO<sup>2</sup>FUSE™**  
BY ROSWELL TEXTILES

 **NuGenTec**  
Redefining Chemistry™

**PADM Product lines are in accordance with President Biden's Administration's Executive order on catalysing clean energy industries and jobs through federal sustainability.**

Section 102. Government wide Goals. Subsection a. (v). Net zero emissions from federal procurement including a Buy Clean policy to promote use of construction materials with low embodied emissions.

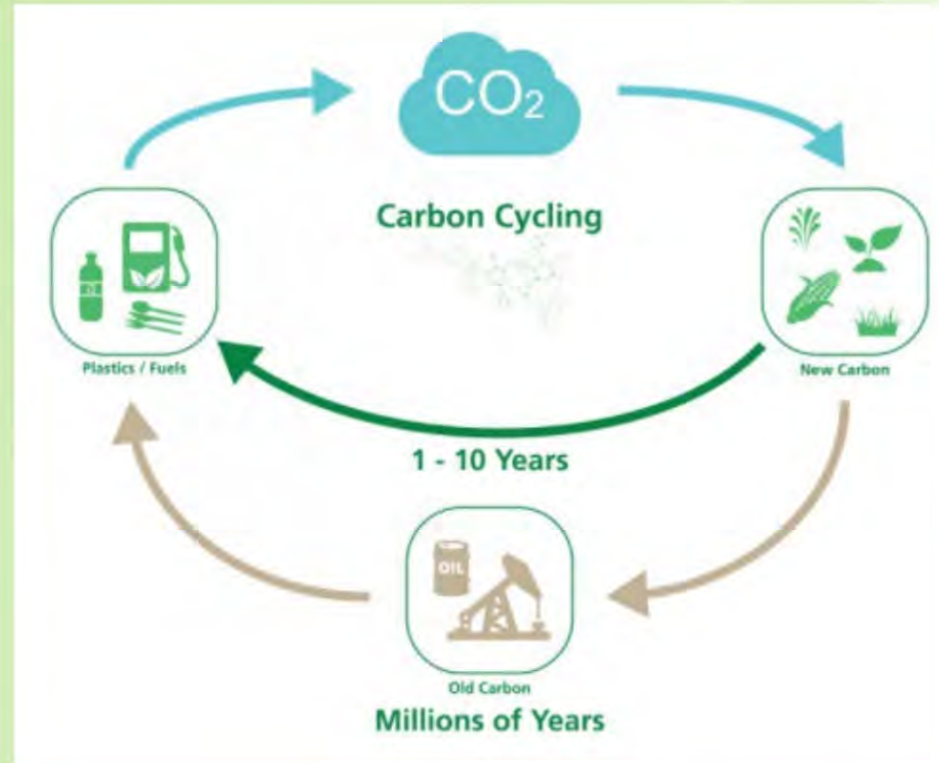


## Old Carbon

Carbon which is not part of the current carbon cycle. It's trapped underground in fossil fuels or arctic soils

Using polypropylene PPE introduces Old Carbon into the current carbon cycle – leading to build up of CO<sub>2</sub> equivalents in the environment

**Takes millions of years to cycle petroleum based carbon**



## New Carbon

Carbon which is part of the current carbon cycle. It's already in the atmosphere/environment

Using EzziMed™ PPE pulls CO<sub>2</sub> from the atmosphere through photosynthesis

**Takes 1-10 years to cycle biopolymer carbon**

# Why does it matter?

Made from new carbon, therefore the benefit to the environment is realized in the production of the mask materials.

