



OSMOTIC POWER GENERATION SYSTEM

IITM Technology Available for Licensing

Problem Statement

- **Blue Energy** is osmotic energy generator uses saline solution along with porous **membrane** to generate sustainable renewable energy.
- Existing **renewable energy sources like solar and wind are inconsistent**, leading to challenges in energy generator.
- We provide **laboratory scale and large scale Blue Energy 58-70 mW/mm²**.
- We provide 2D porous membrane and 3D other porous membrane.

Technology Category/ Market

Category – Energy, Energy Storage & Renewable Energy

Applications- Energy generator system

Industry – Restaurants, Clothing shops, Play station showroom, Shopping malls install Blue Energy osmotic energy generator along with regular energy grid generator

Market - The global energy generation market size was accounted at USD 1.8 trillion in 2022 and it is expected to reach around USD 3.9 trillion by 2032.

Intellectual Property

- IITM IDF Ref. 1927
- IN 430191 (Patent Granted)
- PCT/IN2020/050739

TRL (Technology Readiness Level)

TRL6 - Technology demonstrated in Industrially relevant environment

Research Lab

Prof. VISHAL V R NANDIGANA
Dept. of Mechanical Engineering,
Prof. PRAMODA KUMAR NAYAK
Department of Physics

Image

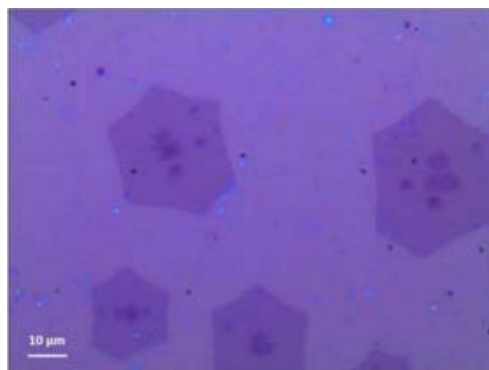


FIG 1. Graphene on SiO₂ (Patent Product)

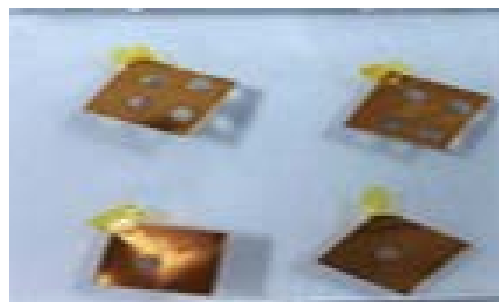


FIG 2. 3D porous membrane material 1



FIG 3. 3D porous membrane material 2

Fig 2-3 (our Journal Product)

CONTACT US

Dr. Dara Ajay, Head
Technology Transfer Office,
IPM Cell- IC&SR, IIT Madras

IITM TTO Website:
<https://ipm.icsr.in/ipm/>

Email: smipm-icsr@icsrpis.iitm.ac.in
sm-marketing@imail.iitm.ac.in
Phone: +91-44-2257 9756/ 9719

Technology

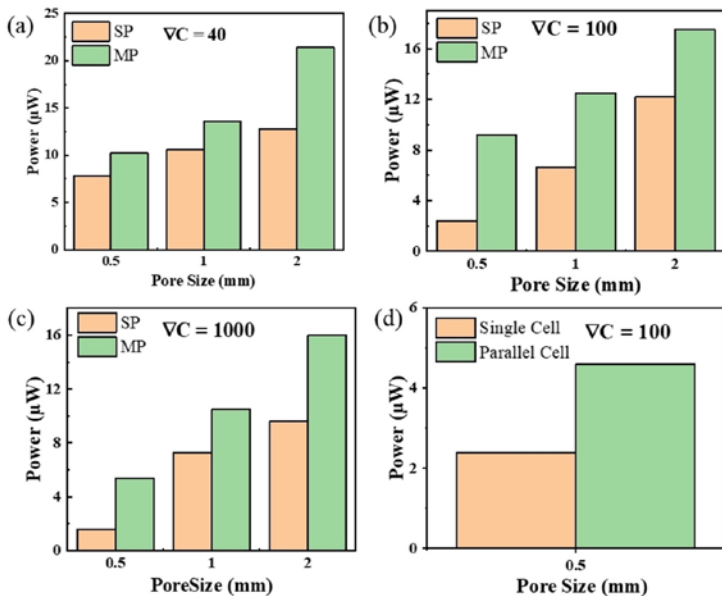


FIG 4. Blue Energy with different salinity gradient and pore size. SP = single pore, MP = 4 pores
Single cell – One Blue Energy generator unit
Parallel cell – Multiple Blue Energy generator unit
(Our Journal Product)

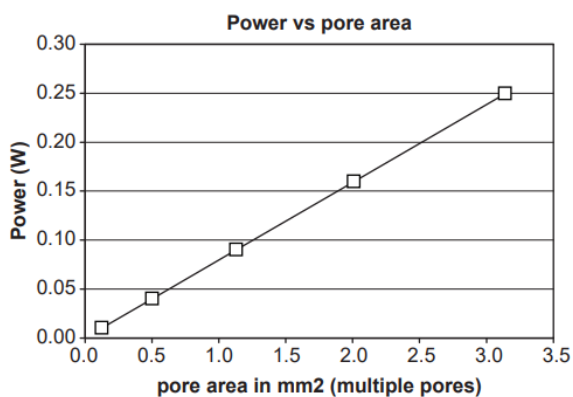


FIG 5. Power in Watts with our membrane having multiple pores

Patent Product

Key Features

- Sustainable renewable energy generator.
- Large and continuous Blue Energy obtained using small membrane areas.
- High and sustainable Blue Energy obtained using small pore diameter.
- Big increase in Blue Energy osmotic energy with use multiple pore diameter.
- Environment protect Blue Energy osmotic energy obtained with no harmful by-products.

Value Proposition

- We provide Industry scale Blue Energy 58-70 mW/mm².
- We provide sustainable, high, renewable energy generator with increase in energy generator market in globe.
- Our Blue Energy is environment protect and no harmful by-products.

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IITM TTO Website:
<https://ipm.icsr.in/ipm/>

Email: smipm-icsr@icsrpis.iitm.ac.in

sm-marketing@imail.iitm.ac.in

Phone: +91-44-2257 9756/ 9719