Benefit happens the moment an Ezzimed™ mask is purchased

Replacing a synthetic mask from the environment each time

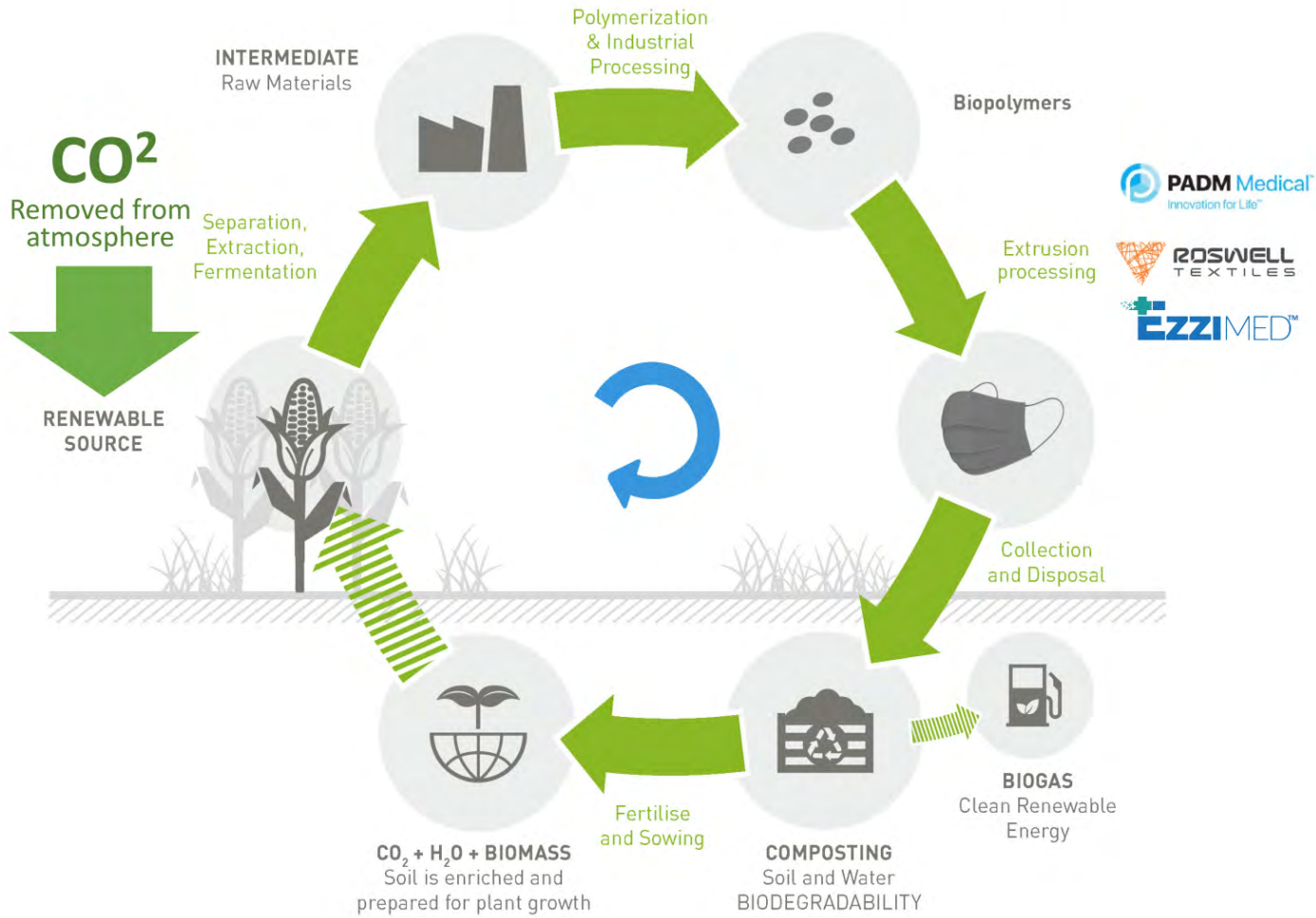
Composting of the mask is an additional benefit that can be utilized if local infrastructure is in place, but it's not a requirement to realize the reduction in global warming potential.

Composting reduces landfill usage and returns the carbon into the soil to continue the carbon cycle.





# The cycle of environmental benefits



## Earlier plant-based polymer technology



Most product initiatives are based on cellulosic products from the forestry sector.

Made from biopolymers that are produced from renewable crop resources

Reduces CO2 equivalents by approx. 55%

Don't typically meet filtration and breathability requirements.

Surpasses current medical standard in breathability and filtration

These products are hydrophilic (absorb water) and are flammable

Hydrophobic and naturally non-flammable without the use of flame retardants

Typically, cannot meet ASTM F2100 test requirements

Tested to ASTM F2100-19 for use as a Class 1 Medical Device





### Made for comfort

Loose fitting with elastic ear loops



### Lightweight

Easy to breathe through



### Nose clip wire

Bendable, shape to fit



**GRAPHENE  
FREE**



### Inner Layer

Absorbent non-woven layer

### Nose Clip

To ensure a tight seal

### Middle Layer

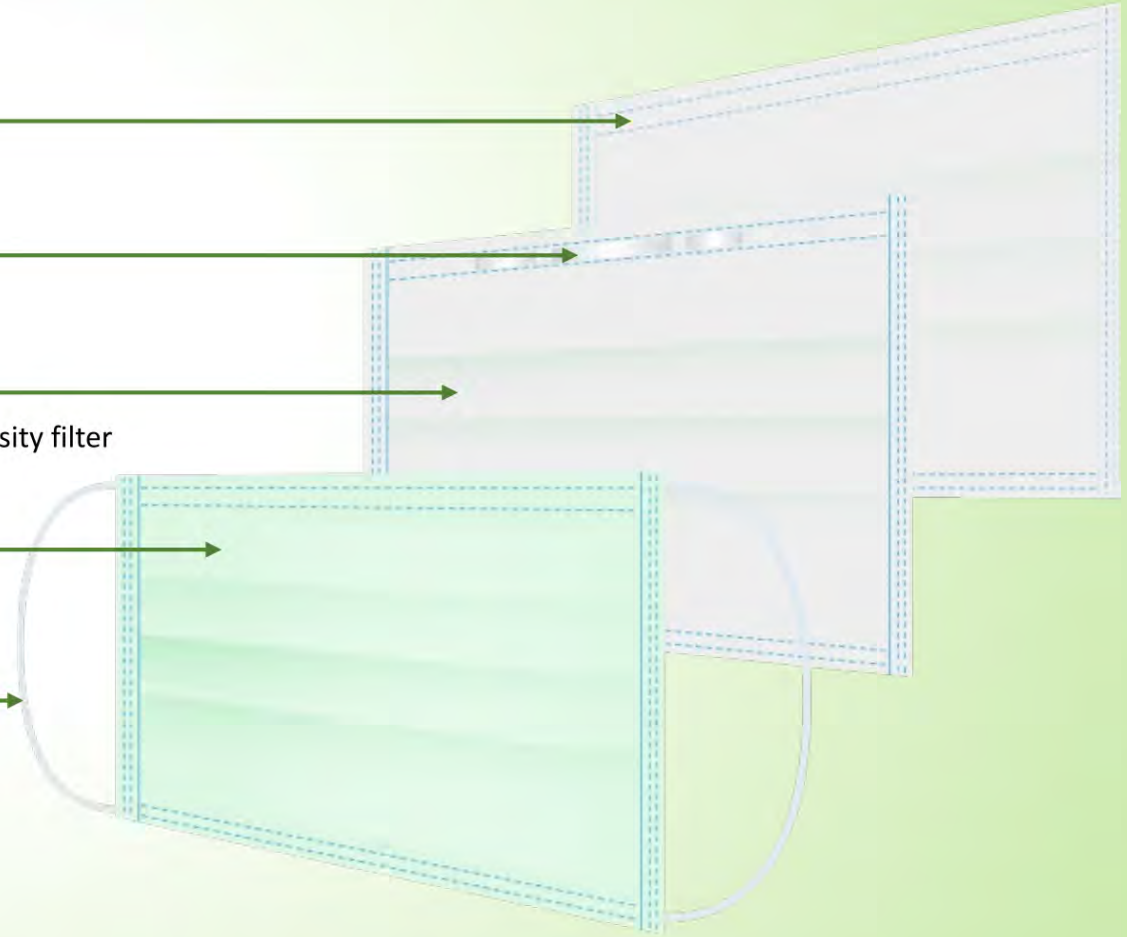
Melt blown non-woven high-density filter

### Outer Layer(s)

Hydrophobic non-woven layer

### Elastic Ear Loops

For comfort fitting



### Material specifications

Inner layer	Biopolymer spunbound nonwoven fabric
Middle layer	Biopolymer melt-blown nonwoven fabric
Outer layer(s)	Biopolymer spunbound nonwoven fabric
Ear loops	Polyester/nylon spandex band
Nose clip	Flat aluminum bar

### Performance

Differential pressure ( $\Delta p$ mm H <sub>2</sub> O/cm <sup>2</sup> )	<5.0	<6.0	<b>&lt;6.0</b>	EN 14683 Annex C
Splash resistance (mmHg)	80	120	<b>160</b>	ASTM F1862
Flame spread	Class 1	Class 1	<b>Class 1</b>	16 CFR Part 1610

Length: 175 +/- 5mm    Width: 95 +/- 5mm



## Packaging Information

### Single Box

Masks per box: 50  
 Box dimensions: 7.5" L x 3.75" W x 4.25" H  
 Box Weight: 0.55 lbs.

### Master Case

Boxes per case: 20  
 Case dimensions: 20.75" L x 15.75" W x 9.25" H  
 Case Weight: 12.5 lbs.

## Models

U3CA7A0K – ASTM F-2110 Level 3 – Black Mask  
 U3CA7A0W – ASTM F-2110 Level 3 – White Mask  
 U3CA7A0G – ASTM F-2110 Level 3 – Green Mask



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